

INDUSTRIAL COMMITTEE OF AMMUNITION PRODUCERS (ICAP)

Agenda – 108th Meeting – 16 April 2018

1300-1600 hrs (EST)

Parsippany, NJ

Location:

Hilton Parsippany
1 Hilton Court
Parsippany, NJ 07054
NDIA POC: Ms. Carol Dwyer (703) 247-2582

Meeting Room:

Elements Ballroom

Dress:

Civilian – Business
Military – Duty Uniform

v7

Time	Topic	Responsible Party
1230	Registration	
1300	Introductions & Opening Remarks	ICAP Chair PEO Ammo JMC
1310	Action Item Review	All
1315	Holston RDX Expansion Status	PD Joint Services
1335	Explosives Prioritization and Scheduling	PD JP
1355	Local Clause Elimination	PM CCS
1415	Cyber Security Briefing	JMC
1435	Case Study in GOCO Performance Work Statement (PWS) Management	PD JS
1445	Break	
1455	Industry Sector Reports <ul style="list-style-type: none"> Accomplishments, Issues, Concerns 	ICAP
1550	Round Table Discussion & Wrap Up	All
1600	Adjourn	



PEO AMMUNITION

Presented To:

ICAP Face-to-Face 108th Meeting

*Industrial Committee of
Ammunition Producers*

16 April 2018

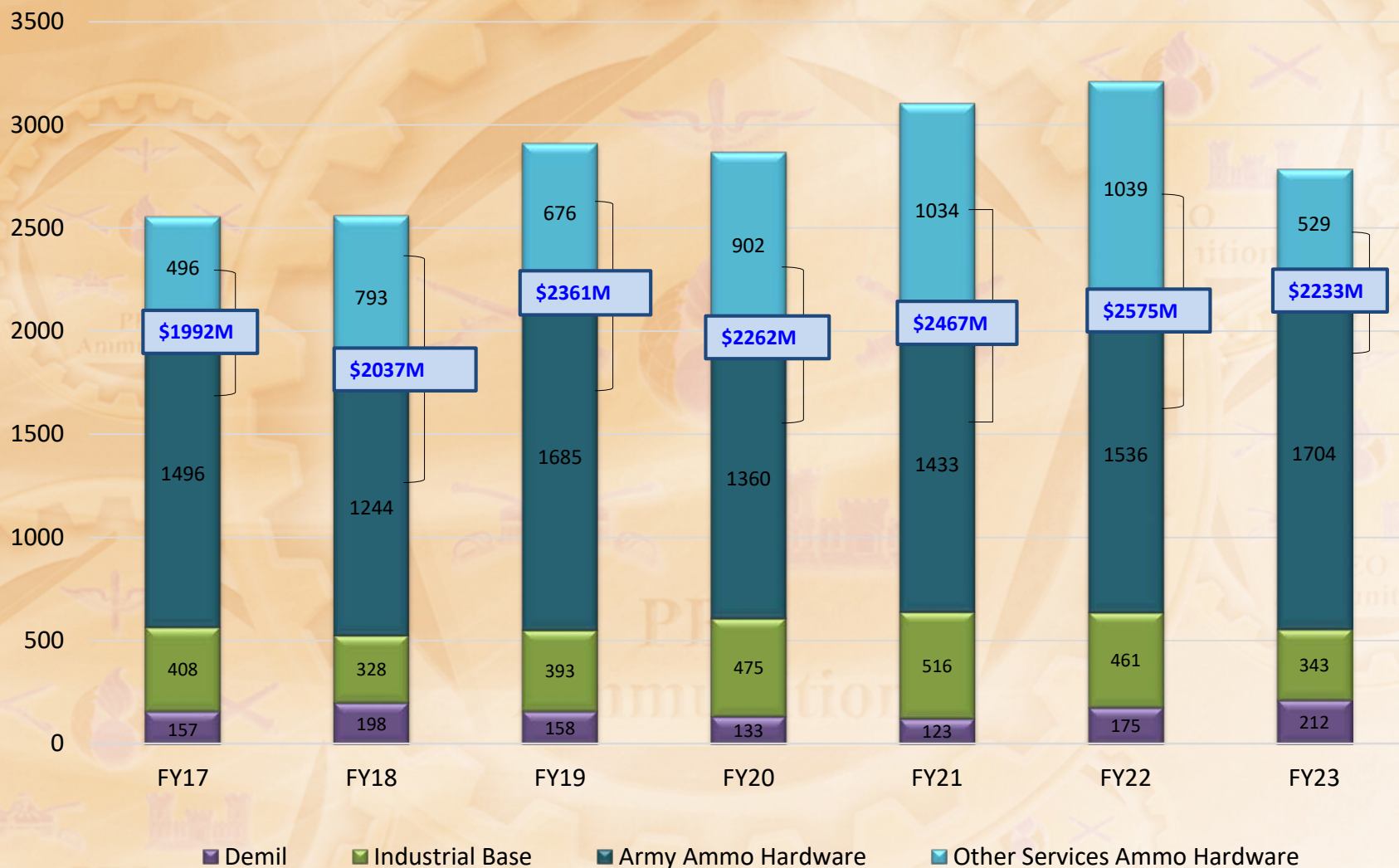
Presented By:

**BG Alfred F. Abramson III,
PEO Ammunition**



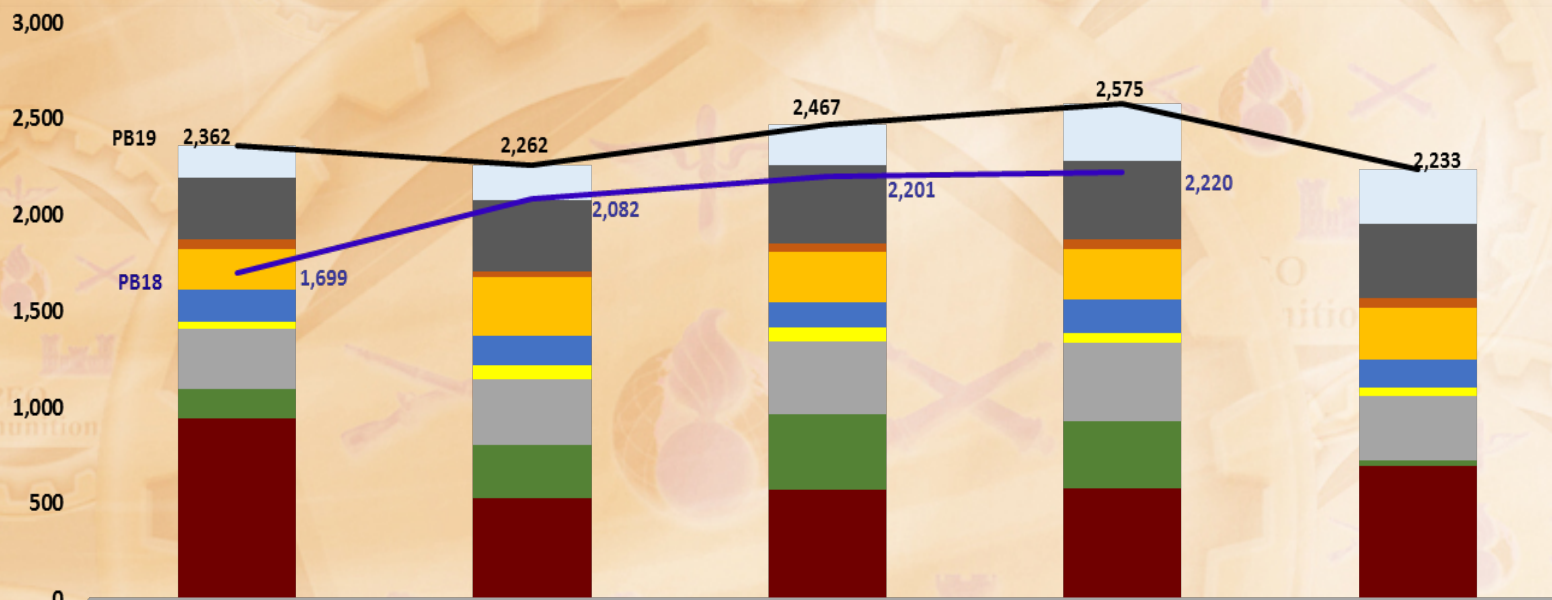


Single Manager for Conventional Ammunition (SMCA) FY17-23 Fiscal Outlook (in \$M)





SMCA Hardware 19 PresBud FYDP by Ammunition Families (in \$M)



	FY19	FY20	FY21	FY22	FY23
Tank Ammo	168	185	211	294	279
Small Cal Ammo	322	375	406	412	384
Rockets	51	28	44	49	55
Mortar Ammo	213	302	264	258	267
Misc / Other Ammo	161	153	129	173	148
MINES	36	74	68	54	39
Medium Cal Ammo	315	341	382	405	341
BOMBS	153	279	391	353	27
Artillery Ammo	942	526	572	576	693
Total PB19	2,362	2,262	2,467	2,575	2,233
Total PB18	1,699	2,082	2,201	2,220	

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Action Item Review

ICAP Meeting & Webinar Actions Summary as of 10 April 2018 (3/3)

# (Yr/Action)	Date	Action	Responsible Party	Status
2016-16	12/19/16 Webinar, Small/Med Cal	Consider utilizing MIBTF to filter certain IPT issues.	ICAP	Closed 10/12/17. Brief Nick Perry on action for Oct 2017 ICAP.
2017-1	03/27/17 Meeting, MES	Industry will identify the process of when to shut down production when a critical defect is observed.	ICAP	Closed 10/12/17. Getting Industry input from sector leads, 9 May 17.
2017-2	03/27/17 Meeting, MES	Provide any known FMS information @ ICAP Webinars.	PEO Ammo	Closed May 2017; recurring action for future Webinars and meetings.
2017-3	10/12/17 Meeting, AUSA	Address Cyber Security.	PD JS/JMC	To be briefed at the ICAP face to face 16 April 2018.
2017-4	10/12/17 Meeting, AUSA	Prioritizing Holston Production.	PD JS	To be briefed at the ICAP face to face 16 April 2018.
2017-5	10/12/17 Meeting, AUSA	Address AAIE Concerns.	John Fino	Closed 9 January 2018; working on all areas of improvement, working on consistency, working w/industry to cut down on timelines.
2017-6	10/12/17 Meeting, AUSA	Communicate plans to Industry for Acquisition Streamlining.	Chris Grassano	Closed 9 January 2018; on-going work to steam line and communicate acquisition projects.
2018-1	1/09/18 Webinar, Small/Med Cal	Circle back with operating contractor for explosives – why can't we provide delivery schedule/timeline?	PD JS	To be briefed at the ICAP face to face 16 April 2018.

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Holston RDX Expansion Status



RDX Capacity Expansion Status



➤ Active Portfolio Overview:

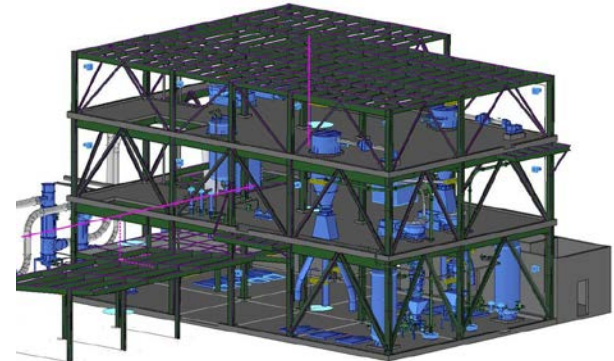
- Six active projects; One stop-work due to directed change ECP
- Three completed projects in FY17/FY18 to date
- Three cost-type contracts being executed with one additional in plan

➤ Five substantial RDX Expansion contracts to be executed and awarded in next 4-6 months

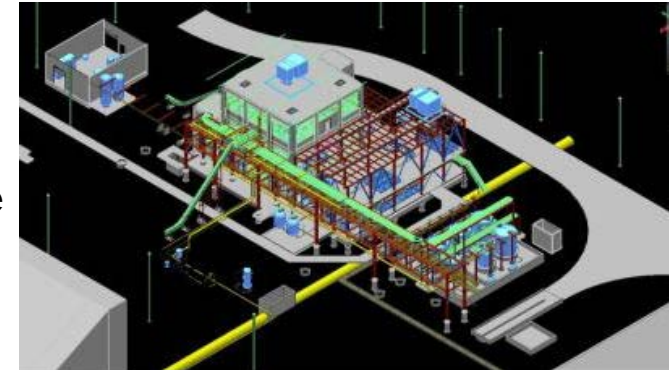
- Fluid Energy Mill Construction (critical path to initial increase)
- G3 Recrystallization Construction
- Steam and Gas Replacement of Coal Fired Steam Design/Build
- Nitration, Wash, Recrystallization and De-Watering Design
- Triple A (Acetic Acid and Anhydride) Expansion Design/Build

➤ Project efforts progressing to support two phased capacity increase for explosive production

- Increased product demand will hinder ability to modernize active facilities
- A joint team must determine overall priorities and strategy for product and modernization



Fluid Energy Mill Construction



G3 Recrystallization Construction

Availability of Additional Capacity	FY20	FY21	FY22	FY23	FY24
AF Bomb		▲			
RDX (~16M lbs/yr)				▲	
HMX (~2.5M lbs/yr)				▲	
IMX (~8M lbs/yr)				▲	
					End of HSAAP Facility Contract

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Explosives Prioritization and Scheduling



Project Director Joint Products 2018 Industrial Committee of Ammunition Producers (ICAP)

Explosives Prioritization

16 April 2018

Colonel Brad Tannehill (USAF)
Project Director, Joint Products
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Distribution A: PAO #372-18 17 April 2018

Robert J. Goetz
Project Officer, Joint Products
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Prioritization of HSAAP Workload



- Industry has identified extended lead times for obtaining explosive material from HSAAP
- The current prioritization paradigm for HSAAP explosive orders of negotiating schedules, prioritizing deliveries, and awarding delivery orders on a first-come, first-served basis works
- Conflicts may arise during schedule negotiations or after delivery order award when customers determine that explosive delivery schedules do not meet program requirements
- Concerns have surfaced related to industry proposals that rely on explosives availability. Recommend identifying any concerns related to explosives deliveries that arise during proposal development / submission to the Procuring Contracting Officer.



Prioritization of HSAAP Workload



To manage potential conflicts and address industry's concerns, an IPT was established and has:

- Finalized a communication process by which prioritization conflicts will be identified to and managed through a single POC
- Generated a prioritization hierarchy by which potential conflicts will be adjudicated
 - DPAS rated orders, operational and industrial base impacts, service priority considerations
 - Attempts will be made to first manage conflicts within service specific trade-space
 - The process will not result in prioritization of a strictly commercial requirement over any requirement intended to support a DOD, FMS, or DCS program
- Developed a strategic communications (STRATCOM) message to the broad stakeholder base requesting they:
 - Plan for contract award of explosive requirements as early as practical
 - Prepare for extended explosive lead times
 - Manage delivery schedule concerns/conflicts through established US Government Program Management Office chains of command to the single POC

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Local Clause Elimination PM CCS



Project Manager Close Combat Systems



Industrial Committee of Ammunition Producers (ICAP) Meeting

Local Clauses and Critical Characteristics Clause

16 April 2018

COL Jonathan Slater

Project Manager

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Mr. William Sanville

Deputy Project Manager

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Local Clauses



- Direction from ASA(ALT), elimination of all local clauses effective October 2017
- “Local Clause” content being incorporated into Contracts:
 - ACC-NJ Contracts – Section J
 - ACC-RI Contracts – Section C / Section E
- PM CCS conducting internal review of CCS Contract Technical Requirements & Deliverables prior to release of Procurement Package / RFP
 - Scrub to eliminate requirements/CDRLs with little value added for the specific program/contract
 - Example: In some cases, Process Control Requirements (PCCI) eliminated when effort to implement outweighed benefits
 - Scrub to eliminate redundant information
 - Example: Several Instances, eliminated redundant CDRLs
 - MSE (AIE) – removed redundancies Special Inspection Equipment and Generic Test Procedure CDRLs



PM CCS Critical Characteristics Efforts



Background:

- PM CCS initiated effort to re-look Critical Characteristics Clause based on:
 - Industry feedback through ICAP pertaining to impact of Critical Characteristics Clause
 - Experience w/Contractors struggling with mandated Production Shutdowns due to critical defect occurrences/escapes
- **Goal:** Maintain safety of product delivered while reducing number of mandated Production Shutdowns due to requirements of the Critical Characteristic Clause.



PM CCS Critical Characteristics Efforts



Approach: Collect information to understand Industry's perception of Critical Characteristics Clause, and to assess current 'performance' of Clause.

- Industry Feedback: 3 x Separate 1-on-1 discussions, ICAP Industry Sector Reports
- Discussions with USG Stakeholders
- Review & Analysis of Sample of USG's Production Shutdown/Restart Data (Recent History)

Industry Feedback / Assessment

- Excessive production shutdowns/restarts hurts product quality/safety in long run
- Perception USG TDP's contain characteristics IMPROPERLY classified as Critical
- Tightening of CPOA Thresholds is seen as punishment for process improvement (instead of being a reward, resulting in fewer shutdowns)
- Flow of information from Subs through Prime to USG, and back to Sub exacerbates Shutdown length of time
- There is too much variation between USG IPT's interpretation & enforcement of Critical Characteristics Clause requirements
- PM Office is not represented well within the USG IPT on Production Shutdown/Restart decisions
- CPOA's were NOT being used to maximum extent, in some specific cases



PM CCS Critical Characteristics Efforts Path Forward



Start Working on NOW

PM CCS Internal Focus Efforts:

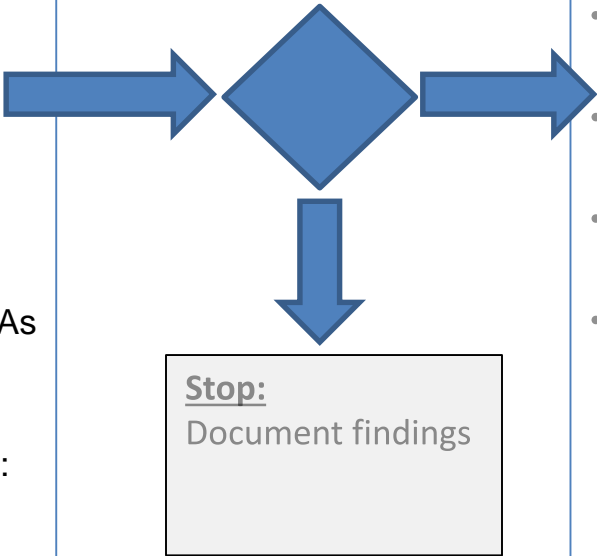
- TDP/Critical Scrubs
- Utilize CPOAs, maximize benefits
- Training – Emphasize @ Post Award
- Emphasize PM Authority on IPT w/Restart Decisions
- Improve Data Collection
- Consider mandating CPOAs in some instances, when appropriate

Overarching/Global Efforts:

- Consider expanding coverage of CPOAs
 - Initiate Effort to Re-Look CPOA Threshold Reduction Criteria
 - Support CPOA Change Proposal: Failure Mode Criteria

Decision Point:

- Re-assess to determine impact/improvement via each effort based on pre-defined metrics (TBD)



Phase II – Long Term

- New lessons learned from Initial Phase (continuous improvements)
- Other new ideas
-
- Evaluate fundamental overhaul of Critical Characteristics Clause
- Benchmark other Industries with Safety Critical Characteristics
- Evaluate tailoring Source Selection Criteria
- Evaluate incentives for meeting/exceeding requirements

Efforts will be vetted through USG Stakeholders to ensure buy-in prior to implementation and consistency throughout community



Questions?

Comments?

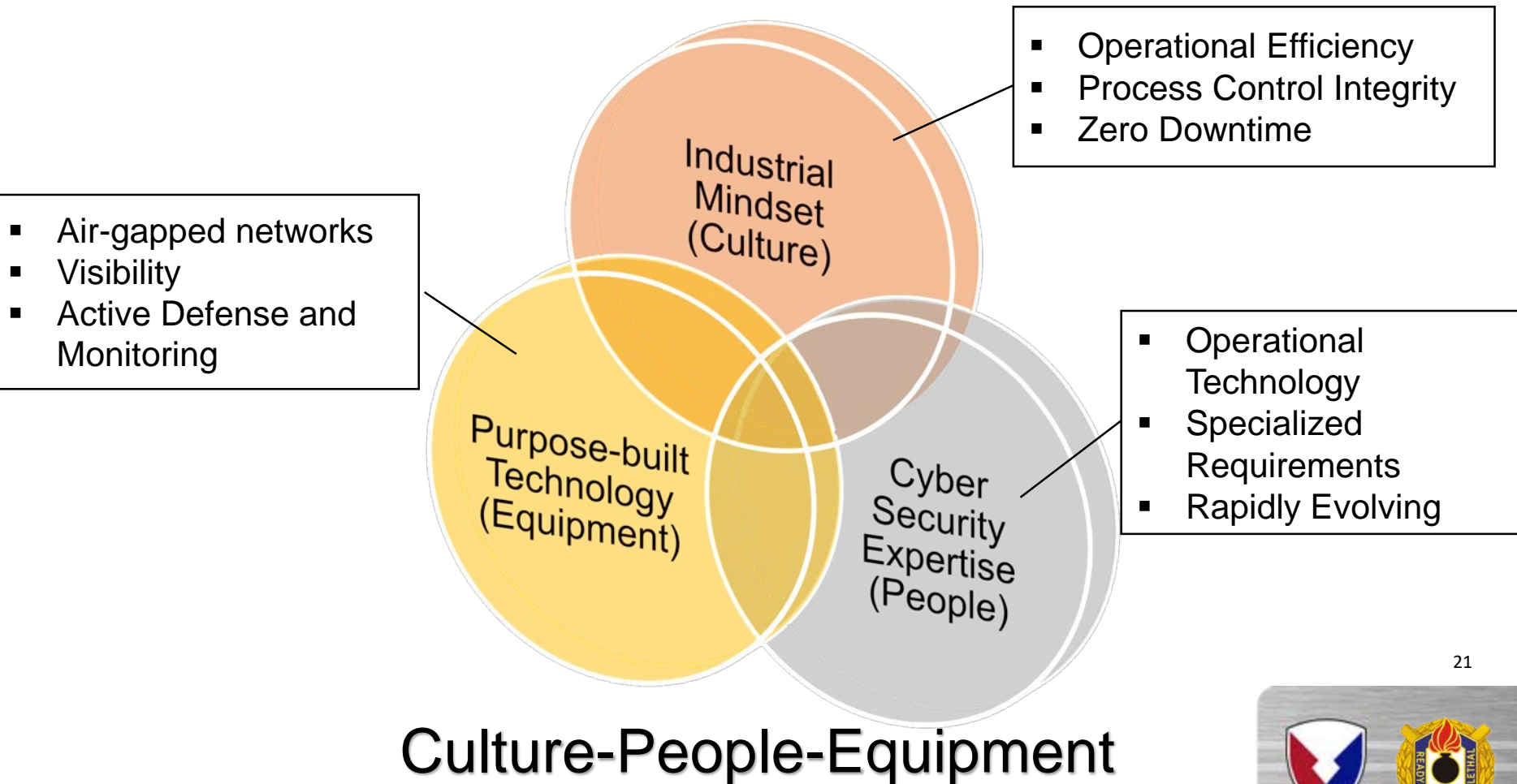
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Cybersecurity Concerns for Ammo Industrial Base



Cyber Defense of Industrial Control Systems

Purpose: The purpose of business enterprise security has always been to protect data. The purpose of Industrial Control System (ICS) security is to protect the ability of a facility to operate efficiently, safely, and securely in an increasingly contested cyberspace environment.





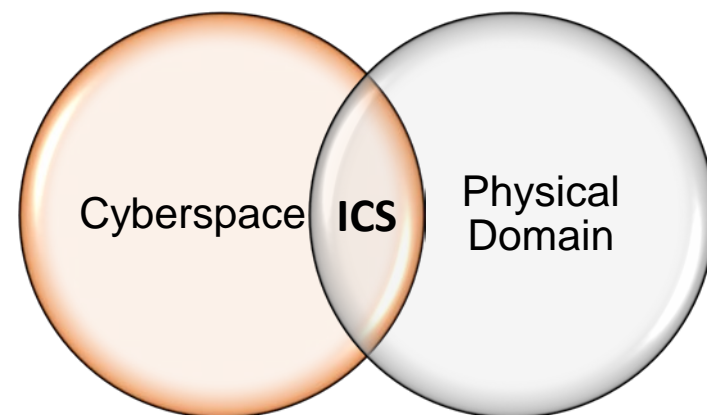
Emerging Cyber Threats

Emerging Threats

- Nation State Actors: “Red Button” Attack
- Cyber Criminals: ICS Targeted Ransomware
- Internet of Things (IoT): Interconnectivity without Security
- ICS Security Skills Gap

Notable Events

- STUXNET: Attack against Iranian nuclear industry, 2010
- German Steel Mill Attack: Destroyed Blast Furnace, 2014
- Ukrainian Power Grid: Blacked out power across parts of Ukraine, 2015
- New York Dam Attack: Nation State actions gained control of dams, 2013-2016
- US Water Treatment System: Flow control and chemical distribution effected, 2016
- San Francisco Transit System: Ransomware aimed at ticketing and track controls, 2016
- City of Atlanta: Ransomware shuts down City Services, 2018



ICS exist at the intersection of Cyberspace and the Physical Domain. The point at which the Information Technology paradigm can effect the real world.





Mitigating Risk

- **Defense in Depth:** Multi-tiered holistic approach.
- **Interconnected Supply Chains:** Only as strong as the weakest link.
- **The Culture of Cyber Security:** Not just IT's problem.



Cyber Defense Framework

Identify: Develop organizational understanding to manage cybersecurity risk to systems, assets, data, and capabilities.

Protect: Develop and implement appropriate safeguards to ensure delivery of critical infrastructure services.

Detect: Develop and implement appropriate activities to identify the occurrence of a cybersecurity event.

Respond: Develop and implement the appropriate activities to take action regarding a detected cybersecurity

Recover: Develop and implement appropriate activities to maintain plans for resilience and to restore any capabilities or services that were impaired due to a cybersecurity event.

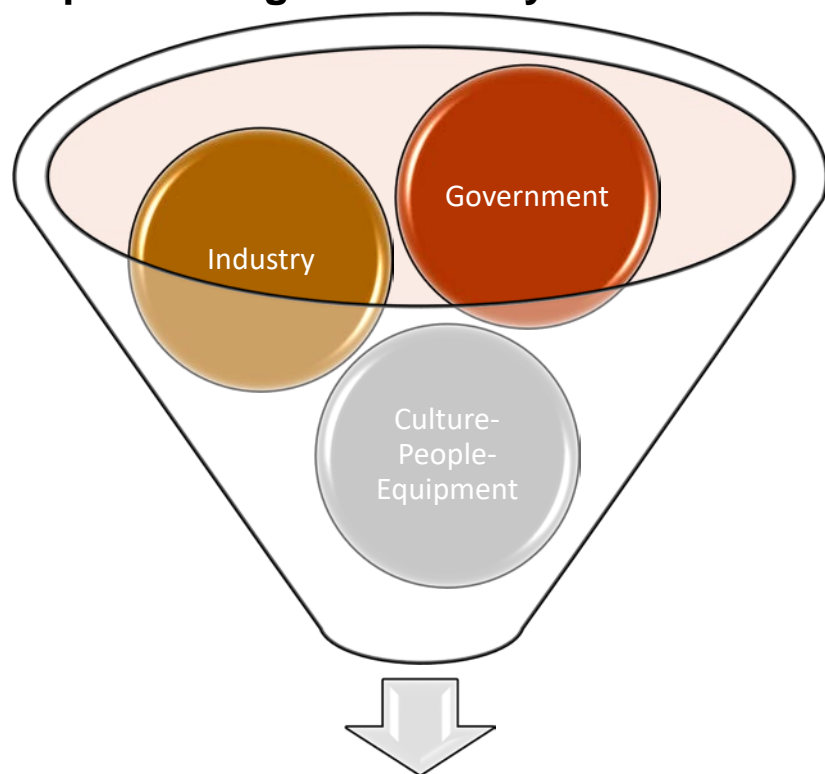
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Path Forward

- **Integration of Cyber Defense into Acquisition Strategies:** Cradle to grave integration of cyber defense into manufacturing processes.
- **Cooperation:** Synchronization of government and industry cyber defense efforts.
- **Building the Bench:** Investing in ICS-centric cyber defense personnel and equipment.
- **Implementing Effective Cyber Defense Measures:** Developing a framework.



Ammunition Industrial Base Cyber Resiliency

Ongoing JMC Efforts

- Cyber Defense Contract Language
- ICS Inventory/Mapping Teams
- Integration with DoD/ARCYBER Critical Infrastructure Cyber Defense Efforts
- Synchronization with Modernization Efforts



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Case Study PWS



A Case Study in Government-Owned, Contractor Operated (GOCO) Performance Work Statements (PWS) Management: Radford Army Ammunition Plant (RFAAP)

Mr. Matthew Butler
Deputy Project Director Joint Services
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973-724-7182
Email: matthew.c.butler3.civ@mail.mil



History of RFAAP PWS

- 2012: RFAAP Facility Use Contract awarded
 - Facility Use requirements are defined in the contract's Performance Work Statements (PWS)
 - No Direct Cost contract; all Army Ammunition Plant (AAP) operations costs will be reflected in product or service prices
- 2012-2016: Fixed cost of operating and maintaining the AAP, with declining production workload to spread the costs, were causing uncompetitively priced product
- 2014: Established a Tiger Team, comprised of members from industry and Government to comb the PWS requirements at all GOCO AAPs and identify requirements that were of minimal value, antiquated, and/or may not be required
- 2015: McKinsey published a study with further recommendations to reduce the costs of sustaining the GOCO industrial base
- 2016: PEO Ammo decided to directly fund PWS
 - Allow operating contractor to provide more competitive prices, increasing overall workload
 - Reduce end product price, by reducing the "pass through" costs of third tier suppliers



Actions & Lessons Learned

- 2016 & 2017: Reduced PWS requirements as recommended by Tiger Team and McKinsey studies
 - Continue to seek opportunities for further reductions
 - Additional requirements have also been added over last 3 years
- Jan 2017: RFAAP PWS costs removed from product; paid directly on Facility Use contract
- Continue to seek opportunities to increase business base and reduce cost
- Path Forward
 - Continue to gain insight into costs of PWS requirements
 - Implement cost savings initiatives across GOCOs where applicable
 - Continue to look at options and opportunities within the bounds of current regulation

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Industry Sector Reports

Industrial Committee of Ammunition Producers (ICAP)

Demil
Sector Report
Jeff Brunoizzi – Sector Lead
General Dynamics

16 April 2018

Sector Participants

- El Dorado Engineering
 - Fluor Corp.
 - General Atomics
 - Gradient Technology
 - Indiana Ordnance Works, Inc.
 - Jacobs Engineering Group
 - Lockheed Martin
 - MAST Technology
 - MSE Technology
 - Nammo
 - Parsons Brinckerhoff
 - SOC Nevada
 - Southwest Research
 - Teledyne Brown Engineering
 - UXB International Inc.
- Ralph Hayes
Alan Boeckmann
John Follin
Eric Haehn
Darwin Harting
Noel Watson
Vance Coffman
Jay Bell
Donald Peoples
David Emling
George Pierson
Dave Larsen
Jack Rachels
Thomas Corcoran
Harley Heaton

Accomplishments, Milestones & Notable Events

- Committee on Alternatives for the Demil of Conventional Munitions – final meeting June 11-13, 2018
- Demil of Navy Projectiles and Cartridges RFP
 - Formal RFP – Jan. 12, 2018
 - Proposals Due – Feb. 15 for Groups 1 & 2, May 15 for Group 3
 - Award IDIQ Contracts & Delivery Order - Nov 2018
- PM Demil Update
 - April 18, 2018 1230-1430
 - Parsippany Hilton, Parsippany, NJ

Issues/Concerns/Recommendations

PRESBUD 2019, Procurement of Ammunition, Army/ BA02/ Line 33

\$M	2019	2020	2021	2022	2023
2018 PRESBUD	81	98	121	130	N/A
2019 PRESBUD	158	133	123	174	211
Difference	+77	+35	+2	+44	N/A

- Emerging UFR List – facilitates Congressional Assistance

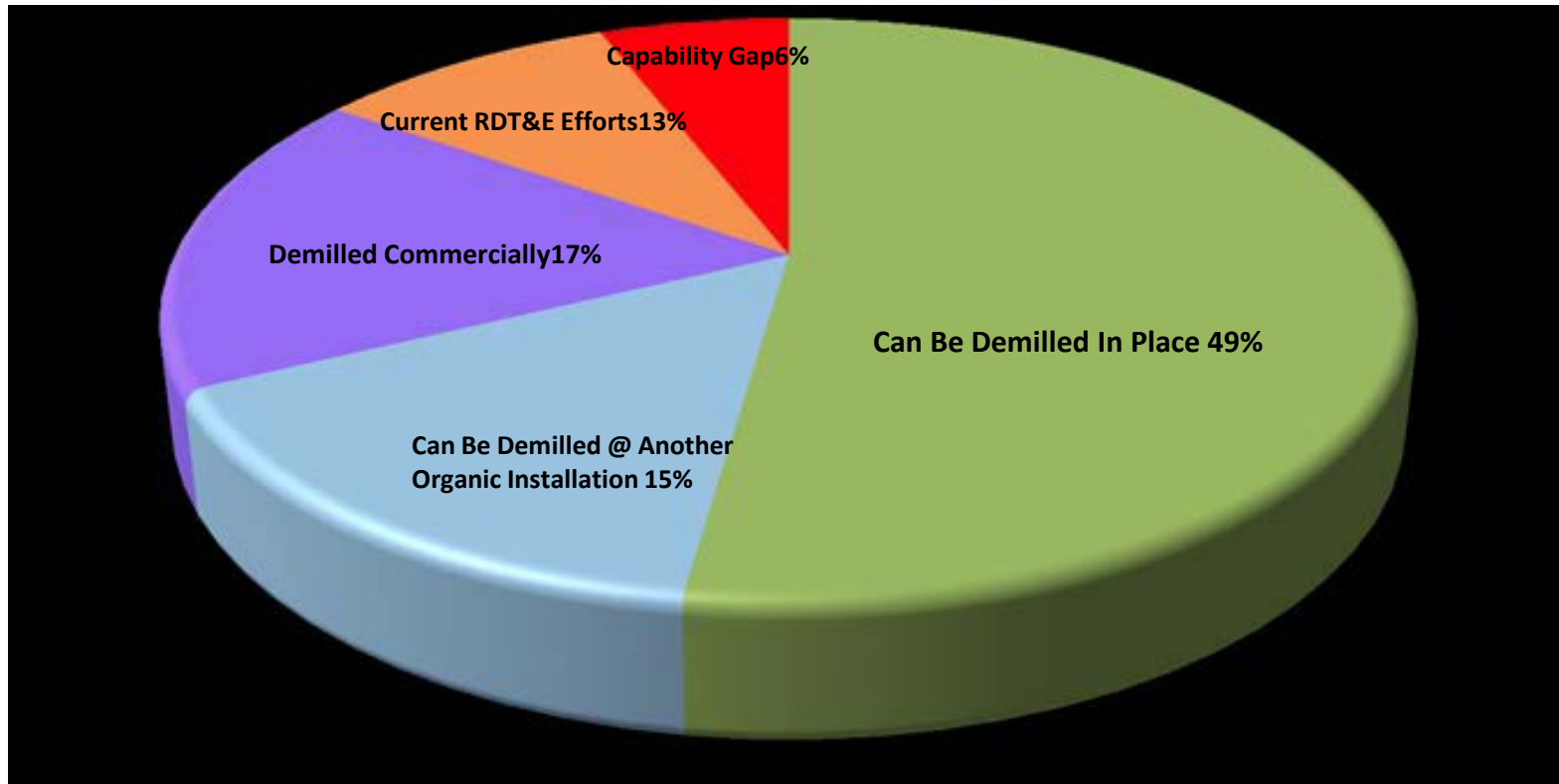
Issues/Concerns/Recommendations (Cont'd)

- Committee on Alternatives for the Demilitarization of Conventional Ammunition potential impact:
 - Alternatives to OB/OD – what are the outcomes of the Committee and when will final report be complete?
 - What are next steps? How can industry support and be a part of the solution?
 - Industry has existing environmentally controlled methods for propellant disposal and other demil alternatives
 - Will further local and regulatory (EPA/State) pressure drive a change to using OB/OD?

Issues/Concerns/Recommendations (Cont'd)

- Availability of Demil material, in general
 - Reconsideration of what is serviceable
 - Cluster munitions
 - MLRS Demil final option almost complete – what's next?
 - Holding inventory longer?
 - Impact on the industry's skilled workforce

Demil “Pie”



Commercial Demil has small/shrinking piece of the Pie

*Excerpted from “Demilitarization Overview for National Academy of Sciences - August 2017 by Mr. John McFassel

Issues/Concerns/Recommendations (Cont'd)

- USG support of industry visibility of the B5A account allows us to plan and develop demil methods to be responsive
- Sustained requirements are needed to enable business to invest and gain a return
- Is there a business case for commercial demil?
 - Organic capabilities receiving funding/RDT&E focus.
- Results of National Academy of Sciences study of OB/OD?
 - Industry has environmentally safe alternatives

Industrial Committee of Ammunition Producers (ICAP)

GOCO

Sector Report

Bill Barnett – Sector Lead

BAE Systems

16 April 2018

Sector Participants

- Hawthorne AD
- Holston AAP
- Iowa / Milan AAPs
- Lake City AAP
- Radford AAP
- Scranton AAP

Dave Larsen (D&Z)

Todd Hayes (BAE Systems)

Max Kamrath (American Ordnance)

Jim Nichols (Orbital ATK)

Bill Barnett (BAE Systems)

Jeff Brunozzi (General Dynamics)

GOCO Issues / Concerns

- Production volumes at GOCO facility operations
 - generally higher requirements anticipated
 - pull to the left where possible
 - supply chain readiness – tariff and/or trade concerns
- Cross Functional Team's (CFT)...how can industry best support / participate?
- Significant infrastructure funding ongoing
 - to maintain aged / obsolete facilities / to replaced age
 - to provide new or enhance existing production capabilities and/or capacities...especially in times of potential critical need
 - funding to support GOCO Security infrastructure
- Safety Siting
 - accelerated timeline, USATCES and JMC supporting
 - concurrent operations opportunities
- Increased/sustained demand has created extended delivery schedules for Holston explosive products
 - explosives Capacity Expansion Program underway
 - orders are prioritized by DPAS rating
 - production order scheduling is confirmed at time of order approval
 - for like rated orders, priority can be adjusted with the agreement of procuring agencies
 - roundtable discussion at MES

General

■ Modernization

- Holston IMX ingredient facility construction on target for commissioning first half 2018
- Holston NAC/SAC facility in construction and targeted for operation in 2019
- Holston RDX/HMX projects (multiple) in varying states of award / execution to increase overall production capacity. Incremental increases will be realized as projects are completed. Targeted completion of all projects is CY22
- IAAAP phase 1 demolition of excess facilities complete, phases 2-4 in process
- IAAAP Infrastructure upgrades for utilities, sewer, rail, and roads in process
- IAAAP chemistry laboratory replacement in use
- IAAAP upgrade of IMX wastewater facility design complete
- LCAAP modernization and automation efforts on-going including primer manufacturing and packing/marking
- Radford SNA tank farm complete and in operations
- Radford compressor house is complete
- EWI design complete, construction award end of 2018

■ Open Burning Ground Challenges

■ Global Force Symposium Take-Aways

- CFTs
- rapid development and demonstration
- sense of urgency and focus

Accomplishments, Milestones & Notable Events

- Safety Accomplishment
 - Holston Plant >5.5M hours /3.5 years without lost worktime injury
 - IAAAP over 3M hours without lost worktime injury - three years
 - RFAAP - Safety Excellence Award winner for 2017
- Orbital ATK has resumed production on all calibers using LCAAP built primers
- IAAAP contract option awarded (June 2017) extending period of performance through December 2023
- Scranton Facilities Contract RFQ is on the street (Oct 30)

Industrial Committee of Ammunition Producers (ICAP)

Large Caliber/Bombs
Sector Report
Don Halferty – Sector Lead
American Ordnance LLC

16 April 2018

Sector Participants

- American Ordnance LLC
 - Arnold Magnetics
 - Esterline Defense Technologies
 - General Dynamics – OTS
 - IMT Defense Corporation
 - Medico Industries: Cataldo Medico
 - Nammo Talley Inc.
 - Orbital ATK Inc.
- Don Halferty
Aaron Williams
Steven Broyles
David Dunavin, Jeff Brunozzi
Remo Assini
Bruce Daniels
Charles Feldmayor
Bob Schmitt, Craig Aakhus

Growth Creates Challenges

- Declining budgets led to intense focus on cost reduction, downsizing production capacity and the loss of technical resources
- Funding levels are now on the rise
- Resource crunch to:
 - Manage increasing volumes
 - Retool to run products that were dormant for years
 - Develop new products

Quality is Evolving

- Broader understanding of critical defect limits and the consequences of shutting down production
- IPTs have become more responsive
- More of a collaborative spirit to keep lines producing
- All of this supports increased Readiness

M125 Tank Primer

- DZI is single source
- CPOA / TDP Issues are complex and have been difficult to overcome
- Significant Schedule delays for past 3 years
- Second source being stood up at GD-OTS Canada

HE Availability

- Extended lead times persist
- Prioritization and communication are improving
- The challenge is projected to continue for approximately 5 years
- Planning underway to develop a TNT stockpile

Industrial Committee of Ammunition Producers (ICAP)

Propellants & Explosives
Sector Report
David Siggers – Sector Lead
Spectra Technologies LLC

16 April 2018

Sector Participants

- | | |
|---|------------------|
| ▪ ATK New River Energetics | Doug Messner |
| ▪ BAE Systems Ordnance Systems, Inc. | Todd Hayes |
| ▪ EURENCO Bofors, Inc. | Petri Tirri |
| ▪ Ensign-Bickford Aerospace and Defense Co. | Steve Perkins |
| ▪ Esterline Defense Technologies | Andrew Sanderson |
| ▪ General Dynamics OTS St. Mark's Powder | Robert Pulver |
| ▪ Southwest Research Institute | Dan Bates |
| ▪ Spectra Technologies | David Siggers |
| ▪ Stresau Laboratory, Inc. | Becki Amendt |

Issues/Concerns/Recommendations

- Critical supply of HMX & RDX. The BAE (HAAP) modernization plan has been reviewed and a completion date of 2023 is concerning.
- If the ATF could join in with DoD on future site safety surveys, this would help to eliminate the redundant efforts. Each safety surveys consume many man hours to support to essentially cover the same information.
- The Inconsistent process with respect to review of site plans. i.e. DCMA normally does this, recently Rock Island has enlisted their own person to do additional reviews.

Issues/Concerns/Recommendations

- Significant modernization continues/ ongoing; more on this directly from BAE
- Product qualification discussion ongoing and will amp up in the fall 2018; When might we see a comprehensive plan or actions that may be individualized?
- Looking for opportunities to pull any surge to the left

M9 Change GDV

- M9 Propellant from GD Canada is using new source of NC (nitrocellulose); BAE
- Methods of Mfg. will be the same
- Previously manufactured using NC Grade C Type II from Synthesia; no longer supplying.
- Significant familiarity with Radford NC; no anticipated problems meeting MIL STDs however yet to be tested in ordnance.

Holston AAP

- Developed water slurry coating process for aluminized thermobarics (i.e. PAX3) which has now been qualified in 120mm AMP (advanced multi-purpose projectile). Water coating slurry allows utilization of existing infrastructure and reduces final cost of the product.
- Out-dated specifications are driving a significant number of ECP submittals -- creating resource strain on governmental approval chain.
- Holston just passed 5.5M hours worked without a Lost Time Injury.

Accomplishments/Notable Events

- BAE Radford, 2017 JMC Safety Excellence Award Winner

Noteworthy Quote

Paraphrasing an Air Force General regarding DCS ordnance sales.

“When our allies take the fight to our enemies, its one US soldier not in the field, or Airman flying a mission. When we deliver product to our allies this is potentially our Armed Forces men and women out of harms way.”

Industrial Committee of Ammunition Producers (ICAP)

Pyrotechnics
Sector Report
Kevin McDonald – Sector Lead
Chemring Ordnance

16 April 2018

Sector Participants

- | | |
|--|----------------|
| ▪ Action Manufacturing Company | Arthur Mattia |
| ▪ Esterline Defense Technologies | Scott Selle |
| ▪ General Dynamics – OTS | Dennis Diehl |
| ▪ Kilgore Flares Company | Larry D’Andrea |
| ▪ MAST Technology, Inc. | Jay Bell |
| ▪ Orbital ATK | Jeff Vosburgh |
| ▪ Pacific Scientific Energetic Materials Co. | Gregory Scaven |
| ▪ Pyrotechnic Specialties, Inc. | David Karlson |
| ▪ R. Stresau Laboratory, Inc. | Wane Olson |
| ▪ Security Signals, Inc. | Susan Lee |

Accomplishments/Notable Events

- Critical Defect issue discussed at last ICAP has shown improvement
 - The USG team has been very timely in approving CPOA's
 - Government IPT has met with the industry to define more clearly the interpretations of how to implement CPOA's
 - The USG has been proactive in reviewing the critical characteristics on some TDP's
 - Looking at reducing the quantity
 - Combining characteristics where possible
 - Looking at process safety characteristics rather than Critical characteristics

Issues and Concerns

- RDX based Explosive availability from HSAAP
- DCMA Quality
 - Requirements and Level of Detail are getting to be excessive
 - PCCI
 - SPC
 - AAIE
 - CCCP
 - Several DoD contractor claimed recent DCMA involvement was 5x what it was a few years ago
- BATFE
 - Audits are very time consuming and lengthy

Industrial Committee of Ammunition Producers (ICAP)

Small/Medium Caliber
Sector Report
James Kalberer – Sector Lead
Orbital ATK

16 April 2018

Sector Participants

▪ American Ordnance, LLC	Max Kamrath
▪ Amron Corporation	Doug Faragher
▪ AMTEC Corporation	John Hill
▪ ATP Precision Defense	Barney Pultz
▪ Chemring Ordnance	Jim Batina
▪ DSE, Inc.	Steve Alm
▪ Galion	Don Pletcher
▪ General Dynamics OTS	Susan Keim
▪ MAST Technology	Jay Bell
▪ Olin Corporation, Winchester Division	Alan Martens
▪ Orbital ATK Small Caliber Systems	Greg Goff

Accomplishments/Notable Events

- Lake City primer and cartridge production up to full, pre- Building 85 incident rates. All prime contract cartridge manufacture is now supported by Lake City-built primers.
- Medium Caliber Family Buy RFP released 16 March.
- Stryker ammunition FAATs and first deliveries to 2CR.
- Stryker ammunition draft specifications and SOW for qualification of 4 ammunition types.

Issues and Concerns

- Next Medium Caliber Family Buy contract clauses
 - Application of Measurement Systems Evaluation (MSE)
 - Lack of Economic Price Adjustment (EPA)
- Plans for cartridge level qualification of propellant manufactured at the new BAE Radford NC facility
- Increases in energetics raw material lead times

Industrial Committee of Ammunition Producers (ICAP)

Systems, Sensors, Electronics & Fuzes

Sector Report

Todd Anderson – Sector Lead

John Hill - Presenting

16 April 2018

Sector Participants

- Action Manufacturing Company
- American Ordnance LLC
- AMTEC Corporation
- Chemring
- Kaman Precision Products / Kaman Aerospace
- L-3 Communications / Fuzing & Ordnance Systems (FOS)
- Orbital ATK

Arthur Mattia
Kevin Hovden
Todd Anderson
Kevin McDonald
Dana Kaplinski
Richard Hunter
Dave Fine

Major Issues / Challenges

- Delivery uncertainty for explosives from BAE and potential impact on contract execution (delivery schedule, production breaks, etc.):
 - Improvement of late from BAE on delivery schedule commitments for placed orders
 - Capacity constraint remains; concern remains that program priorities with impact delivery commitments
- AIE / AAIE approval process / requirement leaves much open to interpretation:
 - Leads to differing requirements, which are sometimes dependent on individual reviewer and/or program. Some improvement in consistency is being seen
 - Boundaries for what the government can ask for to grant approval are sometimes vague at best
 - Where critical characteristic definition is subjective, USG takes the position that the capability of the AAIE determines what is critical . . . this is backwards
 - Indications that USG resources do not match workload is driving delays; reluctance to grant rollover approval between contracts
 - Leads to schedule delays and additional cost to both industry and government

Industrial Committee of Ammunition Producers (ICAP)

Warheads & Rockets
Sector Report
Dan McKenrick – Sector Lead
Day & Zimmermann

16 April, 2018



Sector Participants

- Aerojet Rocketdyne
- American Ordnance, LLC
- Arrow Tech Associates
- General Dynamics Ordnance & Tactical Systems
- Kaman Precision Products
- L-3 Fuzing & Ordnance Systems
- Orbital ATK
- Spectra Technologies
- Textron Systems

Rick Yezzi
Kevin Hovden
Charlie Hillman
Dan Paul
Dana Kaplinski
Mark Mishler
Gary Flinchbaugh
David Siggers
Jay Johnson

Accomplishments, Milestones & Events

- AFRL tests Aerojet's MNX-770 Mod 1; lethality equals PBXN-109; more "IM"
- Aerojet's scalable effects warhead was demonstrated on Lockheed Martin's (GMLRS+) rocket at White Sands.
- Aerojet Sacramento achieves 1 million hours without a lost-time injury
- American Ordnance Iowa achieves 3.5 million hours without a lost time injury
- Day & Zimmermann Kansas awarded NSC 3 million Hour Award and the Superior Safety Performance Award for 12 years without a lost time injury.
- Kaman awarded \$426M in FMU-152 JPF fuzes.
- L3 FOS awarded \$28M for FMU-139C/B fuzes.
- OATK completed static test firings of a prototype tactical solid rocket motor built with metal components fabricated by additive manufacturing.

Issues, Concerns and Recommendations

- Availability of Holston explosives.
 - Some deliveries have delayed programs. Lead times growing.
 - USG prioritizing some deliveries, but not enough to solve issue.
- CR impacts – some slowed decisions
- Tungsten prices increasing, up 25% over 12 months.
 - Others, such as moly, rising more rapidly.

INDUSTRIAL COMMITTEE OF AMMUNITION PRODUCERS (ICAP)
108th Meeting – 16 April 2018
1300 – 1600 hrs (EST)
Parsippany Hilton, NJ

Round Table Discussion & Wrap Up

INDUSTRIAL COMMITTEE OF AMMUNITION PRODUCERS (ICAP)
108th Meeting – 16 April 2018
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Back Up Slides

ICAP Meeting & Webinar Actions Summary as of 10 April 2018 (1/3)

# (Yr/Action)	Date	Action	Responsible Party	Status
2015-10	10/15/15 Meeting, AUSA	Provide perspective on laying away a capability then re-starting xx years later (ex. Buy xx years of 40mm fuze, then layaway COCO production line).	ICAP	Closed Mar 2016.
2015-11	10/15/15 Meeting, AUSA	Provide chart of key examples- DOTC successes and types of projects for the next ICAP Webinar on 8 Dec 15.	ARDEC/ACC-NJ	Closed Mar 2016.
2015-12	10/15/15 Meeting, AUSA	Present Ammunition Industrial Base vision chart.	PEO Ammo/JMC	Closed Mar 2016.
2015-13	12/10/15 Webinar, Lg Cal/Bombs/GOCOs	M1122 IM artillery: determine if there is an issue with visualization of flash.	PM CAS	Closed/Completed Dec 15; currently executing Materiel Change program on M1122 fill that may enhance visual signature; USMC provided limited funds to do subsystem demo with different material to see if it provides better visual signature; should be completed by Feb-Mar 2016.
2015-14	12/10/15 Webinar, Lg Cal/Bombs/GOCOs	Provide list of TDPs that Industry is most concerned with.	ICAP: GOCO Sector	Closed Apr 2016.
2015-15	12/10/15 Webinar Lg Cal/Bombs/GOCOs	Provide list of single source suppliers; most concerned with.	ICAP: Large Cal/Bombs Sector	Closed Oct 2016.
2015-16	12/10/15 Webinar, Lg Cal/Bombs/GOCOs	Provide feedback on PEO Direct Commercial Sales (DCS) / Defense Security Cooperation Agency (DSCA) activity.	PEO Ammo	Closed Mar 2016 – insufficient information to provide.
2016-1	2/18/16 Webinar, Demil/Rockets/Fuzes	Work with ARDEC POC regarding cybersecurity – best practices to share with Industry.	PM CAS	Closed Apr 2016 – PM CAS provided information to show at next Webinar.
2016-2	2/18/16 Webinar, Demil/Rockets/Fuzes	Industry work with DCMA on source inspection for certain commercial orders for MIL-DTL items.	ICAP	Closed.
2016-3	3/29/16 Meeting, MES	Review policy for what is releasable to Industry in B5A account; coordinate releasable package with ASC legal office for release on FedBizOps.	PD JS	Closed; not releasable.
2016-4	3/29/16 Meeting, MES	Provide a priority of TDP problems by sector/PM.	ICAP	Closed 10/12/17. Companies to bring up issues with their PM's as needed.

ICAP Meeting & Webinar Actions Summary as of 10 April 2018 (2/3)

# (Yr/Action)	Date	Action	Responsible Party	Status
2016-5	8/23/16 Webinar, Pyro/Prop/Expl	Review/evaluate Industry feedback on PCCI and MSE clauses and present findings at next ICAP.	PM CAS	Closed 10/06/16. (Internally provide updates regarding updating language in clauses; ARDEC)
2016-6	8/23/16 Webinar, Pyro/Prop/Expl	Look into possibility/gauge interest of investing in NTIB TNT capability; currently no US supplier.	ICAP	Closed 10/06/16.
2016-7	8/23/16 Webinar, Pyro/Prop/Expl	Provide examples on IPT issues between Industry and Government that resulted in stopping production (specific product examples).	ICAP (Chemring)	Closed 10/06/16.
2016-8	8/23/16 Webinar, Pyro/Prop/Expl	Halifax/Canadian port no longer supports explosive shipments; look into issue further for more details and possible resolution/work with Canadian Government to see if they are aware of any issues.	PD JS	Closed Canadian NATIBO rep not aware of any issues. Closed.
2016-9	8/23/16 Webinar, Pyro/Prop/Expl	Provide feedback on Fixed Price Incentive (FPI) vs. Firm Fixed Price (FFP) contracts.	ICAP	Closed 10/06/16.
2016-10	8/23/16 Webinar, Pyro/Prop/Expl	Provide specific examples of issues mentioned in the Propellants sector at the 23 Aug 16 Webinar.	ICAP	Closed 12/19/16.
2016-11	8/23/16 Webinar, Pyro/Prop/Expl	Provide response if there is any interest in taking the NC Fines.	ICAP	Closed 10/06/16.
2016-12	10/06/16 Meeting, AUSA	Participate in 3 Nov 16 ATF meeting.		Closed. ATK covered.
2016-13	10/06/16 Meeting, AUSA	Perspective from Industry on FPI modernization incentives for GOCOs.	ICAP/PD JS	Closed 12/19/16.
2016-14	10/06/16 Meeting, AUSA	GD requested to look into any Demil MLRS issues surfaced at last Demil PMR.	PD JS/PD Demil	Closed 12/19/16.
2016-15	10/06/16 Meeting, AUSA	FPI contracting for modernization projects – feedback requested.	ICAP: GOCO Sector	Closed. Address at Oct 2017 ICAP.