



**NOTE BY THE TECHNICAL SECRETARIAT**

**ENSURING AN EFFECTIVE RESPONSE  
TO THE HOSTILE USE OF A TOXIC CHEMICAL**

**DISCUSSION PAPER**

**INTRODUCTION**

1. This discussion paper aims to provide a framework for the OPCW<sup>1</sup> to review its current efforts in ensuring an effective response to the hostile use of a toxic chemical, and to examine what further contributions it can make in this regard considering the evolving global security context and the needs of States Parties.
2. While this paper focuses on the hostile use of a toxic chemical, a State Party's initial response to an incident involving a toxic chemical would likely be the same, whether caused deliberately or by accident. In either case, priority would be given to saving lives and preventing further harm. Investigations to determine the cause of the incident, including any criminal wrongdoing, would follow.
3. This paper is not meant to be a guide on how to conduct emergency preparedness and response planning, nor is it intended to be used to judge the adequacy of such activities conducted by a State Party. Rather, much like the two Notes by the Technical Secretariat (hereinafter "the Secretariat") tabled at the meetings of the Open-Ended Working Group on Terrorism in 2015,<sup>2</sup> the aim of this paper is to foster discussion among States Parties.

**Background**

4. By joining the Chemical Weapons Convention (hereinafter "the Convention"), States Parties have renounced chemical weapons and, pursuant to Article X, are entitled to receive assistance and protection against the use, or threat of use, of chemical weapons. For as long as there is a risk of such a threat or use, there will be a need to maintain and improve the protective capabilities of all States Parties in terms of their

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<sup>1</sup> In the context of this paper and unless otherwise noted, "OPCW" is to be understood as the organisation comprised of States Parties and the Technical Secretariat.

<sup>2</sup> "The Chemical Weapons Convention and Accountability of Non-State Actors," (S/1254/2015, dated 9 March 2015) and "Measures to Prevent Hostile Use of Toxic Chemicals by Non-State Actors" (S/1291/2015, dated 26 June 2015).



domestic response and their ability to assist other States Parties as contemplated by Article X. The OPCW is also charged with coordinating the delivery of assistance, which could take the form of equipment based on a State Party's offer or on bi- or multilateral arrangements between States Parties. Assistance could also come in the form of contributions to the OPCW Voluntary Fund for Assistance or other relevant trust fund.

### **Challenges in responding to the hostile use of a toxic chemical**

5. While responding to a toxic chemical incident has many challenges, the main ones are outlined below and underscore the need to develop and strengthen national capacities.
6. As the effects of some toxic chemicals are rapid, the opportunity to save lives can be very short-lived. Therefore, specific chemical expertise, knowledge, and methodologies are needed quickly in order to confirm the chemical involved, contain and minimise its hazard, and determine the medical treatment for the victims. Resources such as decontamination equipment also need to be readily accessible.
7. First responders and those conducting investigations are at risk of harm unless they are properly trained and equipped to carry out their assigned tasks in a contaminated environment, both in a prophylactic sense and in terms of securing evidence.

### **THE OPCW'S CURRENT ROLE IN ASSISTANCE AND PROTECTION**

8. The OPCW currently undertakes a number of activities in relation to Article X of the Convention, and also with regard to implementing national legislation as required by the Convention. In the context of this paper, the OPCW's role in relation to Article X is focused on the following four areas:
  - (a) developing and improving States Parties' ability to respond to a chemical incident. In response to States Parties' needs, the OPCW conducts a number of training courses and practical exercises. While the focus of the Secretariat's efforts is on creating capacity to respond to the use of chemical warfare agents, it is also understood that these programmes are equally useful for developing the capacity to respond to the deliberate or accidental release of other toxic chemicals. A critical review of these capacity-building initiatives has led the OPCW to adopt a regional approach over the course of the past few years, which has in turn led to increased cooperation and interoperability among States Parties within the targeted regions;
  - (b) preparing for the coordination and delivery of offers of assistance to provide a requesting State Party with assistance and protection against the use or threat of use of chemical weapons. In addition to the training provided to responders, the OPCW also works closely with emergency management personnel and agencies as well as regional and subregional organisations, holding workshops and table-top exercises to enhance awareness of emergency management in the aftermath of a chemical incident and of the role of the Organisation following a request for assistance under Article X. In this regard, the Secretariat has worked closely with the Caribbean Disaster Emergency Management Agency (CDEMA) of the Caribbean Community (CARICOM), the Coordination Centre for Natural Disaster Prevention in

Central America (CEPREDENAC) of the Central American Integration System (SICA), and similar emergency management agencies in the East African Community (EAC) and Economic Community of West African States (ECOWAS);

- (c) maintaining the operational readiness of the Secretariat's Assistance Coordination and Assessment Team (ACAT) through in-house and external training and participation in international emergency response exercises. Following a request for assistance by a State Party, the ACAT would assess the assistance required and coordinate and deliver immediate assistance as directed by the Director-General or any additional assistance approved by the Executive Council; and
  - (d) maintaining the OPCW's assistance-and-protection data bank, which contains freely available information about various means of protection against chemical weapons. The data bank is kept up to date based on information received from States Parties and is available for consultation by the National Authority of any State Party.
9. In addition to the activities above, the Secretariat engages regularly with States Parties in pursuit of the full and effective implementation of Article X. To this end, States Parties themselves can further enhance the successes achieved to date in the field of assistance and protection. States Parties with robust chemical response capacity could continue to assist the Secretariat in this field through the provision of expertise, training, equipment, and/or voluntary contributions aimed at improving capacity in other States Parties, particularly within their regions or for other States Parties in need. States Parties developing the capacity to respond could continue to actively engage with the Secretariat and regional partners to ensure that maximum benefit is derived from OPCW and joint training opportunities and capacity-building initiatives.
10. Further to the activities conducted under Article X, the Secretariat also supports States Parties in their implementation of national legislation, which is important to their ability to apprehend and prosecute individuals for activities prohibited under the Convention, and to ensure that the individuals can be held accountable with the appropriate penalties.

#### **THE OPCW AND ITS COOPERATION WITH RELEVANT UNITED NATIONS AGENCIES AND OTHER INTERNATIONAL ORGANISATIONS**

11. In paragraph 9.145 of its report (RC-3/3\*, dated 19 April 2013) the Third Review Conference<sup>3</sup> underscored the "need to explore further cooperation ... and build on existing work with relevant international organisations and international bodies that deal with the potential threats of chemical terrorism". The OPCW has therefore continued to pursue opportunities for productive cooperation with the United Nations and other international organisations from two perspectives, as outlined below.

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<sup>3</sup> Third Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention.

12. With a view to enhancing cooperation with international organisations aimed at supporting Article X activities, the Secretariat continues to work in various areas with a number of organisations such as the European Union (EU), the Organization for Security and Co-operation in Europe (OSCE), the United Nations Interregional Crime and Justice Research Institute (UNICRI), the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), the World Health Organization (WHO), the International Committee of the Red Cross (ICRC), and others, by delivering lectures at INTERPOL's chemical explosives terrorism prevention course, developing and conducting international exercises with UNOCHA, etc. Such cooperation also creates synergies, eliminates duplication of efforts, and improves efficiency.
13. The OPCW co-chairs with the International Atomic Energy Agency (IAEA) the United Nations Counter Terrorism Implementation Task Force (UNCTITF) Working Group on Preventing and Responding to Weapons of Mass Destruction Attacks. In February 2015, the Group began a project, initially conceptualised by the Secretariat in 2013, to enhance the effectiveness of inter-agency interoperability and coordinated communication in the event of chemical and/or biological attack. The OPCW and the IAEA have been working with 17 United Nations agencies and other international organisations to explore ways to enhance existing coordination and cooperation mechanisms by identifying the response activities that organisations have in common and that can be of assistance to each other in order to fulfil their mandates. Table-top and field exercises have been planned as a means to validate such mechanisms, once enhanced.

#### **FRAMEWORK OF NATIONAL MEASURES**

14. Recognising that national priorities and capacities and resources to respond to a toxic chemical incident vary among States Parties, this section outlines an overall framework and provides examples of measures to ensure an effective response that are generally available in States Parties or through subregional, regional, or international mechanisms.

##### Preparedness measures

15. As a typical measure, a legal framework supports a response in two principal ways:
  - (a) Regulatory and legal mandates provide a firm basis for coordination among government agencies to enable, inter alia, a command and control structure to be established quickly, communications to be coordinated effectively, and key information to be shared. Also, first responders and others must be legally able to treat victims in the field, for example to administer antidotes or perform specific medical procedures, even if they are not medical doctors or under a doctor's direct supervision.
  - (b) National legislation that makes it a crime for individuals to engage in activities prohibited under the Convention supports the longer term response by providing a means to prosecute and penalise those individuals.
16. Government and institutional response frameworks strengthen coordination between domestic agencies, such as the police, ambulance services, etc., and those with

specific knowledge and expertise of toxic chemicals essential to a safe and effective response, such as subject matter experts, laboratories, regional or international organisations, etc. Agreements and procedures for such coordination also identify roles and responsibilities and include protocols for communication within and outside the State Party, particularly among hospitals, police, other responders, etc. regarding the chemical involved, and to the public to avoid panic and anxiety since the hazards are unfamiliar, unlike the case for a natural disaster.

17. Bi- or multilateral arrangements between States Parties are measures that are used to manage borders, facilitate assistance, or coordinate activities and communications, should the chemical cross borders through the air, water, or soil.
18. As a typical measure to support consequence management, scenario-based planning helps to estimate the possible types and numbers of casualties. Scenarios unique to a State Party would consider, inter alia, incidents near densely populated areas and the toxic chemicals involved, and as with “all-hazards” planning, scenarios would consider such things as evacuation routes, affected key infrastructure (e.g. power stations), etc. Additionally, for a toxic chemical incident, consideration would be given to factors such as the local climate, geographic conditions (e.g. groundwater, prevalent wind patterns), etc. A decision to stockpile antidotes for specific chemicals would be considered in the light of limitations such as expiry dates, costs, etc., and whether the stockpiles can be located to allow their rapid retrieval.
19. Table-top and field exercises are commonly used to test the viability and efficacy of a State Party’s agreements and procedures, and help to identify areas to be improved. These exercises are also typically performed at both the national and regional levels.

#### Measures for immediate response and mitigation

20. Training programmes for those involved in the initial response and mitigation of consequences are a typical measure and vary from one State Party to another. They are conducted by States Parties or regional or subregional organisations, or with international support. Programmes typically include training for, inter alia, first responders and investigators (so that they can protect themselves and conduct their activities in a contaminated environment), emergency medical teams on the toxicological aspects of toxic chemicals, and other response teams on the equipment used in the response.
21. Rapid access to toxic chemical experts varies from one State Party to another, as do laboratories’ capacities to analyse samples to identify the chemical involved. Experts and laboratories are available in regional, subregional, and international organisations.
22. Equipment remains an essential measure typically employed by a State Party, and includes readily available portable technology to detect certain chemicals, such as chemical detection paper or portable analysers. Equipment could be made available by regional or subregional centres if accessible within a short time frame.
23. Hospitals or temporary treatment centres are another typical measure. Their physical construction is important to ensure that environmental isolation minimises the risks of

contaminating others while treating victims. The siting of temporary centres is normally near potential incident locations, but not too close to them to be affected.

#### Measures for recovery and investigation

24. Measures to support the investigation of an incident also vary from one State Party to another, but generally consist of a legal and technical component as follows:
- (a) the legal means to apprehend and prosecute individuals under national legislation for activities prohibited under the Convention, and to ensure that the perpetrators will be held accountable with appropriate penalties; and
  - (b) dedicated police or intelligence units, aided by criminal investigative techniques, to help confirm the deliberate nature of the incident and, when applicable, identify the perpetrators. Regional or international mechanisms contribute in this regard, particularly when the criminal investigations extend beyond a State Party's territory and when investigative techniques do not reside within a State Party.

#### **FUTURE INITIATIVES AND PROJECTS**

25. Although the OPCW already undertakes a number of activities to implement Article X,<sup>4</sup> the evolving global security context may compel the OPCW to consider other modalities to further support States Parties' needs. Within the context of this paper, and for discussion purposes, a number of such modalities are outlined below:
- (a) States Parties could consider whether an international victim registry would be useful to track the secondary and tertiary effects of chemical weapons over the longer term. This would add to the global knowledge of the effects of chemical weapons for medical and research purposes.
  - (b) States Parties could request the OPCW Laboratory and/or its network of designated laboratories to conduct chemical forensic analysis as part of their criminal investigations.
  - (c) As the authority on chemical weapons, the OPCW could take a key role in response to a major chemical event, much like the IAEA's role following a nuclear event, for example by providing independent and credible technical assessments and communications. As the OPCW already works closely with regional and subregional organisations to enhance their capacity to respond effectively to chemical emergencies, it could reach out to such organisations in other regions where collective efforts to respond and manage emergencies is a viable option.
  - (d) As the global repository of information on chemical security incidents, the OPCW can provide a means for States Parties to learn from the actual

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<sup>4</sup> See for example the Report of the Director-General entitled "Status of Implementation of Article X of the Chemical Weapons Convention as at 30 June 2014," EC-77/DG.3, dated 12 August 2014 and Corr.1, dated 2 October 2014.

experience of other States Parties. An analysis of such events conducted by the Secretariat, or by experts commissioned by the OPCW, could provide an independent perspective on enhancing prevention and response measures.

- (e) The OPCW could support regional crisis centres, which could have a number of advantages to States Parties. A regional protection network could help States Parties to access individuals with expertise in chemical-specific medical measures, chemical risk assessment and management, chemical emergency planning, etc., and access specialised equipment if deployable quickly. A regional centre could also serve as a training centre to enhance and sustain States Parties' capacities, using established curricula and a "train-the-trainer" approach.
- (f) States Parties, through their engagement with the United Nations or other international organisations, could also benefit from one another's experience as regards preparedness and response. For example, the lessons learned by the IAEA from the nuclear accident in Fukushima, Japan, might apply to chemical incidents as well.
- (g) States Parties could explore scientific developments in chemical forensics, which would help them gain insights into the composition and method of production of chemical agents with the goal of determining their origin.

## CONCLUSIONS

26. Recognising the benefits of preventing a hostile use of a toxic chemical in the first instance, it is also prudent to acknowledge practical limitations. Accordingly, emphasis must also be placed on being adequately prepared to respond to hostile uses of toxic chemicals, and on being capable to provide assistance to other States Parties. Bearing this in mind, the full and effective implementation of the Convention would significantly contribute to ensuring a State Party's preparedness for and capacity to respond to the hostile use of a toxic chemical. The Secretariat stands ready to assist States Parties in this regard.

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