



U.S. Army Research, Development and Engineering Command



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

2015 Global Demilitarization Symposium
Evaluation of Processing Conventional Munitions
through the Anniston Army Depot (ANAD) Static
Detonation Chamber (SDC)

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- Project Objective
- Background
- SDC System Description
- Current Activities
- Testing History
- Conclusions to Date



- **Product Manager for Demilitarization**
 - Sponsor and Management Oversight



- **US Army RDECOM-ARDEC**
 - Technical Management



- **Anniston Army Depot (ANAD)**
 - Installation and Operation Site



- **AECOM**
 - SDC Operator






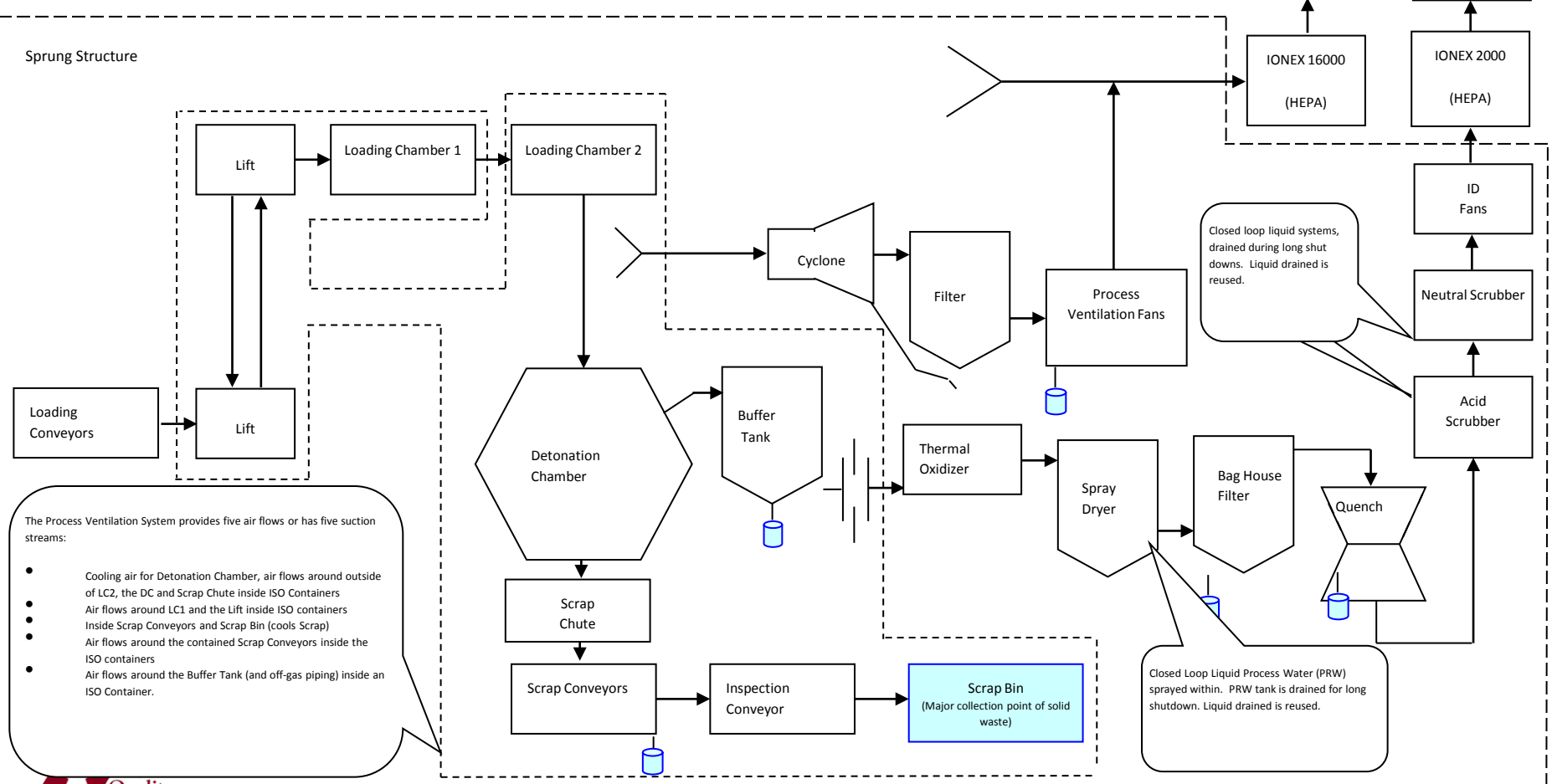
To evaluate and determine the feasibility and maximum feed rates of conventional munitions processed through the ANAD SDC.

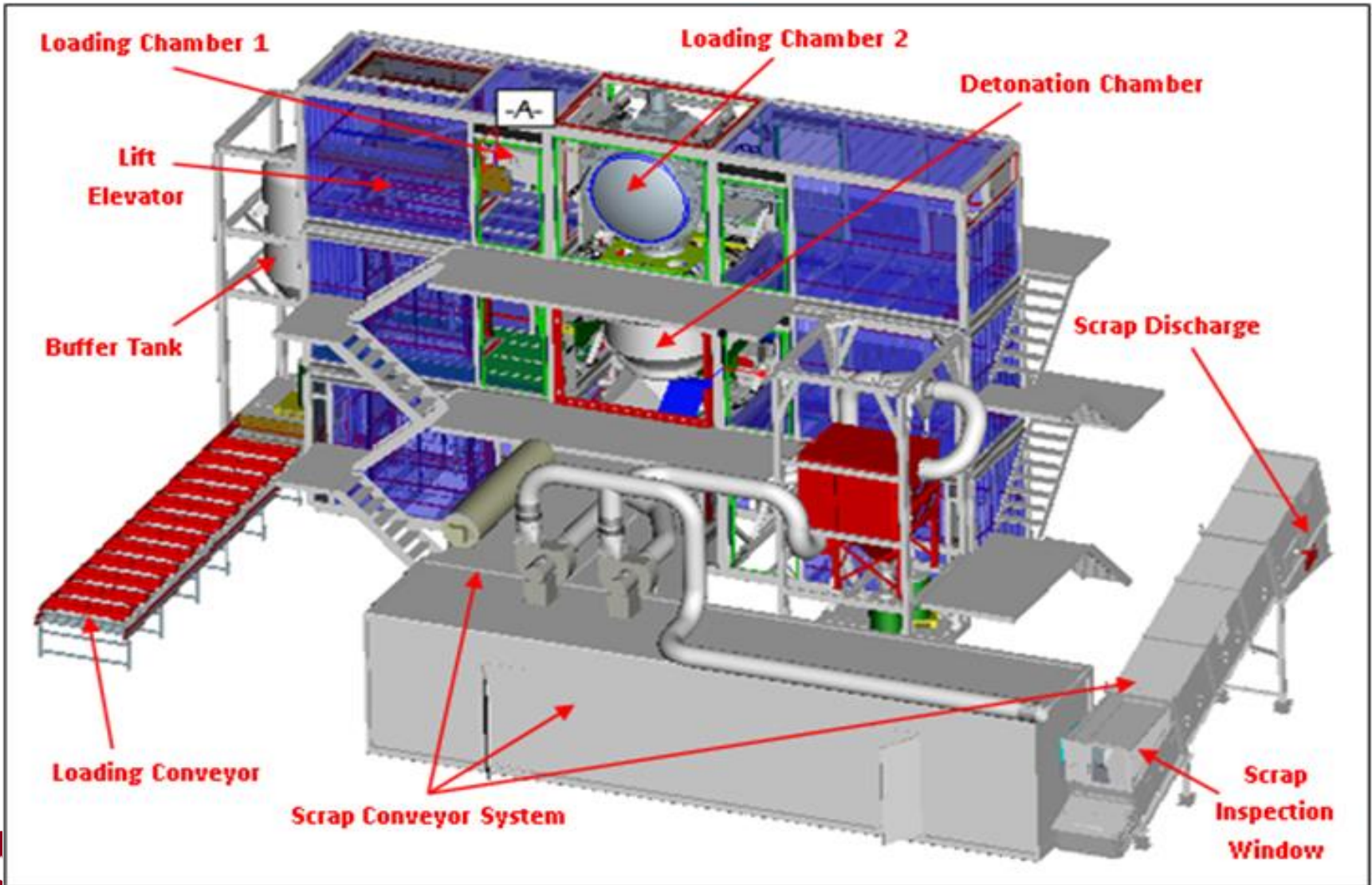


- The ANAD SDC was designed for the destruction of both conventional and chemical munitions and munition components by indirect heating in a detonation chamber.
- Dynasafe, the SDC manufacturer, has fielded several SDCs globally.
- The ANAD SDC has successfully destroyed over 40 munition types totaling over 100,000+ munitions in addition to various surrogate chemicals for testing.
- The SDC has demonstrated the ability to process munitions without disassembly.

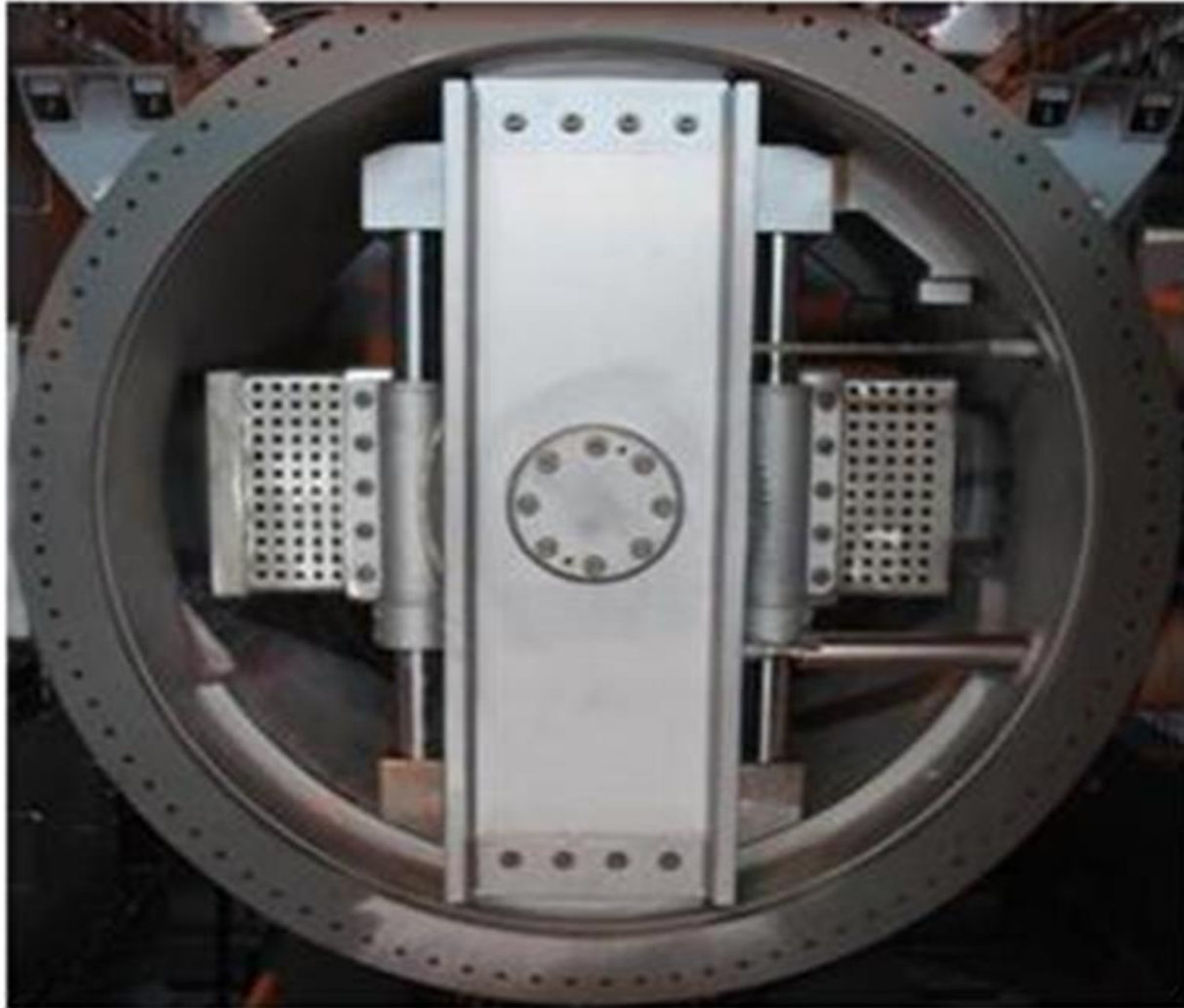


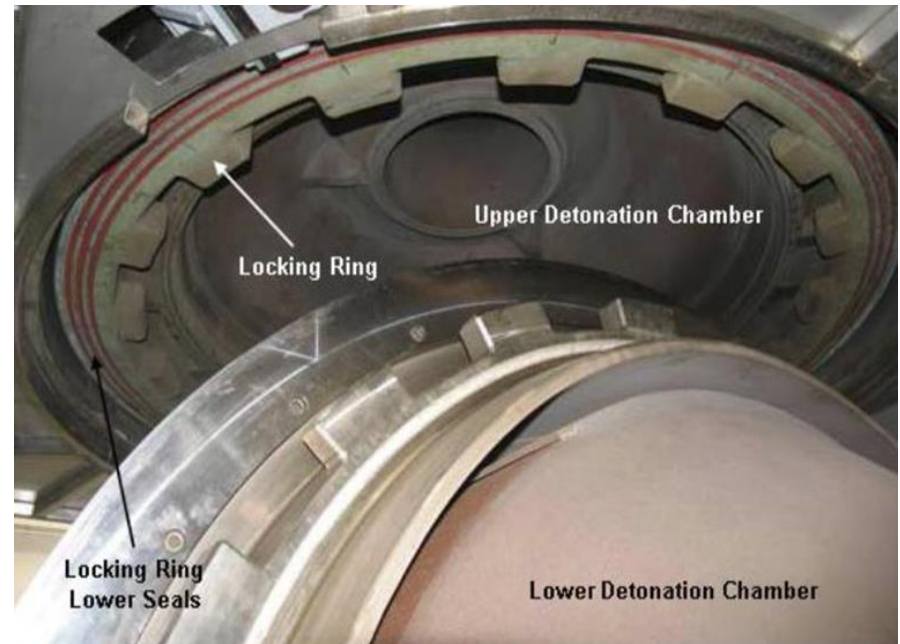
 - Symbolizes a drum designed to collect solids (considered waste).
With the exception of the Dust Collection drum for the Scrap Conveyors, all drums can be isolated from their components.









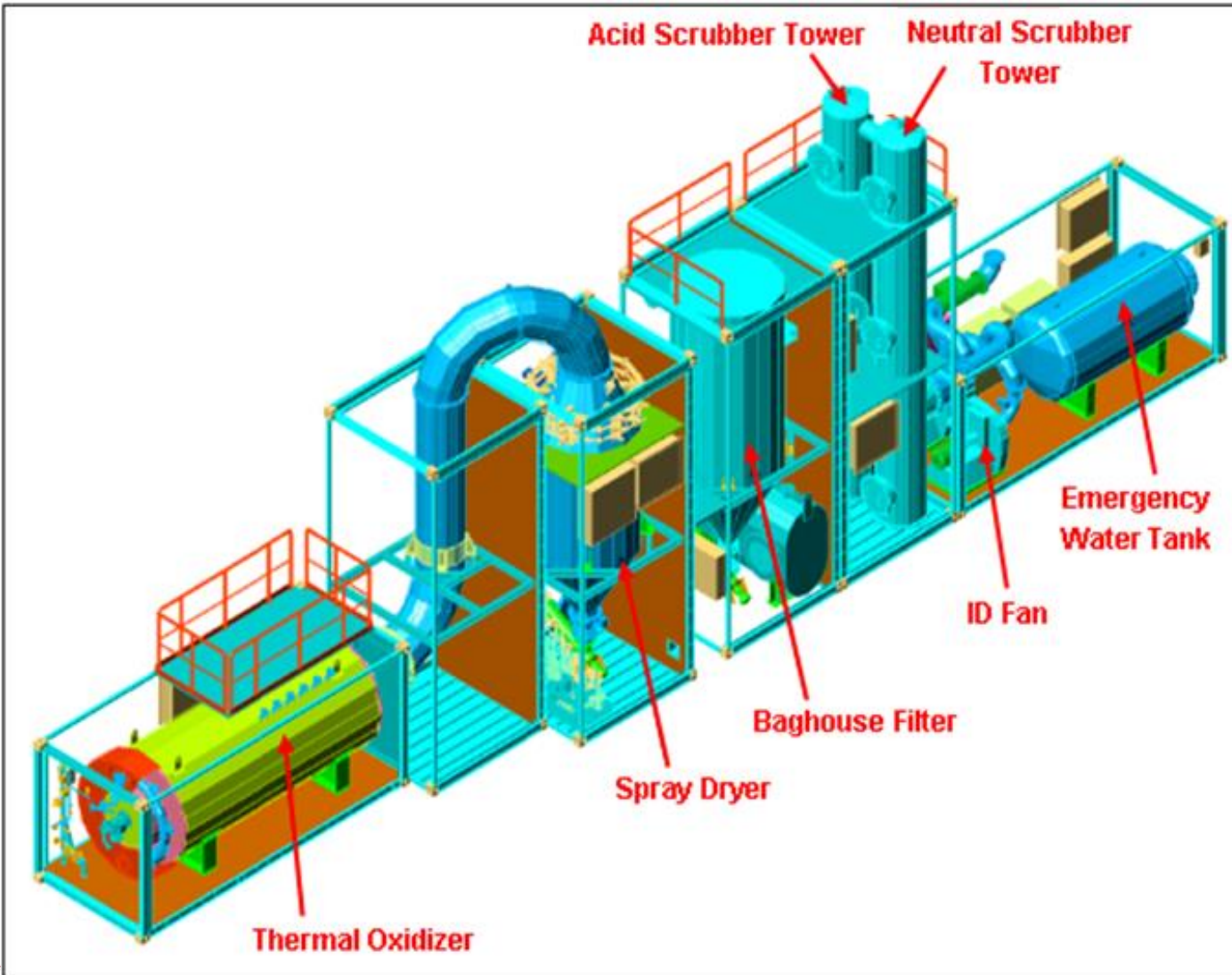


Detonation Chamber Inside, Upper & Lower





ISOMETRIC VIEW OF OFF-GAS TREATMENT SYSTEM







Acid and Neutral Scrubbers



Warheads



Reactive
Armor Tiles



Fuzes



Mines



Cartridge and Propellant Actuated Devices



CURRENT TESTING ACTIVITY OF CONVENTIONAL MUNITIONS



DODIC	Nomenclature	Quantity Processed	Status
N285	Fuze, MTSQ, M577, w/o Booster	20,305	Complete
N411	Fuze, Proximity, M514	15,000	Complete
N335	Fuze, Point Detonating (PD), M557, with Booster	36,799	Complete
N412	Fuze, Proximity, M513	3,000	Complete
K151	Mine, APERS, HE M74	2,576	Complete
M692	Initiator, Cartridge Actuated, M5A2 B-52	6,435	Complete
M703	Initiator, M31	323	Complete
M710	Initiator, Cartridge Actuated, M26	3,122	Complete
WB15	Initiator, Cartridge Actuated, JAU-74/A	6,054	In Process
MT29	Rocket Motor, MK 122 MOD 0	956	In Process
H842	Warhead, 2.75 inch HE XM151		
H847	Warhead, 2.75 inch HE MK1 & MOD		
ML93	Tile, Armor M3		
K768	Riot Control Agent, CS-1		

FEED RATES OF CONVENTIONAL MUNITIONS



DODIC	Nomenclature	Hourly Sustained Maximum Feed Rates
N285	Fuze, MTSQ, M577, w/o Booster	576
N411	Fuze, Proximity, M514	216
N335	Fuze, Point Detonating (PD), M557, with Booster	360
N412	Fuze, Proximity, M513	225
M692	Initiator, Cartridge Actuated, M5A2 B-52	450
M703	Initiator, M31	450





DODIC	Nomenclature	Quantity Processed
B596	CTG, 40mm HE, ICM, M397	306
B586	CTG, 57mm HE, M306A1	3,299
B632	CTG, 60mm HE, M494A (Comp B)	45,389
C410	CTG, 90mm CANISTER, APERS, M590E1	9,609
F372	ADAPTER, BOOSTER, T45E7	1,576
F380	ADAPTER, BOOSTER, T45E1	104
F387	ADAPTER, BOOSTER, M147	77
G922	GRENADE, HAND RIOT, CS M47	2,523
G963	GRENADE, HAND RIOT, CS M7A2, M7A3	1,593
H847	WHD, 2.75 IN HE, MK1 MOD	16
N265	FUZE, BD, M91A2	1,985
C707	CTG, 4.2 IN SMK FS M2A1	121
C708	CTG, 4.2 IN SMK WP M2A1	2
C239	CHARGE, PROPELLING, M2A1 for 81mm	21,167
D541	CHARGE, PROPELLING, M4A1 for 155mm	1,852
G955	GRENADE, HAND, SMOKE, VIOLET, M18	1

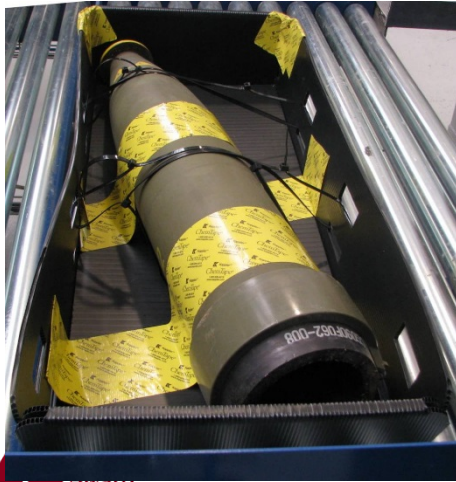




- Family of Scatterable Mines (FASCAM) testing was performed as a proof of concept evaluation.
- DODICs M692 and M86 mines contained a small amount of Depleted Uranium (DU).
- Test the SDC's ability to process these munition types that are problematic for disposal.

Nomenclature	Quantity
M692 ADAM Projectile, HE, 155mm	4
M86 Pursuit Deterrent Munition (PDM)	96
M74 Anti-Personnel (AP) Mines	40
Total	140

M692 BEFORE AND AFTER









- Approval packages are being written for DODICs H842, H847, ML93 and K768
- Items are still being currently processed
- Collecting test data for the final report



- The Static Detonation Chamber at Anniston Army Depot Will Provide the US Army with a Demilitarization Capability for a Variety of Ordnances.
- SDC:
 - Is safe
 - Is an environmentally compliant alternative to OB/OD
 - Can process items with minimal to no disassembly
 - Has processing limitations, i.e. physical weight, Net Explosive Weight, constituent material limits



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