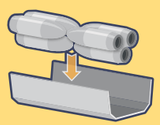
EXPLOSIVE DESTRUCTION SYSTEM (EDS) OVERVIEW

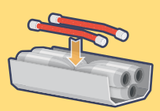
How Does the EDS Work?

1



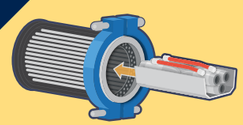
Step 1
Overpacked munitions are brought into the environmental enclosure, unpacked and placed in the munition holder.

2



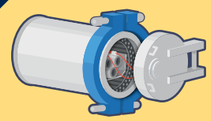
Step 2
Linear-shaped charges are attached along the munition bodies.

3



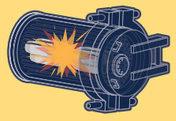
Step 3
Operators slide the items into the EDS vessel where the Advanced Fragment Suppression System surrounds them, protecting the chamber of the EDS during operations.

4



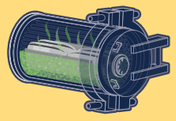
Step 4
Electrical components are attached, door is closed and the seal is validated.

5



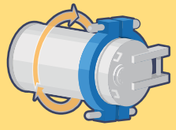
Step 5
Linear-shaped charges are detonated to access the munition bodies and their chemical fill, while eliminating their explosive capacity.

6



Step 6
Neutralization chemicals are added and the vessel is heated, if needed, using steam heating technology.

7



Step 7
The unit rotates to mix the contents and neutralize the chemical fill.

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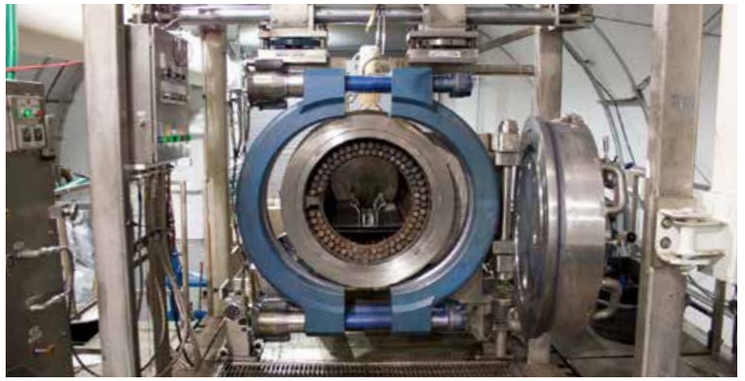
RECOVERED CHEMICAL MATERIEL DIRECTORATE
FACT SHEET

EXPLOSIVE DESTRUCTION SYSTEM (EDS) OVERVIEW



The Explosive Destruction System destroys recovered chemical warfare materiel while protecting workers and the environment.

The EDS provides on-site treatment of chemical warfare materiel in a safe, environmentally sound manner. As an innovative alternative to the open detonation of explosively configured munitions, the EDS supports both planned and quick-response munition recovery operations.

The EDS uses cutting charges to explosively access chemical munitions, eliminating their explosive capacity before neutralizing the chemical agent. The system's main component, a sealed, stainless-steel vessel, contains all the blast, vapor and fragments from the process. Operators confirm treatment by sampling residual liquid and air from the vessel prior to reopening the EDS.

The success of the first EDS, known as EDS Phase 1, led to the development of a family of EDS units with mission-specific capabilities. The EDS Phase 2 was constructed to contain larger materiel in both size and explosive content. Both systems are trailer-mounted and transport easily where needed.

The EDS site layout, set up in accordance with all applicable laws and permit requirements, ensures the overall safety of the workers and the environment. Continuous air monitoring conducted at every EDS site ensures protection. The U.S. Army Chemical Materials Activity Recovered Chemical Materiel Directorate takes all precautions seriously during operations, and safety remains the top priority.

PHASE 1	PHASE 2
CAPABILITIES	
4.2-inch mortar	4.2-inch mortar
75 mm artillery shell	75 mm artillery shell
Livens projectile	Livens projectile
Bomblets	Bomblets
	8-inch projectile
	German traktor rocket
	M47 bomb
	M70a1 bomb
	155 mm projectile
	4-inch stokes mortar
AGENT FILL	
UP TO 28 LBS. of agent	UP TO 72 LBS. of agent
Mustard	Mustard
Nerve Agents	Nerve Agents
Arsenicals	Arsenicals
Lewisite	Lewisite
EXPLOSIVE CAPABILITY	
UP TO 1.5 LBS. of explosives	UP TO 9 LBS. of explosives
SYSTEM VOLUME	
54 GAL.	160 GAL.

REV: 052020

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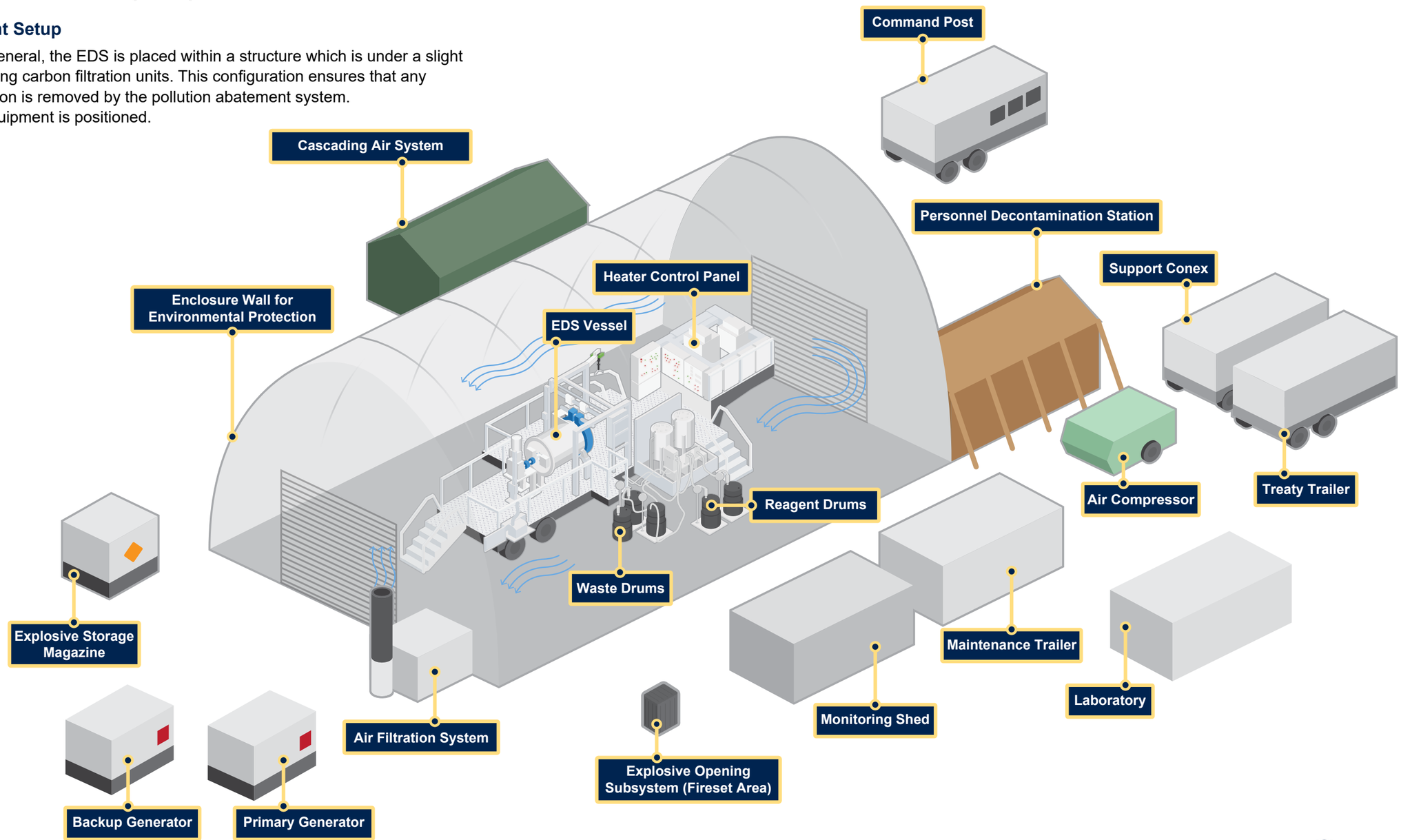
EXPLOSIVE DESTRUCTION SYSTEM (EDS) OVERVIEW

Generic EDS and Supporting Equipment Setup

The EDS site is not a fixed size or layout. In general, the EDS is placed within a structure which is under a slight vacuum with a pollution abatement system using carbon filtration units. This configuration ensures that any potential vapor contamination from the operation is removed by the pollution abatement system.
The following is a typical schematic of how equipment is positioned.



Completed Missions

As of January 2020, highlights of successfully completed missions include:

- Camp Sibert, Alabama
- Redstone Arsenal, Alabama
- Pine Bluff Arsenal, Arkansas
- Livermore, California
- Pueblo Chemical Depot, Colorado
- Rocky Mountain Arsenal, Colorado
- Spring Valley, Washington, D.C.
- Dover Air Force Base, Delaware
- Schofield Barracks, Hawaii
- Aberdeen Proving Ground, Edgewood Area, Maryland
- Albuquerque, New Mexico
- Dugway Proving Ground, Utah
- Tooele Army Depot South, Utah
- Joint Base McGuire-Dix-Lakehurst, New Jersey
- Savanna Army Depot, IL

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