



Global EOD Conference and Exhibition Brief

Department of Defense Explosives
Safety Board (DDESB)

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Department of Defense Explosives Safety Board



History of the DDESB

HISTORY. In 1928 Congress created the DDESB in response to a catastrophic munitions explosion at a military installation in New Jersey (now Picatinny Arsenal). Title 10 USC §172.

MISSION. On behalf of the Secretary of Defense develop and maintain a robust Explosives Safety Program that identifies and reduces the risks associated with DoD military munitions in joint and multinational planning, training, and operations.

MEANS. The DDESB accomplishes its mission through policy and scientifically-based requirements, oversight, and technical support to the Military Services and the Joint Warfighter.

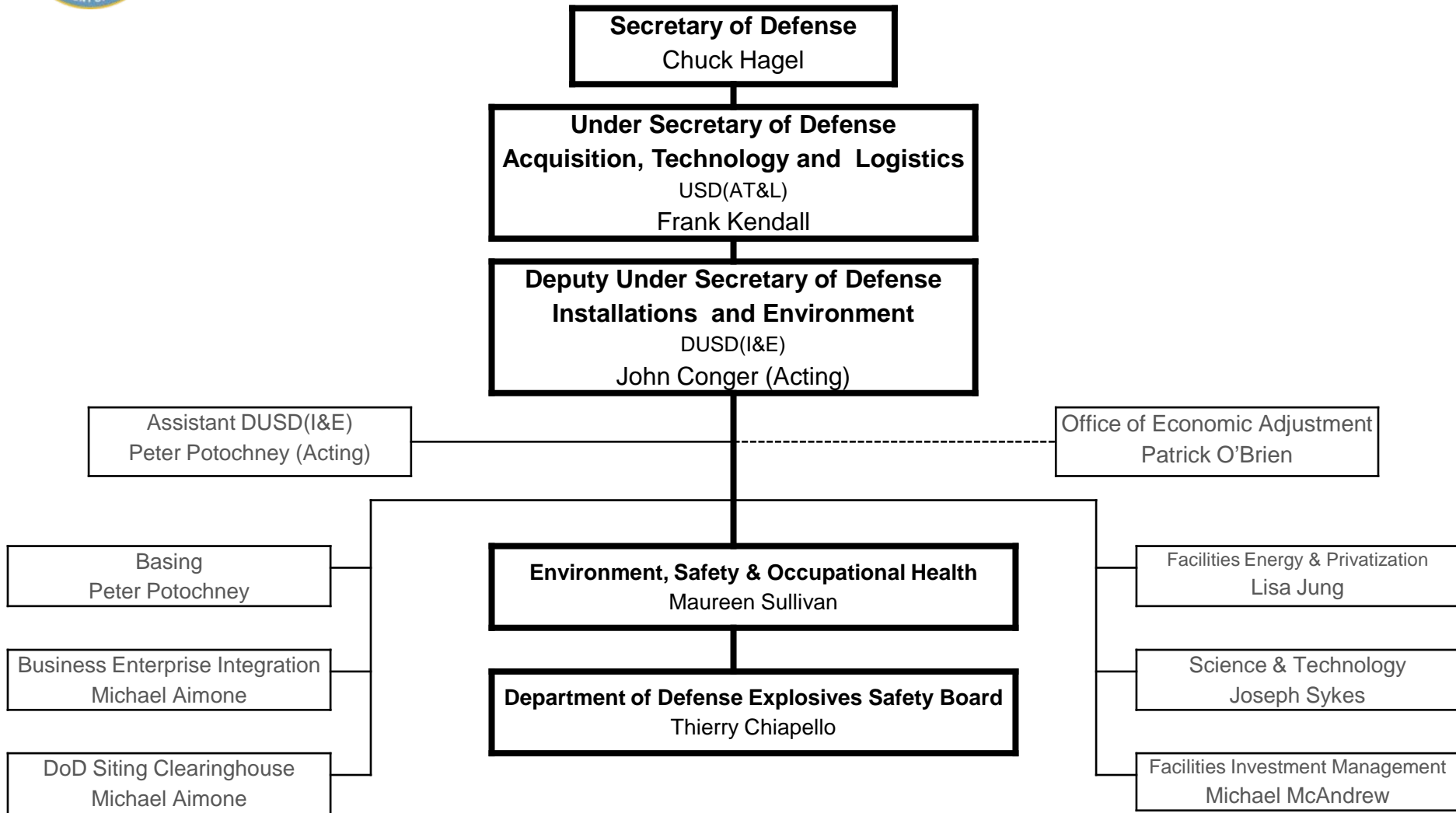


Mission, Vision, Goals, and Risk Management Strategy

- Provide the maximum possible protection to people and property from the damaging effects of DoD military munitions
- Make informed risk decisions at the appropriate level of leadership
- Provide tools to leaders and managers who are responsible for implementing effective explosives safety management (“operationalize”)
- Resulting in: Responsible use of resources in identifying, evaluating, managing (preventing, controlling, mitigating) potential explosives and chemical agent safety risks.



Organizational Placement





DDESB at a Glance

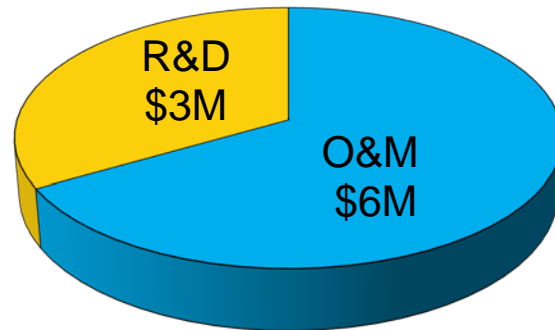
People

- **4 Military**
- **29 Civilian**
- **1 Contractor (on site)**

Major Functions

- **Policy**
 - **Develop & Maintain**
 - **The DoD Explosives Safety Program**
 - **DoD Explosives Safety Policy and Guidance**
 - **Perform RDT&E in support of standards development**
- **Advocacy**
 - **Support Combatant Commanders Mission where DoD Munitions are involved**
 - **Support Multinational Organizations and Operations (NATO, UN, and State Dept)**
- **Oversight**
 - **DoD Component Explosives Safety Program Evaluation**
 - **Joint Staff Mission Assurance Assessments Support**
 - **Special Explosives Safety Evaluations**

Annual Budget



Major Strategic Stakeholders

- **Secretary of Defense**
 - USD Acquisition, Technology & Logistics
 - DUSD Installations and Environment
 - Director, Land Warfare & Munitions
 - ASD International Programs
 - USD Policy
 - Mission Assurance
 - Homeland Defense
 - International Security Affairs
 - USD Personnel & Readiness
 - Ranges
 - Strategic Human Capital Management
- **Chairman of the Joint Chiefs of Staff**
 - Joint Staff: J2/J3/J4/J5/J7)
- **Combatant Commanders**
- **Military Services**
- **NATO**
 - Acquisition – Munitions Safety AC/326
 - Logistics AC/305
 - SHAPE
- **DoD Agencies**



DDESB Mission Execution

- 1) Improving Scientific Knowledge Base (Testing, Modeling, and Analysis)
- 2) Executing Programmatic Evaluations of the Services and DOD Policy ISO Munitions Safety
- 3) Site Planning (Required Explosives Safety Submissions)
- 4) Deviation Management
- 5) Munitions Risk Assessments (MRAs)
- 6) Munitions and Explosives of Concern (MEC)
- 7) Operationalizing Explosives Safety – Stand-Alone ESS Software for use in deployed areas.



Mission, Vision, Goals, and Risk Management Strategy

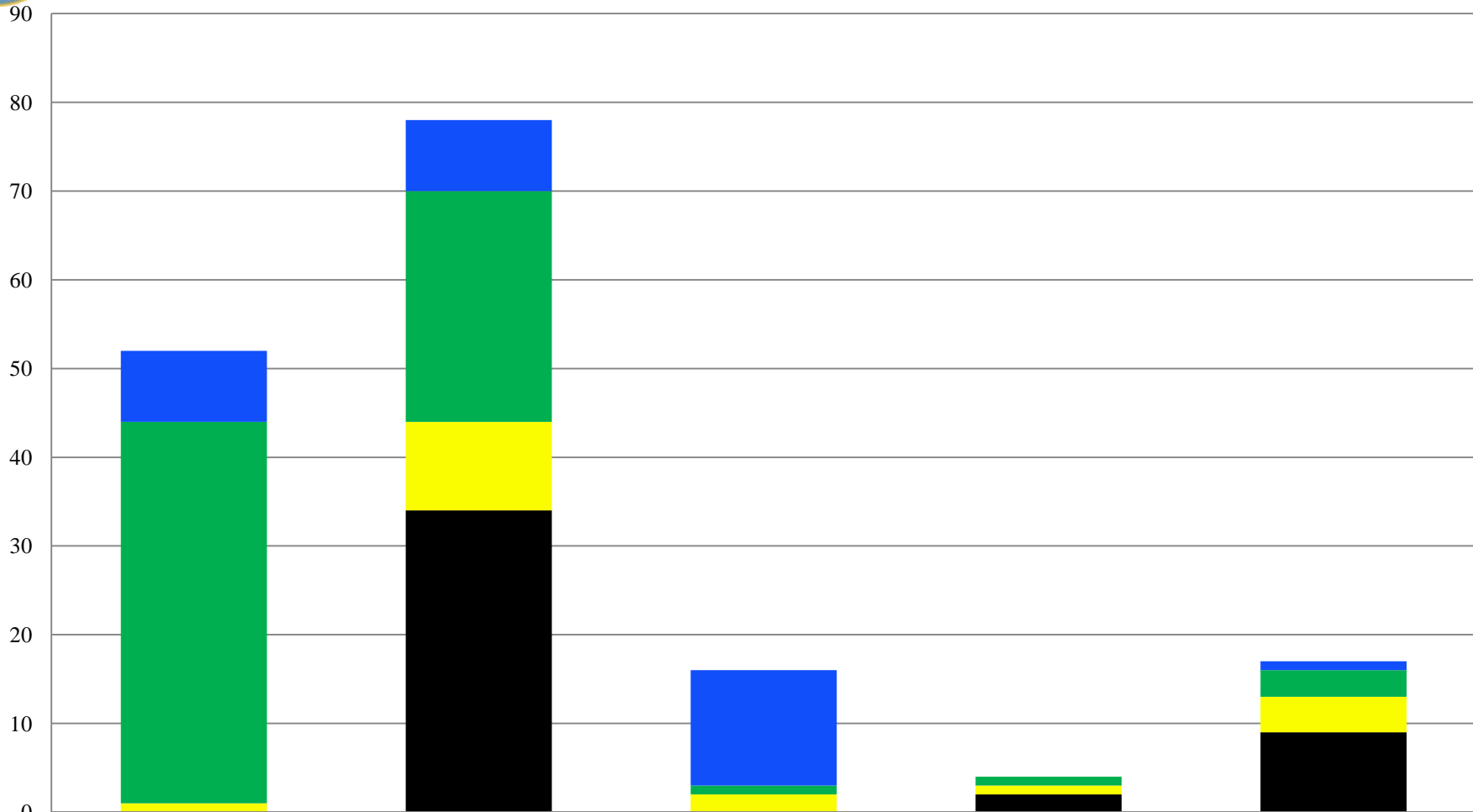
- Reviews all Explosive Safety Site Submissions to clean-up (military and civilian) and Approves / Establishes QD for Explosive Siting.
 - Establishes explosives safety QD for EOD Tools
 - Hydro-Jet -
 - Mineral Water Battle -
 - Detonator Sampling Tool -
 - EOD RSL –No QD (Very Limited Storage)
 - EOD Mag – 10 ft QD (126lbs of Explosives)

Enable joint-warfighting by integrating Explosives safety into planning and operations



Munitions Response Actions

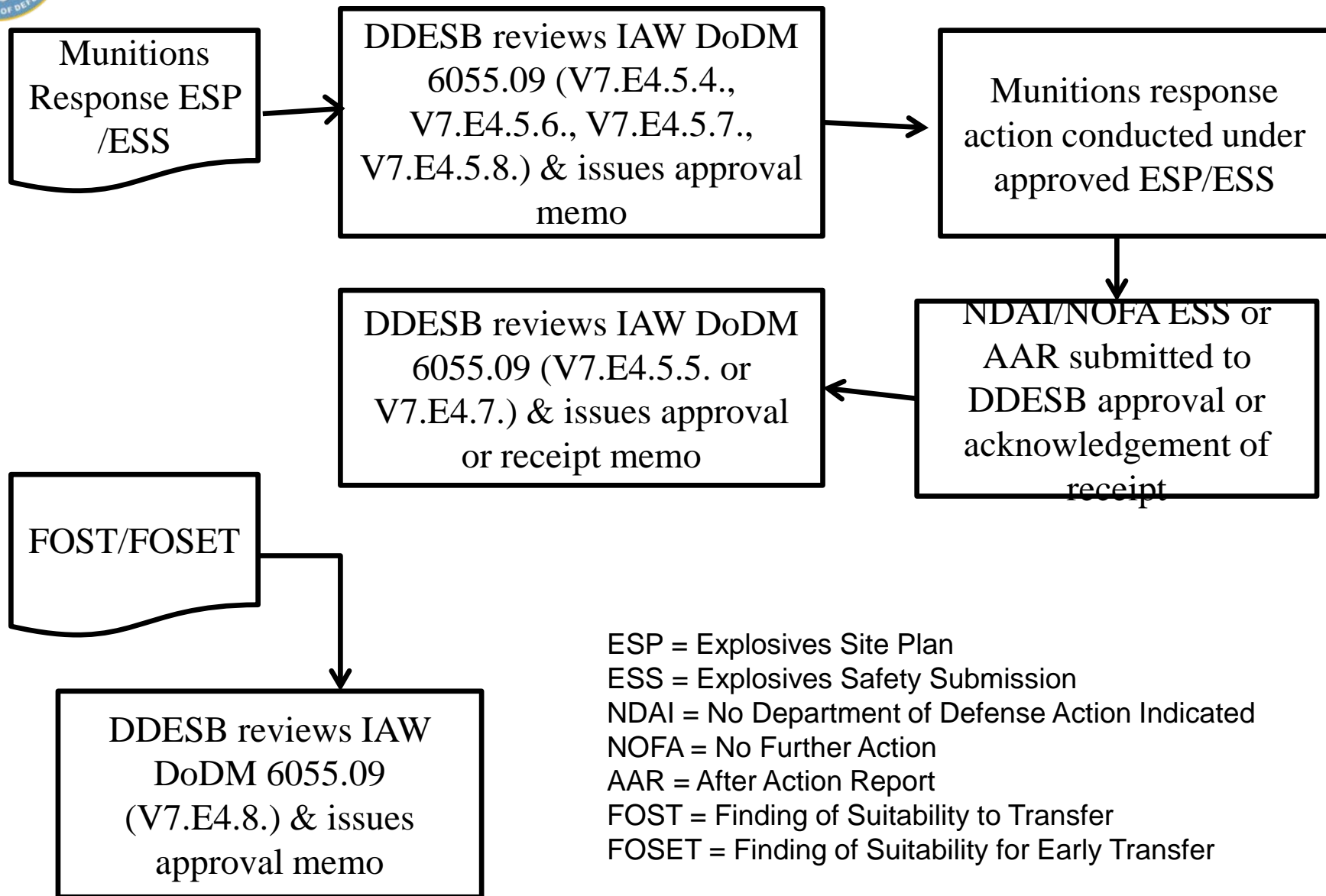
1 July 2014 – 1 July 2015



	ESP	ESS	NOFA/NDAI	FOST/FOSET	AAR
Air Force	8	8	13	0	1
Army	43	26	1	1	3
Marine Corps	1	10	2	1	4
Navy	0	34	0	2	9



Munitions and Explosives of Concern





Issues with Submissions

- Define Engineer Controls / Describe risk to to the unrelated public
- Incorrect minimum separation distance used for non-fragmenting munitions
- Double hearing protection which provides >9 dB attenuation required for equivalent K18
- Engineering control restrictions and minimum distance requirements not understood
- ESP results need to be used to prepare an ESS



Questions



FOB Zangabad, 2012



Camp Doha 1991



FOB Falcon 2006 12 2006



History and Background

- Congressionally mandated in 1928
 - Based on 1926 Lake Denmark explosives incident
 - Joint Board of Officers appointed
 - ❖ Implement recommendations of House Report (No. 199) to Congress
 - ❖ Prevent endangerment to life/property
 - ❖ Ammunition storage focused

- DoDIG recommended changes in 2003
 - Develop DoD ESM Strategic Plan
 - Establish & oversee comprehensive DoD ESM
 - Restructure DDESB to independent, objective full time body
 - Update directive (DoDD 6055.9)





History – The Lake Denmark Explosion

July 10, 1926 – Lake Denmark New Jersey

- **Lightning** struck Navy Hill, an area transferred to the Navy Department to store ammunition. Resulting fire spread to a magazine housing **600K pounds of TNT**, starting a series of explosions.
- This **large explosion set off others**, followed by smaller explosions that **continued for the next four days**.
- Almost all of the existing structures on the north face of Navy Hill were leveled.
- **Nineteen people were killed** and **38 seriously injured**, many of them while responding to the first fire.
- Nearly 200 buildings were destroyed
- Witnesses said the blast was so powerful that debris was spotted 35 kilometers away.
- The disaster caused \$47 million in damages and is considered one of the largest man-made explosions in United States history.





DoD Explosives Safety Issuances

Directive

- DoD Directive 6055.9E, Explosives Safety Management & the DoD Explosives Safety Board, August 19, 2005
 - **POLICY**

CJCSI

- CJCSI 4360.01 Explosives Safety Munitions Risk Management in Joint Operational Planning, Training, and Execution, Feb 2012
 - **POLICY**

Instruction

- DoD Instruction 6055.16 Explosives Safety Management Program, July 29, 2008
 - **PROGRAMMATIC**

Manual

- DoD 6055.09-STD, DoD Ammunition and Explosives Safety Standards, February 29, 2008
 - **TECHNICAL**

AASTP
1 & 5

- NATO Allied Ammunition Storage Transportation Publication
 - **MULTINATIONAL TECHNICAL**

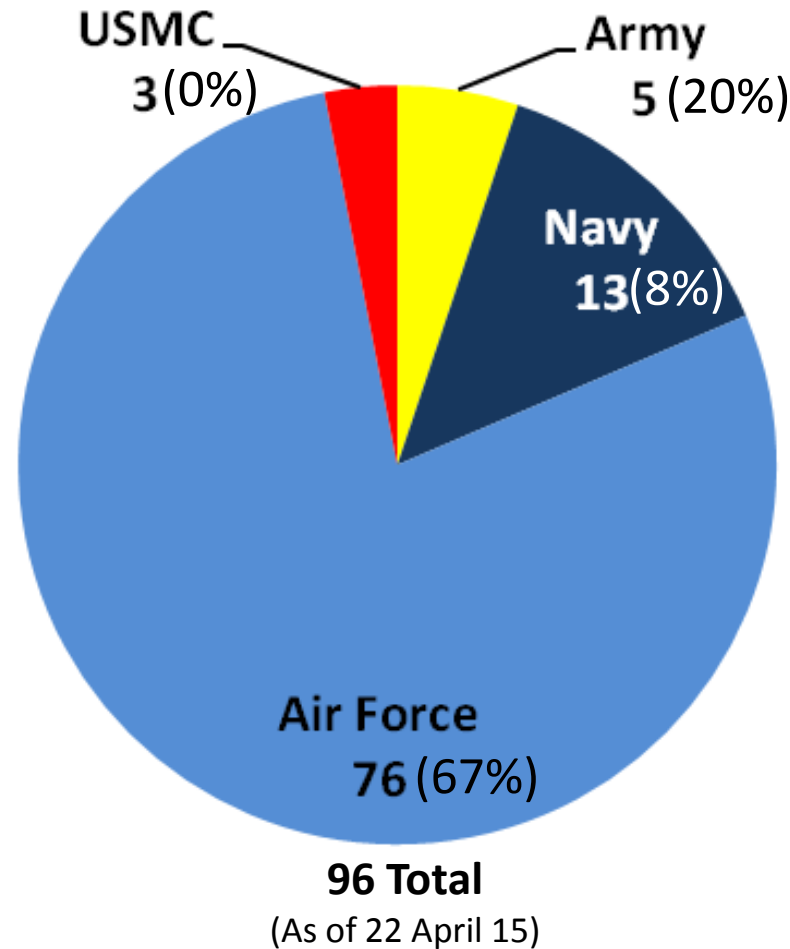
ALP
4.16

- NATO Allied Logistics Publication for Explosives Safety and Munitions Risk Management (ESMRM) in NATO Planning, Training, and Execution
 - **MULTINATIONAL POLICY**



CY 15 QD Site Plans to DDESB

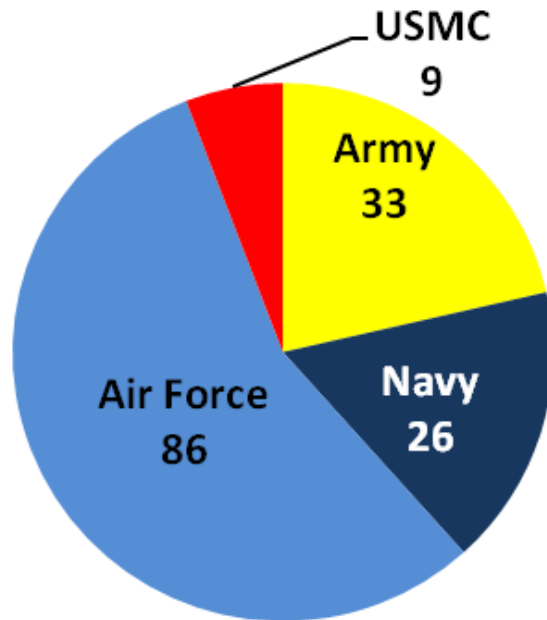
Number of Submission by Service (% submissions using ESS)





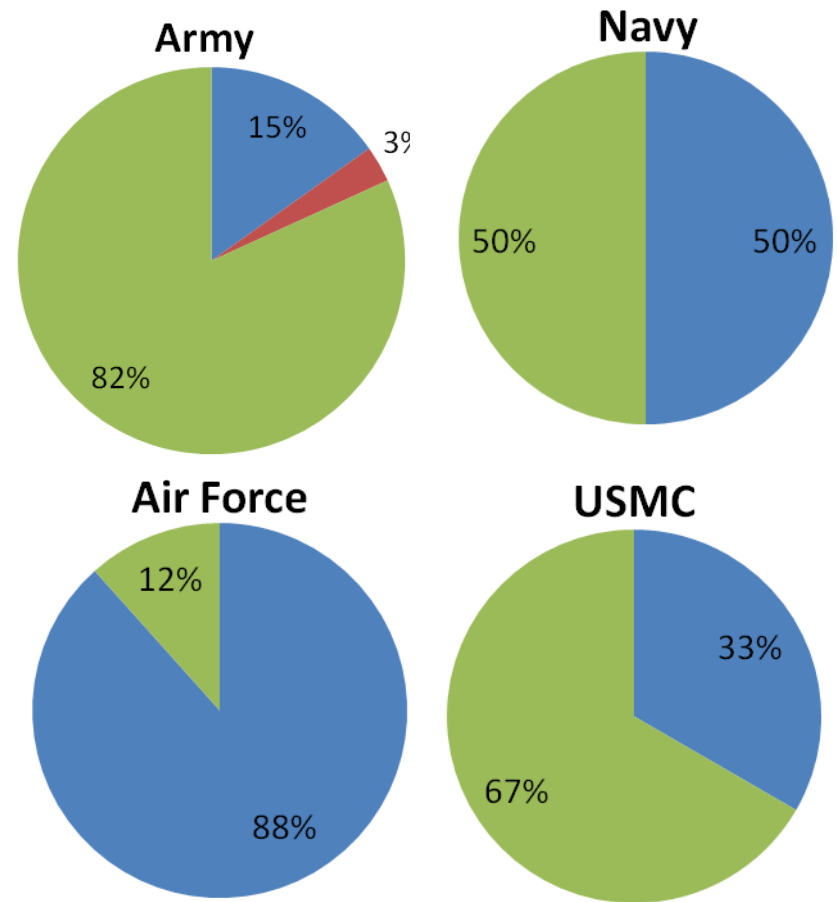
CY 15 Safety Submissions to DDESB

Service Submissions



154 Total
(As of 22 April 15)

Percent by Type



- Site Plans
- Chemical Site Plans
- Munitions Response



Department of Defense Explosives Safety Board (DDESB) Mission

To develop, implement, execute, and oversee the DoD Explosives Safety Management Program (ESMP) to enhance force protection and asset preservation in a way that ensures the Department's vital war-fighting capabilities.

- The **ESMP** is a systematic method by which the Department of Defense integrates explosives and chemical agent safety tenets and requirements into planning, decision making, and day-to-day operations involving the entire life-cycle of DoD military munitions. An effective ESMP includes, but is not limited to, policies, procedures, standards, engineering methods, risk management processes, and the responsible use of resources.
- **Explosives Safety Munitions Risk Management (ESMRM)** is a subset of the Program that involves identifying munitions related risks and producing risk reducing recommendations in support of a senior leader's risk decision when DoD Explosives Safety requirements cannot be met.

DDESB is the Office of the Secretary of Defense (OSD) agent for Explosives Safety. The function of the Office of the Secretary of Defense are prescribed by Law in Title 10 USC as: *"... to assist the Secretary of Defense in carrying out his duties and responsibilities and to carry out such other duties as may be prescribed by law."* These functions are further outlined in the DoD Organization and functions guide as: *The Office of the Secretary of Defense is the principal staff element of the Secretary in the exercise of policy development, planning, resource management, fiscal, and program evaluation responsibilities.*



Advanced EOD Magazine

- Approved 27 FEB 01
- This design was developed by NAWC Weapons Division, China Lake, for Air Force EOD, which had a need for a deployable explosives storage magazine with a minimal ESQD. This design uses a modified off-the-shelf ARMAG Corporation magazine to provide additional venting and 17 special pumice-lined containers (for storage of HD 1.1 and 1.3 AE) to limit the MCE in the magazine to 1.25 pounds NEW of C-4. HD 1.4 items are stored within metal containers on the internal expanded metal shelves. The maximum NEW permitted in the magazine is 128.24 pounds. An Air Force EOD kit contains approximately 254 pounds NEW, therefore two of these magazines are required to hold the EOD kit. A 10-foot clear area is required around the Advanced EOD Magazine, within which no permanent personnel are permitted. NAWS China Lake Test Report NAWCWD TM 8331 defines all conditions and modifications associated with use of the Advanced EOD Magazine.



- Approved 27 MAR 98
- This design was developed by NAWC Weapons Division, China Lake. It uses a modified off-the-shelf Sam Nally magazine to provide additional venting and seven special pumice-lined containers to limit the MCE in the magazine to 0.625 pounds NEW. A 30-foot clear area is required around the EODRSL, within which no permanent personnel are permitted. NAWS China Lake Test Report NAWCWPNS TM 7979 defines all conditions and modifications associated with use of the EODRSL. On 25 Oct 2000, the DDESB approved the addition of an eighth pumice-lined container for the storage of no more than 10 explosives-loaded enhanced 1.5 liter Mineral Water Bottle (MWB) tubes and/or standard 1.2 liter MWB tubes. The MCE remains unchanged.