

MUNITIONS EXECUTIVE SUMMIT

“Evolving Requirements”

RDML James P. McManamon

Director, DON Weapons and Ordnance Safety (SEA 00V)

and

*NAVSEA Deputy Commander for Surface Warfare
(SEA 21)*

- **CNO Guidance**
- **SEA 21**
- **SEA 00V**
- **Road Ahead**
- **Navy's SMCA Investment**
- **Service–Industry Partnership**
- **USN Requirements**
- **Future Gun Systems**
- **Summary**



CNO's GUIDANCE

- **Conduct the full range of operations from combat to humanitarian assistance.**
- **Provide presence and operational flexibility with forward deployed maritime forces.**
- **Deter and, if deterrence fails, win our nations wars.**
- **Foster and sustain cooperative relationships with an expanding set of allies to enhance global security.**

Protect maritime freedom and address threats to peace

- **ASN (RDA) addressed span of control issues in PEO ships and requested options to reduce the PEO portfolio and achieve a more effective distribution of programs**
- **SEA 21 formed to provide for new construction as well as modernization efforts.**
- **Platform is a means of conveyance to put the ordnance on target**
 - **Mission success requires quality ammunition in the right amount, at the right place, and at the right time.**
- **Navy highly values the preservation of a robust conventional ammunition industrial base**



SEA 00V



Ordnance Safety & Security Activity

Naval weapons and explosives safety technical authority, providing the DON with expertise, policy, oversight, and procedures. In so doing we sustain Joint combat capability by identifying, mitigating, and communicating risks throughout weapons systems and explosives lifecycle.

Focus

- Explosives Safety & Security Policy and Procedures Technical Authority
- Ordnance Transportation, Handling & Storage Safety, Security and Environmental Compliance
- Explosives Safety & Security Inspections Guidance & Compliance Evaluations
- Explosive Mishaps Prevention
- Explosives Safety Site Approval/Waivers/Exemptions
- Munitions Rule Application
- Munitions Response Program
- Insensitive Munitions Program Coordination
- Technology
- Ordnance Quality Evaluations

Products

- Weapon and Combat System Safety
 - Weapon System Explosives Safety Review Board
 - Software Systems Safety Tech Review Panel
 - Fuze and Initiation System Tech Review Panel
 - Unmanned Systems
- Shipboard Weapons Systems Integration
- Explosives Safety Inspections (ESIs)
- Explosives Safety Training
- Site Approvals / (ESQD) Arcs Determination
- Ammunition & Hazardous Materials Review Board
- Waivers & Exemptions
- Ordnance Assessment Policy and Procedures
- Insensitive Munitions (IM)
- Electrical Safety / HERO / Lithium Battery
- Arms, Ammunition & Explosives Physical Security
- Ordnance Environmental Compliance Guidance & Monitoring

Commitment

Safe Ordnance Design
Safe and Secure Handling of Ordnance

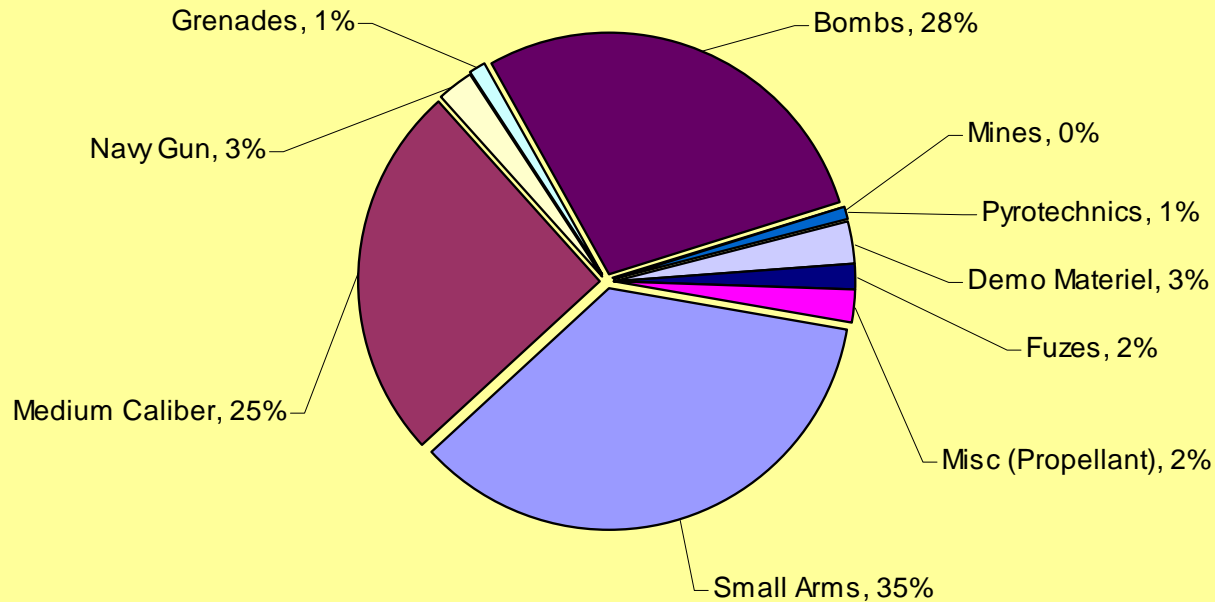
Environmental Compliance
Safe and Secure Storage of Ordnance

- **Current CNO Guidance**
 - 313 ships and 3800 aircraft maintained in Naval Service by 2020
- **Combat Systems evolution**
 - ‘System of systems’ with BMD efforts and Net-Centric warfare
 - Pinpoint accuracy with prescribed collateral damage
 - Common weapon systems across new construction platforms
 - Increasing use of UAVs
 - Directed energy weapons
- **Operational Safety**
 - Naval platforms becoming multi-mission and multi-Service
 - Explosives safety considerations: HERO, IM, etc.
 - Environmental stewardship

- ✓ GWOT
- ✓ Annual training
- ✓ RDT&E
- ✓ International Programs

Today's Requirements (\$1.5 B) up \$200M from last year!

FY08 - FY15 Navy SMCA Procurements by Ammunition Family



- **Adequacy in performance of munitions in theater**
 - **Quality munitions**
 - **RDDs continually improving**
 - **Overall deployed forces requirements are being met**
- **Minimal impacts observed with SMCA managed BRAC transitions**
- **Closer collaboration with the Ammo Enterprise for efficient and effective procurement execution**
- **Indian Head Manufacturing Capability of Propellants supplements SMCA**
 - **30-40% of NSWC/IHD propellant manufacturing supports SMCA mission**

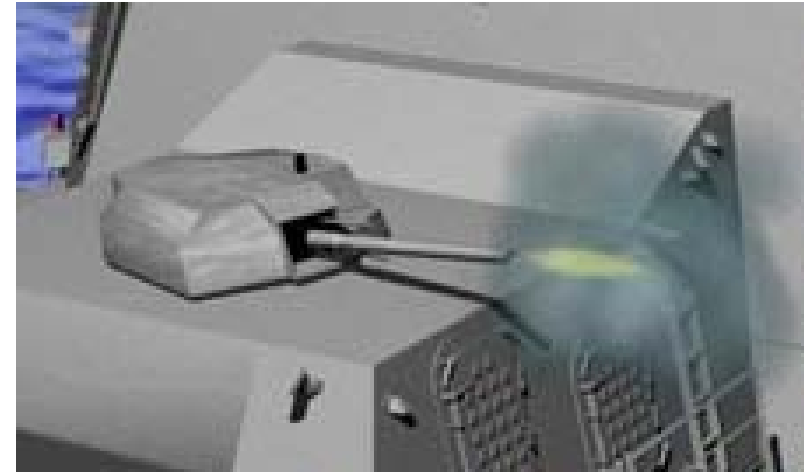
- **USN continues to be a large customer at the Army's facilities**
 - **AAP McAlester (Load Assemble & Pack of 5/54 Propelling Charges (MK 67 MOD 3))**
 - **CAAA Crane (Load Assemble & Pack 5/54 Projectiles and Pyro/Demo)**
 - **AAP Holston (5/54 explosive fills)**
- **2.75" Hydra Rocket - big in Iraq/Afghanistan**
 - **Product Engineering Army product for Navy use**



USN Requirements



- Continue to build 30MM inventory to support San Antonio Class LPD training and operational requirements
- USN still working towards a cost effective means to deliver 57MM ammunition to USN and USCG Deep Water program despite FY09 congressional marks
- Seek alternative munitions for training and qualification with individual and crew served weapons due to Live Fire Range limitations.

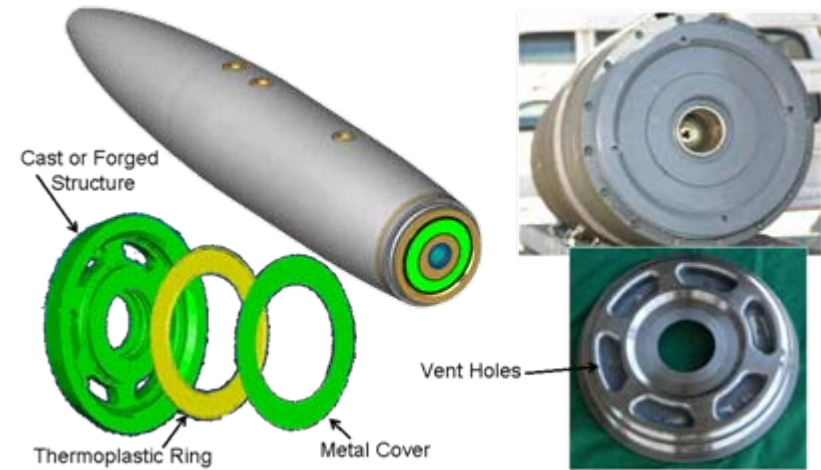


- **Pyro/Demo at CAAA**
 - **Small quantity procurement issues w/System Engineering challenges**
 - **Troubleshooting, engineering investigations, failure review boards**
 - **Cost adjustments have significant impact on procurements.**
 - **Increase in student quotas at the Joint EOD School requires the procurement of additional pyrotechnics and demolition materials**
- **Rapid fielding of new pyro/demo items requires optimum teamwork with SMCA as items transition to production**

GP Bomb IM Technology

Description: Develop, test & demonstrate weapons with equal or better IM performance than current BLU-117/110/111 filled with PBXN-109

- Maintain lethality effectiveness (w/Tritonal or PBXN-109)
- Maintain compatibility with current fuzes
- Maintain compatibility with current guidance packages and tail kits



GP Bomb IM Vent Hole Technology

Status

Mil Std 2105 Test Matrix

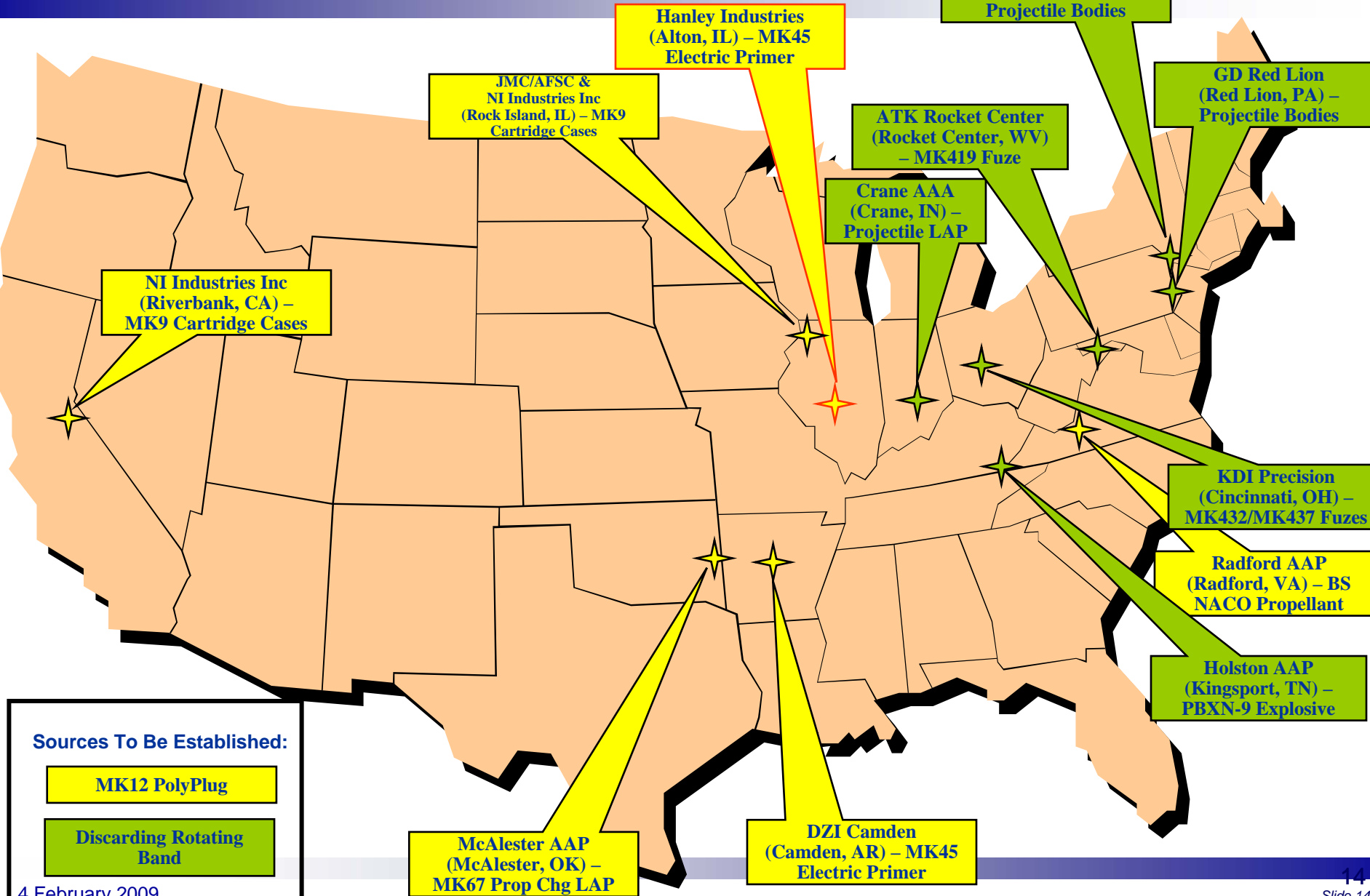
- BLU-111 B/B & C/B complete; FY10 Production
 - IM Vent Plate Configurations
 - PBXN-109
- BLU-117 B/B & C/B 95% complete; FY10 Production
 - IM Vent Plate Configuration
 - AFX-795
- BLU-126 C/B IM Qual in FY09
 - Incorporate & Test Vent Plate Configuration
- Reactive Liner IM Technology
 - Mature Technology for Bomb's application

Current GP Bomb IM Reaction Status (w/Vented Base Plate Technology)

	FCO	SCO	BI	FI	SD	SCJ
BLU-111	V	IV	V	IV	TBD	(F)
BLU-110	V	III/IV	IV/V	V	TBD	(F)
BLU-117	V	V	III	III	(F)	(F)

- **5/54 Conventional Ammunition is procured via Single Manager For Conventional Ammunition (SMCA)**
- **Current Acquisition Strategy - procure large quantities of component parts and subsequently build projectile sub-assemblies and propelling charges**
- **Acquisition Strategy and reduction in NCEA over last decade presents challenges to maintaining responsive Industrial base**
- **Existing inventory of component parts has been largely depleted**
- **USN working with the SMCA to release sources sought to evaluate the potential to move forward with a Systems Contract Approach for 5/54 ammunition**

5"/54 Industrial Base



Sources To Be Established:

- MK12 PolyPlug
- Discarding Rotating Band

- **Reduction in U.S. Army cannon artillery and decrease in USN training requirements for 5/54 in recent years has impacted the industrial base – consolidation and reduction of NTIB suppliers**
- **USN continues to pursue naval version of Multi-Option Fuze Artillery (MOFA) for 5/54**
- **USN initiated Product Improvement Plan for the Multi-Function Fuze (MFF) to support Anti-Air Warfare requirement**
 - **Parts obsolescence**
 - **Decrease costs**
 - **Intent is for full and open competition acquisition strategy upon transition to SMCA.**

PMA-272 transition agreement signed with PM-JS

- **Collaboration with Picatinny PM-JS for transition of MJU-61 and MJU-64 flares to SMCA**
- **Developing ARM 024 (kinematic) countermeasure with planned transition following successful LRIP**
- **SMH-75 Flare procurement delayed by internal execution**



- **MK 46 Mod 1&2 GWS**
 - 30 mm ammo
 - Derived from Mod 0 Expeditionary Fighting Vehicle (EFV)
 - LPD 17 Class, LCS
- **Advanced Gun System**
 - 155 mm ammo
 - DDG 1000
- **MK 110 Gun**
 - 57 mm ammo
 - WMSL 750, DDG 1000, LCS



- **DON is active industrial base partner**
 - Heavy reliance on ammunition wholesale base for annual training and contingency re-supply
 - Active supporter of the U.S. Army's Ammunition Enterprise
 - Closest collaboration ever with PEO Ammo
 - BRAC transition
- **Interoperability of Services imperative**
 - Common visibility of ordnance items through info systems
 - Requirements collaboration
 - Joint design and development of today's weapon systems and platforms
 - Safety considerations (HERO, IM, etc.)
 - Standardization of joint criteria/test requirements