

### 3.6 Demilitarization

Demil of OCW is the mechanical disassembling of munition items, which includes the elimination of the fuzes, explosive charges (burststers) and the draining of chemical fillings. In most cases, for the execution of these particularly critical and hazardous steps, remote-controlled special demil tools and devices are required. These include defuzing tools, machines for drilling, milling and sawing and chopping benches.

In the event of explosions or release of toxic chemicals, the personnel operating these devices from a demil control bunker are protected against fragments, vapours and aerosols by thick concrete walls and an air filtration system of high efficiency.

The demil process is constantly monitored and video-recorded, which provides thorough documentation and retrospective evaluation of the entire operation.

The techniques that have been developed for the draining of OCW include

- the draining of liquids after piercing or drilling through the wall of the compartment;
- expansion of pressurized volatiles (e.g. phosgene) through a pipe system connected with an absorption column;
- removal of pasteous fillings using special tools, such as spatulas;
- removal of solid fillings from opened munitions by melting through hot steam injection.

Draining of chemical munitions bears a high risk of contamination not only of the demil devices themselves, but to all surfaces inside the demil chamber. Therefore, encapsulation of all parts not related to actual mechanical operation is required. Impermeable protective suits and respirators with filter canisters must be worn by personnel while working in the demil chamber on the preparation, maintenance or repair of demil devices.

At present, none of the aforementioned draining techniques is used in automated continuous operation. (In the case of large numbers of sufficiently uniform munitions, typical of current CW stocks, a highly automated demil line would be required and has been shown by the United States to be feasible.)

For thorough decontamination of all exposed surfaces inside the demil chamber a highly effective decontaminant, such as a decont emulsion introduced by the Federal Armed Forces, must be kept in readiness.