



Eliminating Chemical Weapons and Chemical Weapons Production Facilities

States Parties to the Chemical Weapons Convention (CWC) must fulfil several obligations relating to chemical weapons. They must never develop, produce, acquire, stockpile or use chemical weapons or transfer them to other parties. They must destroy any chemical weapons that they own or possess, or that they abandoned on the territory of another State Party without its consent at any time since 1 January 1925. Furthermore, they must destroy or convert facilities they own or possess which were involved in the production of chemical weapons.

The Destruction Process

As a primary step toward meeting these obligations, the CWC stipulates that States Parties submit declarations regarding both their existing chemical weapons and chemicals, materials and equipment that could be used to produce such weapons. These declarations provide baseline data to the Organisation for the Prohibition of Chemical Weapons (OPCW) for subsequent confirmation by inspections. (See Fact Sheet 5 for more on inspections.) In the event that chemical weapons or chemical weapon production facilities (CWPFs) are declared, those declarations become the basis for planning, carrying out and verifying their destruction.

The eight States Parties (Albania, India, Iraq, Libya, Russia, Syria, the United States of America and another State Party) which have declared chemical weapons must destroy 8.67 million items, including munitions and containers totaling 72,525 metric tonnes of toxic chemicals. Fourteen States Parties have declared CWPFs: Bosnia and Herzegovina, China, France, India, Iran, Iraq, Japan, Libya, Russia, Serbia, Syria, the

United Kingdom, the United States of America, and another State Party. The OPCW verifies that the destruction process is irreversible.

The Convention requires States Parties to destroy their chemical weapons within ten years after the CWC entered into force*—by 2007, with the possibility to request an extension of this destruction deadline by up to five years, i.e. until 2012, with the approval of the OPCW Conference of the States Parties. Due to the difficulty

and expense of destroying chemical weapons safely and securely, none of the possessor States Parties met the original deadline, although three (Albania, India and another State Party) completed destruction before 2012. The OPCW continues to verify destruction activities for States Parties that have not met their deadline. States

that join the Convention after 2007 must destroy their chemical weapons as soon as possible, with the OPCW Executive Council determining the order of destruction and verification procedures.



Taking an inventory of artillery munitions

Declaration Deadlines

Starting at entry into force, States Parties must observe a number of declaration deadlines. Initial declarations are due within 30 days of entry into force of the Convention for the State Party. Besides declarations related to currently stockpiled chemical weapons, States Parties must declare all transfers and receipts of chemical weapons since 1946 in excess of one tonne per chemical per year. Besides CWPFs, they must declare all other facilities designed, constructed or used since 1946 primarily for the development of chemical weapons. Whether or not chemical weapons buried on land before 1977 or dumped at sea before 1985 are declared is left to the discretion of States Parties.

States Parties that possess chemical weapons or CWPFs must submit annual declarations regarding the implementation of their chemical weapons destruction plans. Various ad hoc declarations are also due when changes are made to previously submitted chemical weapons destruction plans or chemical weapons are moved to locations where they will later be destroyed.

Chemical Weapons

States Parties that possess or have jurisdiction over chemical weapons must indicate so in their initial declarations to the OPCW. Such declarations must include the aggregate quantity of each chemical, the locations and the inventories of all chemical weapons storage facilities (CWSFs) and the form of the weapons (chemical agent, munitions, binary or multicomponent chemical weapons, equipment, etc.). A general chemical weapons destruction plan must also be submitted, including a schedule compatible with the destruction time frames stipulated by the Convention, a list of the types and quantities of chemical weapons to be destroyed at each chemical weapons destruction facility (CWDF), cost estimates and methods of destruction.

A State Party may select and apply the appropriate destruction methods for its chemical weapons. Methods differ according to what is being destroyed. A chemical agent, for example, may be incinerated or neutralised, whereas unfilled munitions may simply be cut apart. In

addition, the Convention stipulates that States Parties must ensure the safety of people and the environment during the destruction process. The methods employed must comply with national and international safety and emissions laws, and cannot include open-pit burning, land burial or dumping in any body of water. States Parties are obliged under the Convention to cooperate with other States Parties that request information or assistance related to chemical weapons destruction methods and technologies.

For destruction purposes, the Convention divides chemical weapons into three categories. Category 1 weapons are based on Schedule 1 chemicals, Category 2 weapons are based on other chemicals, and Category 3 weapons consist of unfilled munitions, devices and other equipment. The Convention's time frames for the destruction of chemical weapons vary according

to the category of the weapon. Category 1 weapons were to be destroyed in four phases, beginning no later than two years after entry into force for the State Party and ending no later than ten years from entry into force, i.e. 29 April 2007. Chemical weapons possessor states for which the CWC entered into force on 29 April 1997 therefore were given the most time to destroy



The US Maritime Vessel Cape Ray, which neutralised at sea 600 tonnes of chemicals removed from Syria (Photo: US Dept. of Transportation)

their weapons.

In addition to the initial general destruction plan, chemical weapons possessors must submit detailed annual plans at least 60 days before each annual destruction period. Annual reports indicating the quantity of chemicals actually destroyed at each CWDF must also be submitted no later than 60 days after each annual destruction period ends. Certification that all chemical weapons have been destroyed must be delivered to the OPCW within 30 days of the completion of destruction.

Old chemical weapons declared by a State Party and verified by OPCW inspectors to have been manufactured before 1925 may be treated as toxic waste, provided the Secretariat is informed of how they are being destroyed. Regarding old chemical weapons manufactured between 1925 and 1946, which have deteriorated to the point that they are unusable, the conditions and timetables for the destruction of newer chemical weap-

ons apply. Chemical weapons abandoned by one State Party on the territory of another without its consent at any time since 1925 must be declared, after which the Secretariat conducts an initial inspection and reports its findings to the Executive Council. States Parties may enter into consultations leading to a mutually agreed destruction plan under which the abandoning State Party is to provide all financial, technical and other resources. If the abandoning State cannot be identified or is not a State Party to the CWC, the territorial State Party may request the OPCW or other States Parties for assistance in destroying the weapons. Four states have declared abandoned chemical weapons and 16 have declared old chemical weapons.

Chemical Weapons Production Facilities

The CWC defines 'chemical weapons production facility' as any equipment or buildings housing such equipment, designed or used since 1946 to produce chemicals for chemical weapons purposes (in amounts exceeding specified thresholds) or to fill such chemicals into munitions or other devices. Exceptions are made for 1) any facility that has a production capacity of less than one tonne, 2) any declared single small-scale facility for production of Schedule 1 chemicals, one of which is permitted per State Party for research, medical, pharmaceutical or protective purposes (see Fact Sheet 7) and 3) any declared facility that produces, as an unavoidable by-product of legitimate activity, a prohibited chemical in amounts less than three percent of total production. States Parties that own or possess CWPFs, or have done from 1 January 1946, must – at entry into force of the Convention for that State – cease all activity at them except that required for their closure. Other activities may continue, however, at CWPFs that were converted to peaceful purposes before entry into force of the Convention for the State Party, provided that all chemical weapon equipment and buildings are certified as inactive. Initial declarations specifying the location, type, dates of construction, production capacity and present status of each CWPF are to be submitted along

with descriptions of specific closure actions. Any intent to convert a CWPF into a CWDF or a facility for purposes not prohibited by the CWC must be included in the declaration, and a general CWPF destruction and conversion plan must be submitted.

Each State Party must close its CWPFs within 90 days after the Convention enters into force for that state, submit detailed destruction plans at least 180 days before actual destruction begins and come to an agreement with the Executive Council on destruction and verification plans at least 60 days before destruction commences. Annual CWPF destruction plans are due at least 90 days before the start of each annual destruction period, and annual declarations on CWPF destruction during the previous period are due within 90 days of the end of each annual destruction period. Finally, certification that all CWPFs have been destroyed must be submitted no later than 30 days after their destruction has been completed.

CWPF Conversion

Following the initial declaration of intent to convert a CWPF and submission of general conversion plans, the declaring State Party faces different sets of deadlines depending on the kind of facility into which it wishes the CWPF to be converted. CWPFs slated for conversion to CWDFs must be disabled from producing further chemical weapons within 90 days of entry into force, and the Secretariat must be notified of plans to convert the CWPF at least 150 days prior to actual conversion. Within 90 days of the initial notification, the Secretariat has the right to inspect the facility. Within 60 days of that inspection, the Secretariat is to conclude an agreement with the State Party on further inspections during the conversion period, subject to approval by the Executive Council. As with other CWDFs, verification plans for destruction of chemical weapons at the facility must be drawn up by the Secretariat and approved by the Executive Council at least 180 days before actual destruction begins. Later, the State Party is to submit annual facility conversion plans. The OPCW should be informed of plans to destroy the converted CWDF not less than 180 days before destruction begins.

Under exceptional circumstances, CWPFs may be converted into facilities for purposes not prohibited by the Convention, but not for production, processing or consumption of Schedule 1 or 2 chemicals. Within 90 days of receipt of general conversion plans, the Secretariat must inspect the CWPF to be converted and report to the Executive Council and the Conference of the States Parties. Provided the conversion receives the recommendation of the Executive Council, the Conference then decides whether or not to approve it. If approval is granted, a facility agreement between the OPCW and the State Party is to be concluded within the next 90 days. Detailed conversion plans are to be submitted by the State Party at least 180 days before the actual conversion begins. A combined plan for conversion and verification must also be concluded between the State



Rockets containing VX being sealed for transport and subsequent destruction

Chemical Weapon Destruction Efforts at a Glance

States that have declared chemical weapons	8 (Albania, India, Iraq, Libya, Russia, Syria, the United States and another State Party)
States that have completed destruction of declared chemical weapons	6 (Albania, India, Libya, Russia, Syria and another State Party)
World's declared stockpile of chemical agent that has been verifiably destroyed	96.27% or 69,610 of 72,304 metric tonnes
States that have declared chemical weapon production facilities	14 (Bosnia and Herzegovina, China, France, India, Iran, Iraq, Japan, Libya, Russia, Serbia, Syria, the United Kingdom, the United States and another State Party)
Declared chemical weapon production facilities that have been either destroyed or converted for peaceful purposes	91 of 97 (68 destroyed and 23 converted)

Party and the Executive Council at least 60 days before conversion work starts. Once the Director-General certifies that the conversion is complete, the State Party is obliged to submit annual reports on activities at the facility for the following ten years.

* Date of entry into force was 29 April 1997 for States Parties that ratified the CWC before then. For other States Parties, it is 30 days from the date when their instrument of ratification or accession is deposited.

Status of Destruction Efforts

As of October 2017, 69,610 metric tonnes, or 96.27%, of the world's declared stockpile of 72,304 metric tonnes of chemical agent have been verifiably destroyed. All sites are subject to a stringent verification regime. 91 of the 97 CWPFs declared to the OPCW have been either destroyed (68) or converted for peaceful purposes (23). The OPCW has conducted 3,150 inspections of chemical weapon-related sites.

The destruction of Syria's chemical weapons and facilities represents a special case. The Syrian Arab Republic acceded to the Convention on 14 October 2013. The Executive Council, supported by a United Nations Security Council Resolution, decided on an accelerated plan for the removal and destruction of Syria's chemical weapons programme. This decision was due to the extraordinary character of the situation posed by Syrian chemical weapons. Destruction of Syria's chemical weapons equipment and munitions began in October 2013 and by January 2016 the destruction of all chemical weapons declared by Syria has been completed. The OPCW established two voluntary trust funds to finance destruction of the Syrian chemical weapons programme.

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