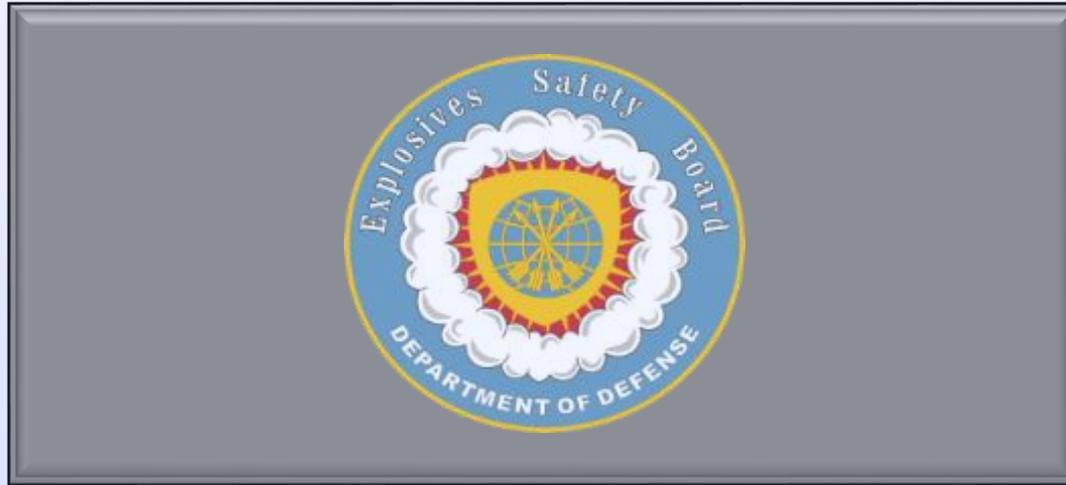


Department of Defense Explosives Safety Board



Explosives Safety and Munitions Risk Management (ESMRM) Keynote Address to the International Explosives Safety Symposium & Exposition

August 2018

Mr. Thierry Chiapello
Executive Director



Overview

- Thanks and Welcome
- Explosives Safety and the Elements of National Power
- Explosives Safety and Munitions Risk Management (ESMRM)
- DoD Explosives Safety Board
- ESMRM Application to the Munitions Lifecycle Model
- Explosives Safety and Mission Risk
- Risk Management – Other Risks...
- Communication Tools
- ESMRM in Action... Adding Value to the Mission
- Conclusions
- Challenge to Everyone



Explosives Safety and the Elements of National Power

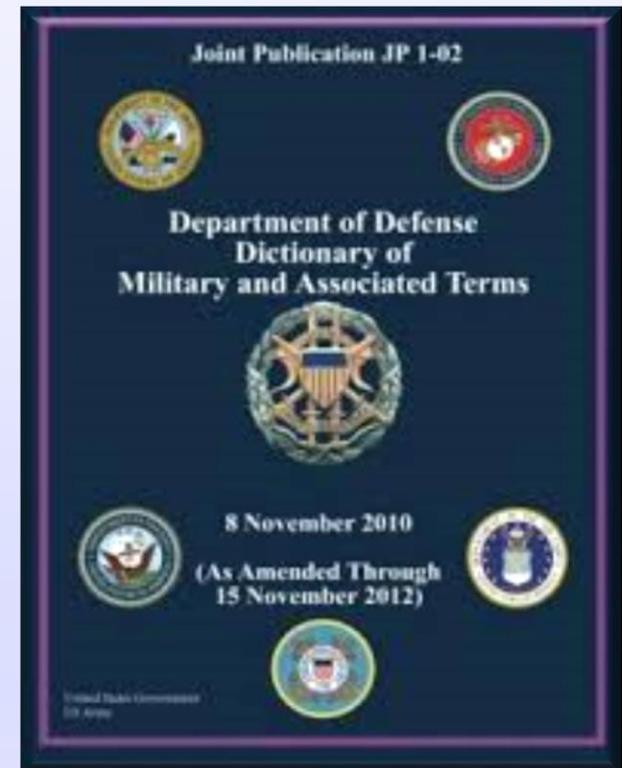
- Explosives safety - series of policies and processes designed and implemented to prevent munitions related catastrophes in support of national security objectives.
 - When incorporated early and throughout planning, logistics, and other processes where munitions are involved, explosives safety is a highly effective enabler at the Strategic, Operational, and Tactical levels.
 - Explosives Safety directly relates to every element of National Power
- **Elements of National Power (DIME)**
 - **Diplomacy**
 - **Information**
 - **Military**
 - **Economic**



Explosives Safety and Munitions Risk Management



- **Explosives Safety Munitions Risk Management (ESMRM) –Risk management part of Explosives Safety when DoD, NATO, or other established (national) requirements can not be met**
- **ESMRM (JP 1-02).** A systematic approach that integrates risk analysis into operational planning, military training exercises, and contingency operations with the goal of identifying potentially adverse consequences associated with munitions operations, risk reduction alternatives, and risk acceptance criteria for senior officials to make the risk decision. Also called **ESMRM**.





The DoD Explosives Safety Board (DDESB)

ORIGIN: Established in 1928 by Congress (10. U.S.C. §172) after a major disaster at the Naval Ammunition Depot, Lake Denmark, New Jersey in 1926. The accident, involving returning WWI munitions, virtually destroyed the depot, causing heavy damage to adjacent Picatinny Arsenal and the surrounding communities, killing 21 people, and seriously injuring 53 others.

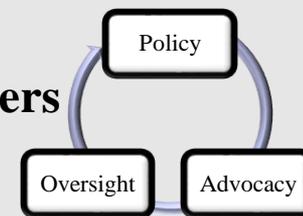


MAJOR FUNCTIONS

- **Develop and maintain the DoD Explosives Safety Management Program**
- **Support Combatant Commanders' Mission where DoD Munitions are involved**
- **Support Multinational Organizations and Operations (NATO, UN, and State Dept)**
- **Support Joint Staff Assessments**
- **Develop and maintain DoD Explosives Safety Policy and Regulations**
- **Evaluate Military Services, Combatant Command, and other DoD Explosives Safety Programs**
- **Perform explosives safety related R&D**

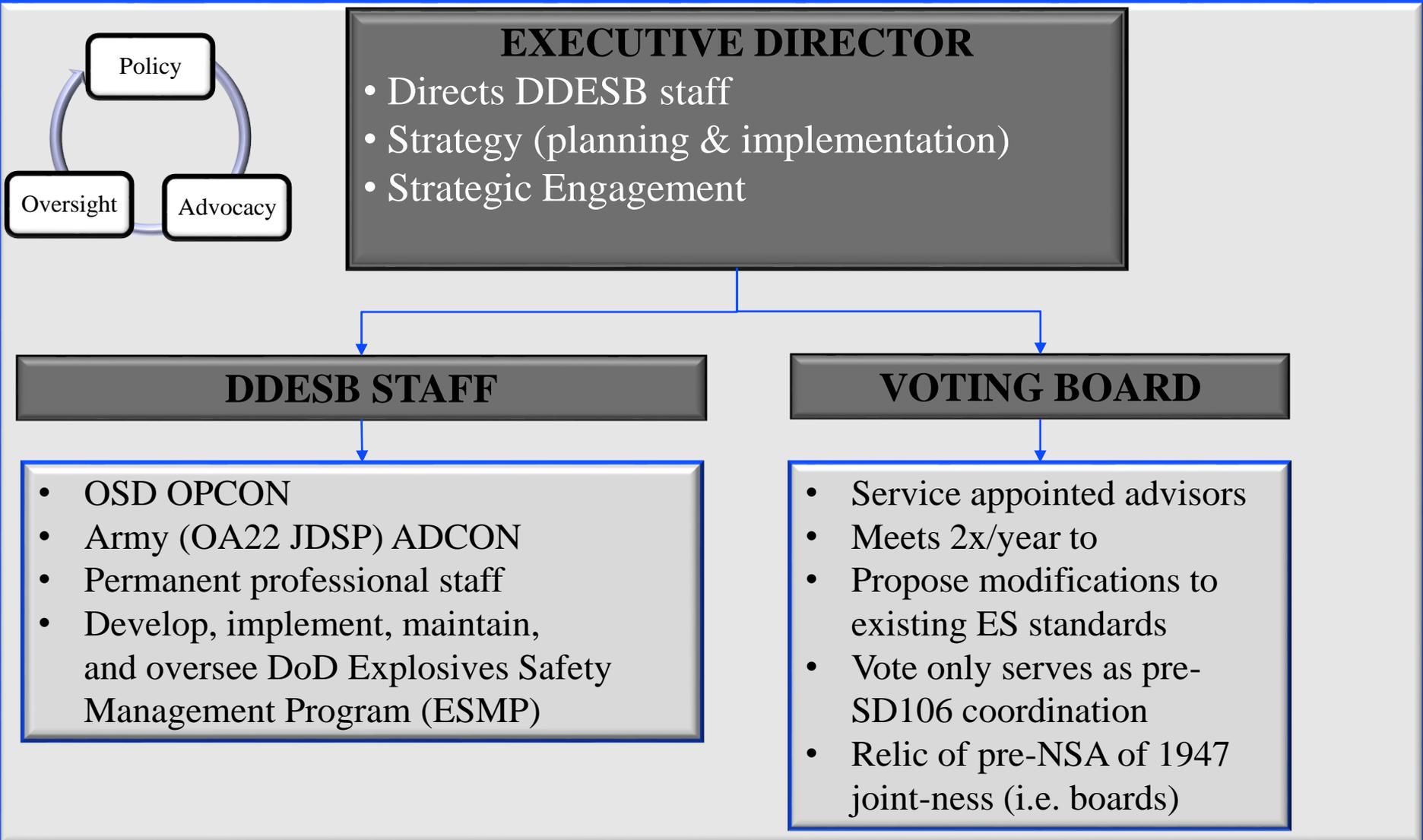
ORGANIZATION - 27

- **22 Civilians**
- **4 Military Officers**
- **1 Contractor**





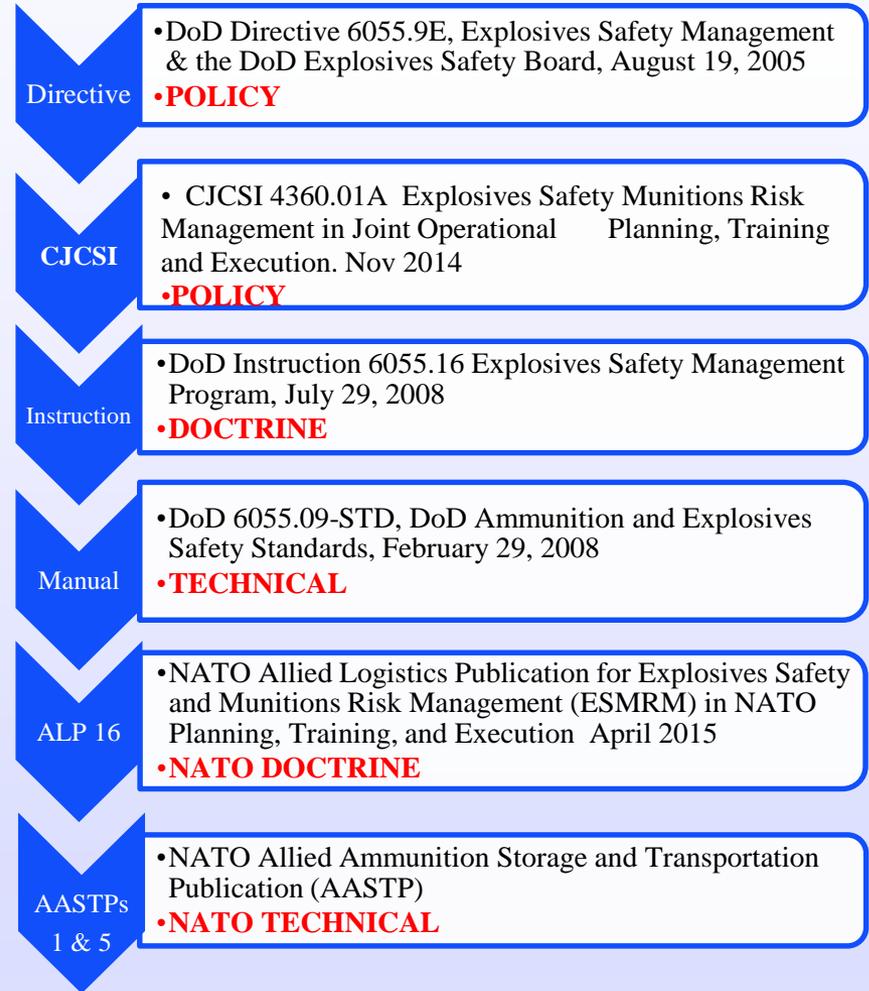
DDESB Organization and Functions





DoD Explosives Safety Management Policy

- The DoD Explosives Safety Board (DDESB) (OSD, A&S) is responsible for developing, maintaining, and implementing the DoD Explosives Safety Management Program
- It is DoD policy to:
 1. **Provide maximum possible protection** to people and property from the damaging effects of DoD military munitions
 2. **Make informed risk decisions** at the appropriate level of leadership
 3. **Implement management systems** approaches and best business practices to maintain the ESMP
- **Munitions-related risks are managed using the licensing (site planning) process.**
 - An approved license may be issued when criteria are met
 - A deviation (informed risk decision) is otherwise required



Risk management = approved site license or deviation



Types of Explosives Safety Submissions (Licensing)

Hazard Classification, NEQ and QD

1. Quantity Distance Site Plan (QDSP)

- May involve protective construction or reduced QD
- Includes accidental and intentional detonation criteria

2. Chemical Safety Submission (CSS)

- System CSS – chemical and explosives containment capabilities
- Operational CSS – site plan for demilitarization laboratory or training operation

3. Munitions Response Safety Submission (MRSS)

- Conventional
- Chemical

4. Risk-Based Site Plan (RBSP)

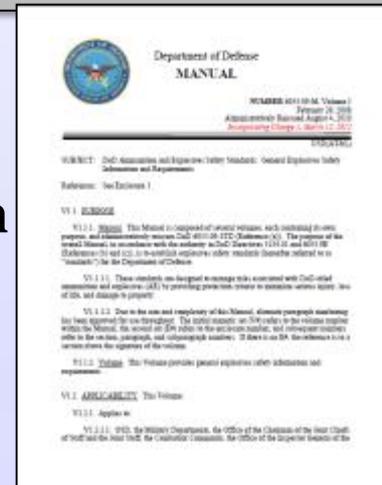
5. Hybrid Site Plan (HSP)

Explosives Safety Submissions are required to address:

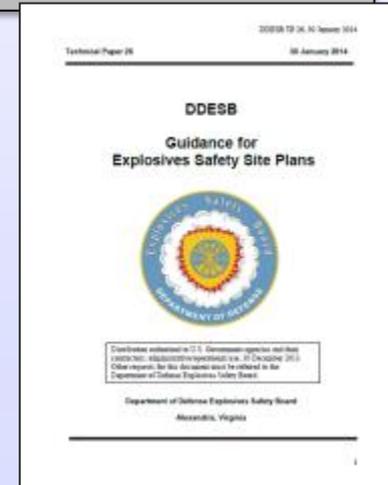
- Research and Development
- Manufacturing
- Maintenance and Handling
- Storage
- Use (some elements)
- Munitions Response
- Demilitarization
- Commercial Explosives on DoD Property

Number of submissions per year

~400-600/yr



DoDM 6055.09 DoD Ammunition and Explosives Safety Standards

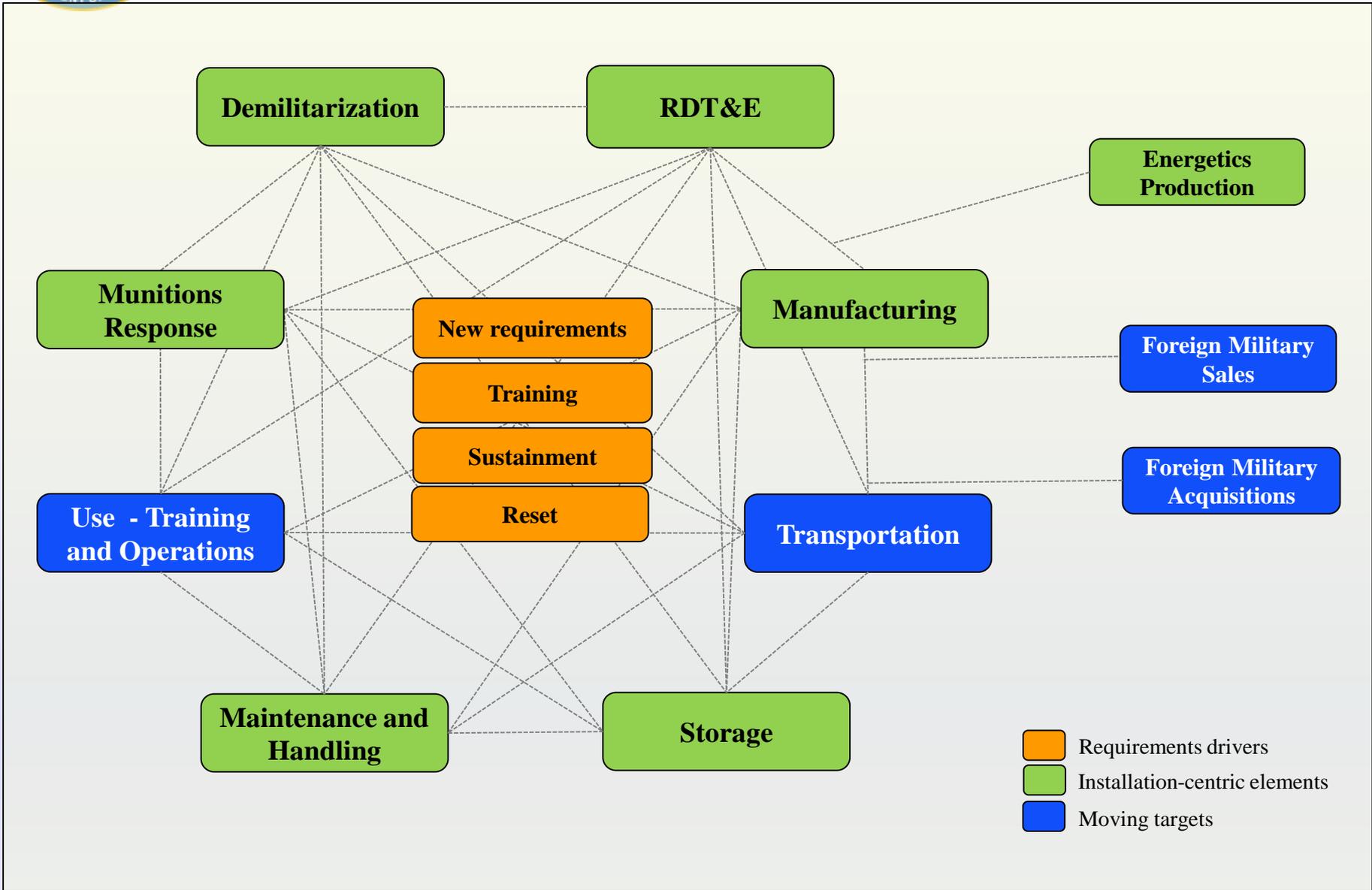


DDESB TP-26 Guidance for Explosives Safety Site Plans

Meeting QD criteria is not risk-free, nor does it quantify the assumed risk.



ESMRM Application to the Munitions Lifecycle Model





Explosives Safety and Mission Risk

- **Mission Risk** - Commanders' ability to perform assigned mission (war plans, contingencies, training/exercises).
- Prior to 2010 DoD Explosives Safety Program not geared to support mission or operational risk
 - **1945-2005**. No explicit explosives safety requirements or processes to address mission or operational risk
 - **2005 – 2010**. Beginning of policy requirement to address operational risk, no communication plan, implementing processes or supporting resources
 - **2010-2018**. Developed policies, process, communication and implementation strategies and partnerships
 - Direct assistance to CCDRs and Services



Risk Management – Other Risks...

• Institutional Risk

○ Internal Competition

- Fiscal realities, one of many requirements competing for fixed resources
 - ❖ Why worry? Nothing ever happens...
 - ❖ Emerging Growth – Example
- Government (growth – reduction) cycles (my 4th administration change so far)
 - ❖ Still waiting to hear “*OK, it’s time to grow*” when in fact... if you aren’t constantly revisiting processes and adapting, you are...behind

○ Culture

- Explosives Safety perception (some)
- Change from “Niche Function” *or* “Mission dis-abler” to main stream mission enabling and value–adding function





Risk Management -Writ Large

- Mission Risk - Commanders' ability to perform assigned mission (war plans, contingencies, training/exercises).
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 - 2010-2018. Developed policies, process, communication and implementation strategies and partnerships

**So what?
Nothing bad ever happens...**



Communication Tools

- **Videos**

- Rationale for development

- 2 scenarios - real events

- ❖ Port

- ❖ Forward Operating Base

- **Think in terms of geopolitical and strategic implications of both events**



ESMRM in Action... Adding Value to the Mission

- **Must be Value Added to Succeed** – focus on compliance makes safety a “dirty word” with negative connotations
 - Mission enabler v. missioncrippler or disabler
 - NEVER should we say “you cant do this or that” to an operator
 - Here are your risks if you choose this option and here are alternatives
- **Republic of Korea – a Gordian Knot**
 - For over 50 years munitions in ROK thought to be intractable problem ... locations could not be sited/licensed due largely to encroachment
 - Assessments reduce risk between 95-99% at most locations
 - Where risk cannot be lowered, true risk is communicated to leadership in support of operationally driven decision
 - Most cases operations effectiveness and readiness increase due to improved processes and increased capacity (e.g. better operating processes and increased storage and quicker access to munitions)





ESMRM in Action... Adding Value to the Mission

- **NATO Example –**
 - Requirements (policy and logistics publications) in place... that was the easy part...
 - Competing Requirements
 - Current geopolitical situation resulted in SACEUR focus on logistics as a critical part of readiness
 - Assessing potential future locations
 - ❖ Dynamic operating locations v. FOBs
 - ❖ Understand conditions and potential partnerships in advance and develop ESMRM assessments to support





Conclusions

- **Bottom line** - ESMRM is a systematic approach that when successfully institutionalized will result in a culture change directly contributing to:
 - Improved readiness
 - Increased operational capabilities
 - More realistic plans and exercises
 - Quantified/qualified (and often reduced) munitions-risks, and
 - Increased commanders awareness about his/her ability to perform the mission
- **Although important, Explosives Safety and ESMRM are currently a niche function**
 - Commanders can always choose to deviate
 - Our job is to communicate how munitions-related processes can be done more effectively and increase readiness and mission capability
 - **Are you up to the challenge?**



Challenge to Everyone

- **Challenge to every Explosives Safety Professional in the Room throughout the Symposium and Every Day thereafter...**
 - How does what you do and are working on directly support or improve operational effectiveness? If R&D based, what is the outcome and the improvement that will result?
 - Be able to succinctly state your work in relation to the mission.
 - If your work doesn't clearly connect to the mission...**why are you doing it???**



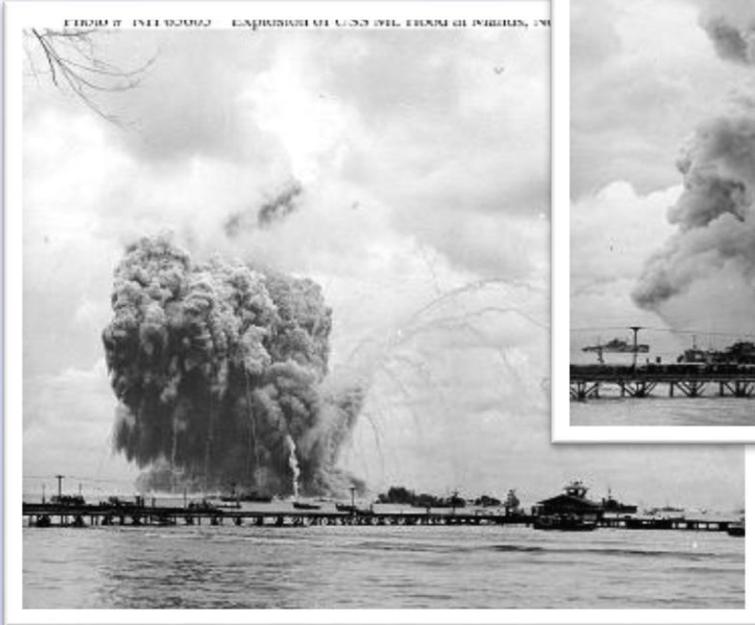
Questions?



Roseville California Railcar Explosion, 28 April 1973. A rail shipment was bound for the Naval Weapons Station Concord from Hawthorn Naval Weapons Depot in Nevada when a hot brake assembly started a fire in the wood floor of a rail car carrying 250-lb Tritonal bombs. Over 2 days, 18 railcars exploded causing millions of dollars of damage to the surrounding communities. 48 persons were injured, fortunately, no one was killed.



Questions?



Explosion of the USS Mt. Hood (AE-11), Admiralty Islands, 10 November 1944. While moored at the Manus Naval Base, Admiralty Islands, the Mount Hood's cargo ~2.3M pounds of munitions detonated. Damage and casualties were inflicted on ships anchored as far as 2000 yards away. Personnel casualties on Mount Hood and on other vessels totaled 45 known dead, 327 missing and 371 injured. Over 30 large ships damaged, including the USS Mindanao (ARG-3), pictured above. 13 small boats and landing craft were sunk, destroyed or damaged beyond repair and 33 were damaged but reparable.



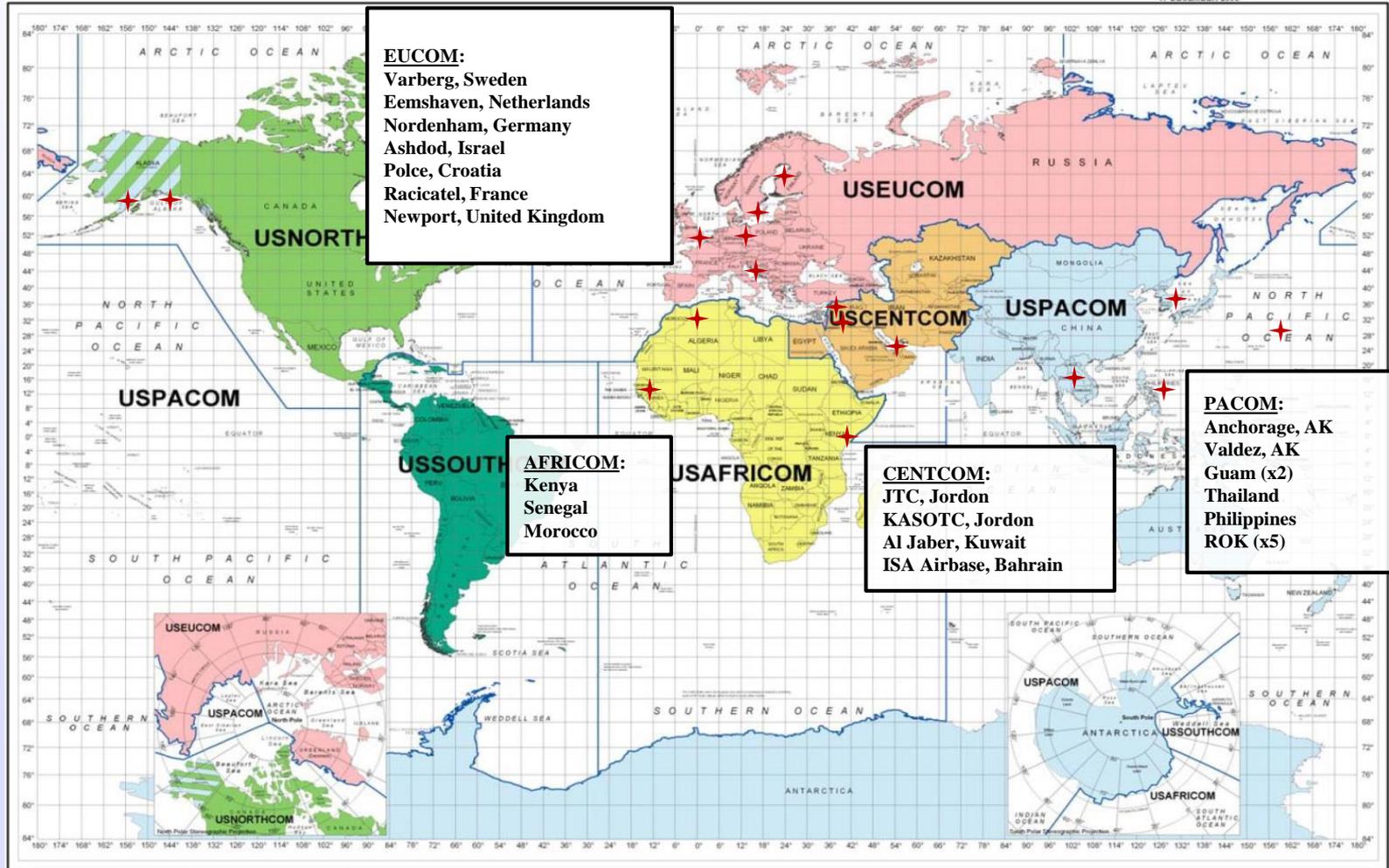
ESMRM Assessments by Geographical Combatant Command

THE WORLD 1:60,000,000

THE WORLD WITH COMMANDERS' AREAS OF RESPONSIBILITY

EDITION 8 NGA SERIES 1107

BASED ON UNIFIED COMMAND PLAN 17 DECEMBER 2008



EUROM:
 Varberg, Sweden
 Eemshaven, Netherlands
 Nordenham, Germany
 Ashdod, Israel
 Polce, Croatia
 Racicatel, France
 Newport, United Kingdom

AFRICOM:
 Kenya
 Senegal
 Morocco

CENTCOM:
 JTC, Jordon
 KASOTC, Jordon
 Al Jaber, Kuwait
 ISA Airbase, Bahrain

PACOM:
 Anchorage, AK
 Valdez, AK
 Guam (x2)
 Thailand
 Philippines
 ROK (x5)

SERIES 1107 EDITION 8 NGA



PREPARED AND PUBLISHED BY THE NATIONAL GEOGRAPHIC-INTELLIGENCE AGENCY ST. LOUIS, MO Map information as of 2008

State of Alaska assigned to USNORTHCOM's Area of Responsibility. Forces based in Alaska remain assigned to USPACOM.

1:60,000,000 MILLER CYLINDRICAL PROJECTION

The 1950 Israeli proclamation that Jerusalem be the national capital is not recognized by the United States.

* West Bank and Gaza Strip - "Israeli-occupied with current status subject to the Israeli - Palestinian Interim Agreement - permanent status to be determined through further negotiation."

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MAP EFFECTIVE 17 DECEMBER 2008

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