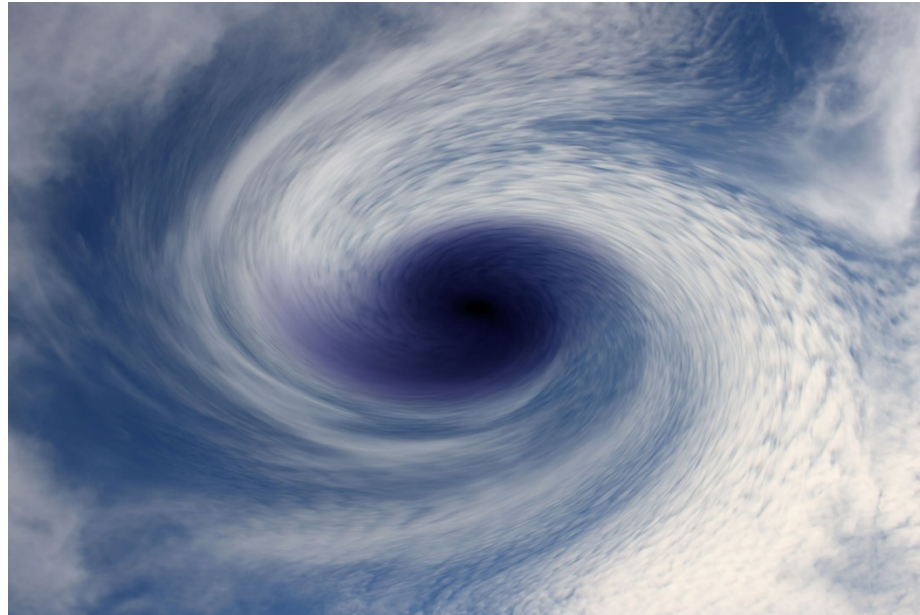


# Industry- Government Panel Munitions Executive Summit



## “The Eye of the Storm” Addressing the Dramatic Increase in Explosive Requirements



# Panel Members

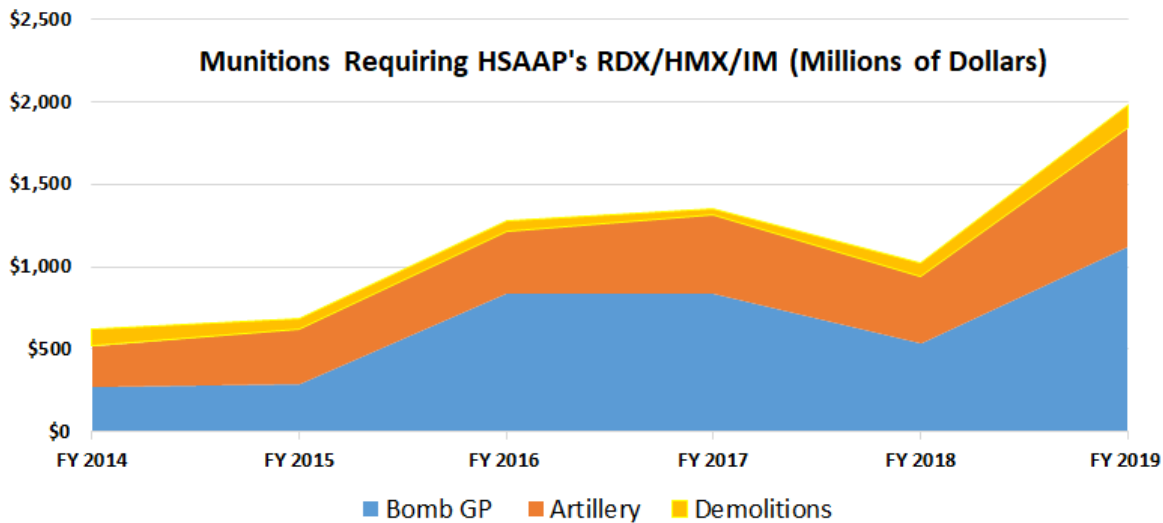
- Moderator:
  - Kevin Knotts – President, Azimuth Consulting Services
- Panel Members
  - Kevin McDonald – President, Chemring Ordnance
  - David Dunavin – General Manager, GD-Garland
  - Col. Joseph Chan – Project Director, Joint Services, PEO Ammunition
  - Col. Brad Tannehill – Project Director, Joint Products, PEO Ammunition
  - Mike Ervin – Director, R&D and Sales & Marketing BAE Systems Ordnance Systems

# Agenda

## The Eye of the Storm

- Intro and Background – Kevin Knotts
- Industry’s Perspective– Kevin McDonald
- Collaboration – the TNT Vignette – David Dunavin
- Addressing the Problem
  - Modernization of Holston AAP – Col Chan
  - Interim solution – Col Tannehill
  - BAE’s Commitment - Mike Ervin
- Questions

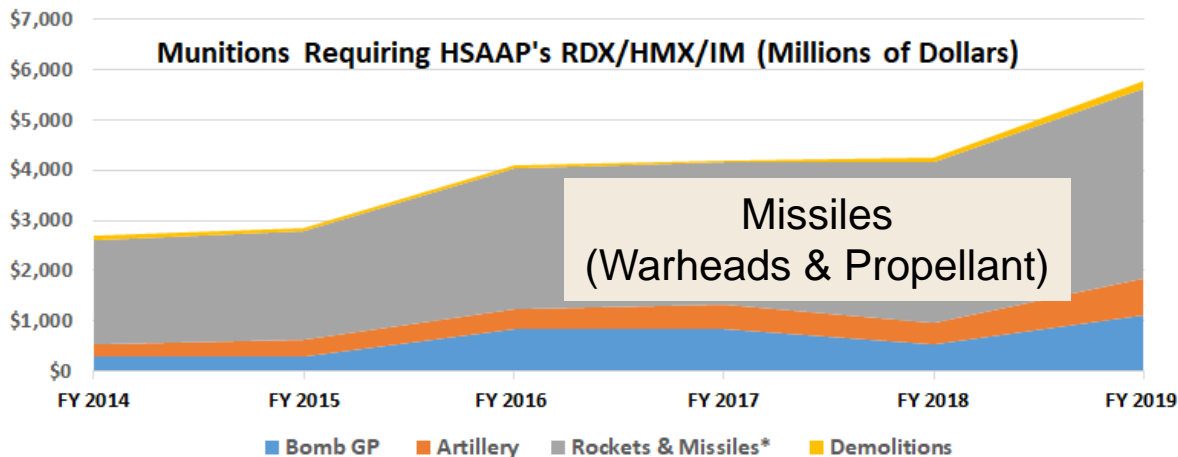
# Our Storm - Background



## HSAAP Requirements

- Bomb
- Artillery
- Rockets/Missiles
- Mortar
- Warhead
- Demo Products
- Fuzes

**Four fold increase in requirements**



Source: MIBTF Pres. Budget 2019

# “The Eye of the Storm”

Addressing the Dramatic Increase in RDX Explosive Requirements

Munitions Executive Summit - Panel Discussion

April 17, 2018

Kevin McDonald

President

# Industry Perspective

- Our Issues: Lack of Explosive Supply has resulted in:
  - RFP compliance challenges from HSAAP –
    - HSAAP has been able to provide pricing
    - HSAAP has been unable to commit to a schedule during the bidding process
  - Production Planning/Scheduling – challenges
    - Upon award HSAAP committed to schedule for DPAS rated programs
- Commercial (DMS) Explosives Significance-
  - Commercial contracts (Direct Military Sales) HSAAP estimates 18-24 months delivery at the earliest, probably later with non DPAS rated programs
  - Commercial work offsets overheads for lower prices on DoD work
- Work Arounds / Mitigations
  - Commercial work includes having customer accept alternate explosives (TNT or like) or using international suppliers for RDX explosives
  - Continue to allow responses to RFP's to allow the following: "due to high demand of xyz explosive at HSAAP we can meet the customer schedule provided HSAAP can deliver on product by abc date"
  - Communication by DOD customers for their demand for explosives is communicated with HSAAP to allow delivery to the RFP winner.

## Industry Perspective – Recommendations

- Communication concerning demand and delivery with all parties is critical
  - Industry with HSAAP
  - DoD with HSAAP
  - DoD with Industry
- DoD provides information to HSAAP concerning their requirements and deliveries to ensure there are placeholders for their specific explosive material
- DoD willingness to accept alternatives for existing RDX requirements ( i.e. TNT, Tritonal, etc)

# Collaboration – The TNT Vignette

Munitions Executive Summit - Panel Discussion  
April 17, 2018

David Dunavin  
General Manager Garland Operations  
GD-OTS

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems



# TNT Requirements Surge Background

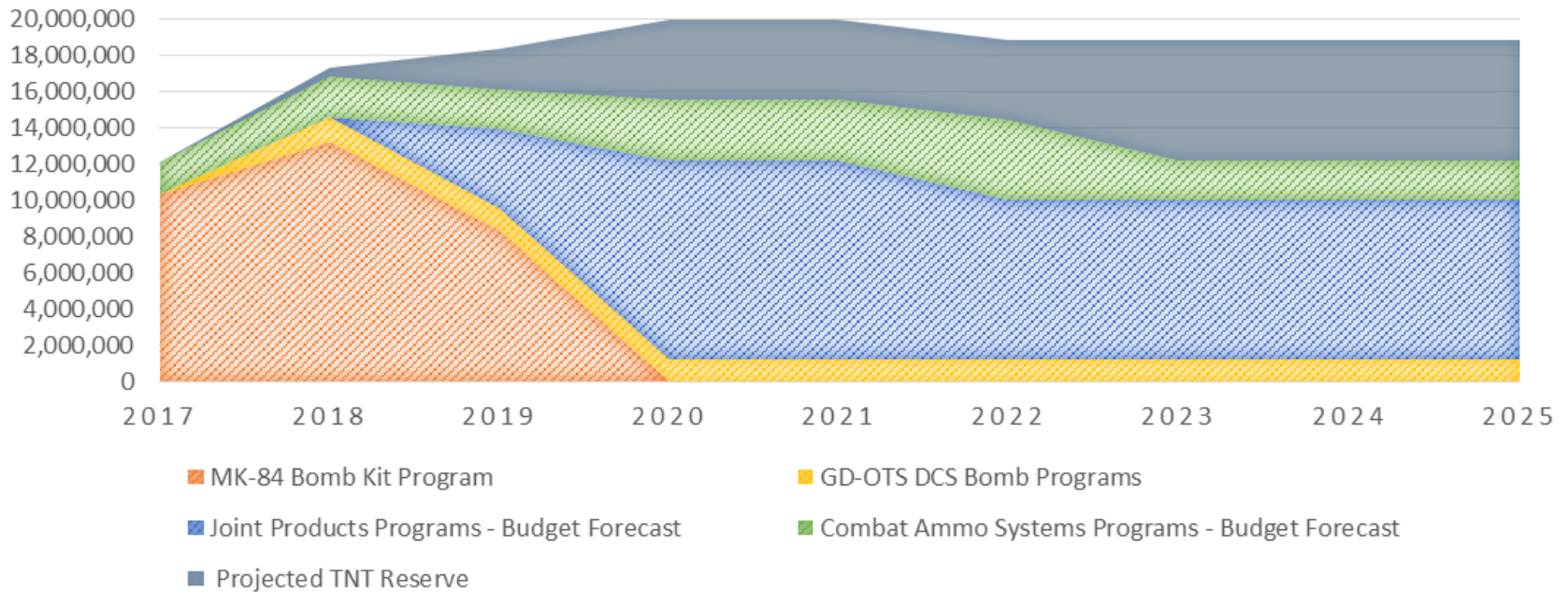
- Nitro Chem in Bydgoszcz, Poland is currently the only qualified TNT source for U.S. Bomb Programs
- As one of the world's largest producers with maximum annual production up to 22,000,000 pounds of military grade TNT per year, Nitro Chem is facilitated to support sustainment of large, long-term production programs
- In 2016, the USG released a requirement for 40,000 MK-84 Tritonal Bombs requiring 31,800,000 lbs. of TNT from Poland for all 2017 – 2019 contracted deliveries
- A multi-year agreement was established in 2016 to support the MK-84 Bomb Kit Program with TNT deliveries from Poland directly to load, assemble, pack facility for production
- The GD-OTS U.S. TNT Distribution Agreement contains minimum and maximum TNT production capacity options for 2019 – 2022 to support the USG Tritonal Bomb Program Sources Sought, to which GD-OTS responded in 2016. Additional options have since been added to the Agreement to support other Programs

# Collaboration to Manage Risk

- Collaboration with Joint Products allowed a structure to be put in place to protect McAlester Army Ammunition Plant (McAAP) bomb production
- What once created risk to the General Purpose Bomb programs now impacts all USG ordnance programs
- Utilization of TNT for approved ordnance products preserves the Holston capacity for other applications
- Supporting the Joint Products investigation into the utilization of reclaimed RDX from demilled ordnance from our GD-OTS Joplin, MO facility to support commercial needs further preserving Holston capacity
- Distribution of TNT can be further optimized through prioritization of USG Programs, collaboration of industry partners to collectively support production schedules, and proper Program allocations

# Future TNT Requirements

## FORECASTED USG TNT REQUIREMENTS



**NOTES:**

- 1) GD-OTS TNT agreement min / max annual requirement was intended to secure the USG's urgent need TNT requirements for MK-84 and future TNT Bomb Programs, the current agreement allows for long-term USG capacity based on maximum annual production
- 2) Distribution of TNT can be further optimized through prioritization of USG Programs, collaboration of industry partners to collectively support production schedules, and proper Program allocation

Program Prioritization, Energetic Allocation, and Stakeholder Collaboration  
is the Path to Success

# Modernization of Holston AAP – Col Chan

## The Army's Modernization Program at HSAAP

# NDIA

National Defense Industrial Association



# Project Director Joint Products 2018 Munitions Executive Summit

## Explosives Panel Brief

### Prioritization of HSAAP's Workload

**17 April 2018**

Colonel Brad Tannehill (USAF)  
Project Director Joint Products  
973-724-6487

[michael.b.tannehill.mil@mail.mil](mailto:michael.b.tannehill.mil@mail.mil)

# 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



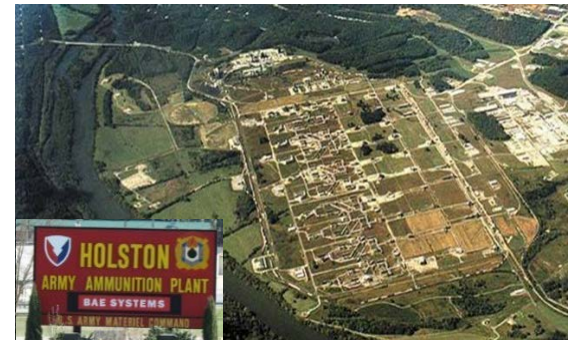
To manage potential conflicts and address industry's concerns, an IPT was established and has:

- 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

## The Perfect Storm –

### US Army Response at Holston AAP is Commendable

- As Operating Contractor of the Holston (HSAAP) and Radford (RFAAP) Plants, Ordnance Systems (OSI) appreciates our relationship with the Army
  - HSAAP - JMC - AMC - PEO Ammo - ACC - OSI (“It takes a Team!”)
  - Investing in Holston AAP and Radford AAP as valued national assets
  - Supporting today’s mission for energetic materials
  - Ensuring readiness for needs of future generations
- Elements of the overall HSAAP modernization
  - **Expansion of capacity (RDX, HMX, IMX, etc)**
  - New technology / capabilities
  - Environmental compliance
  - Safety
  - Replacement of aging infrastructure
  - Quality of workplace environment



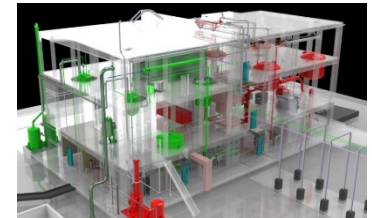
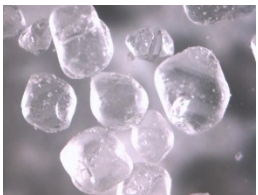
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## The Perfect Storm –

### Key Challenges During Program Execution

- Execution of Comprehensive Modernization / Capacity Expansion Program at HSAAP while .....
  - Running the plant at or near full capacity for most explosive products
  - Balancing deliveries of explosive products across the entire industrial and Customer base
  - Performing critical preventive and routine maintenance on operational infrastructure
  - Maintaining compliance with ever tightening environmental regulations
  - Ensuring safety and security of staff and facility
  - Advancing the development and scale-up of “next generation” explosive products
  - **Modernization is the long-term solution to mitigate explosive capacity constraints**



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## The Perfect Storm –

# Path Forward for Addressing Capacity Challenges

### Short-Term (ongoing):

- IPT and Lean Manufacturing teams working to maximize efficiency in existing operations (i.e. “getting the most out of what we have”)
- Curtailed explosive production for true commercial markets (ex. oil /gas)
- Restructured maintenance shutdowns to maximize efficiency / reduce downtime
- Extensive Customer engagement, planning, coordination
  - Reduced size of production runs, JIT deliveries
- Scheduling & Prioritizing Production
  - DPAS ratings, receipt of orders, feedback from PMs, etc



### Medium-Term (1-3 years):

- Evaluating OCONUS sourced RDX & HMX for select DOD applications
  - Qualify as feedstock in Holston FEM systems
  - Limits scope of qualification effort (primarily for bomb applications)
  - Frees up Holston produced RDX / HMX product for other applications



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# Questions