



# DODI 4140.62 “MPPEH”

## Explanation + Successful Application (US Army Perspective...)

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# MPPEH UPDATE



## ➤ Key Personnel (ARMY):

❖ Mr. JC King, Army Board Member, DDESB

❖ Mr. Joe Tirone, Director, US Army Technical Center for Explosives Safety (USATCES)

❖ Mr. Paul Cummins, Chief, Risk Management (USATCES)

❖ Mr. Dan Linehan, Explosives Safety Demil Lead (USATCES)



# MPPEH UPDATE



## ➤ HISTORY:

### ❖ DODI 4140.62

- Current Version 20 Aug 2015
- Previous Revision 28 Nov 2008 (w/Chg1, 19 Feb 2014)

### ❖ Defined:

- **MPPEH**
- **MDAS**
- **MDEH**

❖ Establishes criteria to determine explosives status and subsequent processing

❖ Introduced “DDESB-Approved Means”

❖ TB 700-4, Decontamination of Facilities and Equipment, (XXX (3X), XXXXX (5X)) was rescinded on 3 Feb 2010.

❖ X’s Terminology Eliminated



# MPPEH UPDATE (DODI 4140.62)



- Criteria of Significance (DODI 4140.62):
  - ❖ the explosives safety status of material to be transferred within or released from DOD control be assessed and documented as either safe or as having known or suspected explosive hazards based on one of the following **THREE** conditions:
    - (1) After a 100-percent inspection and an independent 100-percent re-inspection.
    - (2) After processing by a DDESB-approved means with an appropriate post-processing inspection
    - (3) The application of DoD Component-established expert knowledge criteria may be used.
- 12 original procedural criteria expanded to 17 criteria (Refer to pages 8 – 11 of the Instruction)



# MPPEH UPDATE

(DOD Ammunition and Explosives Safety Standards)



- DOD 6055.9 STD (Standard), DOD Ammunition and Explosives Safety Standards, was administratively reissued as DOD 6055.09-M (Manual) on 4 August 2010
  - ❖ Consists of 8 Volumes (**MPPEH** discussed in Volume 7, Encl 6)
  - ❖ Provides guidance regarding “Collected **MPPEH**”:
    - Control
    - Explosives Siting
    - Marking and Securing
    - Transportation



- DOD 4140.62-M, Management of **MPPEH** Procedures
  - Currently in Senior-Level Service review
  - Intended to provide more detailed implementation guidance to support DODI 4140.62



# MPPEH UPDATE (ARMY Document)



## ➤ “ARMY Document”

- ❖ USATCES, tasked by Office of the Deputy Assistant Secretary of the Army (Environment, Safety, Occupational Health) to develop a detailed technical document (heavily illustrated), that supplements the DODI 4140.62 and future DOD 4140.62-M.
- ❖ Intended to aid the appropriate personnel to categorize and classify the explosives status of **MPPEH** objects (e.g., projectile, fragment, grenade spoon, dud mortar, empty ammo box, SAA brass, G + C circuit card, old tank hulk, etc.) as being **MDAS** or **MDEH**.



# MPPEH UPDATE



## DDESB-APPROVED MEANS





# DDESB-APPROVED PROCESSING



- Required as an alternative to post-demil process 2 x 100% visual inspection or Expert Knowledge application, to qualify product as **MDAS**
- Three Army-sponsored demilitarization processes have successfully achieved DDESB approved means status:
  - ❖ USACE submitted Thermal Convection System (TCS)
  - ❖ DAC Ammunition Peculiar Equipment (APE) 1412 “Spent Brass Sorter”
  - ❖ SAIC process “Flexible Munitions Residue Inspection System (FMRIS)” for 105mm HE Projectiles



# DDESB-APPROVED PROCESSING



- Recommended Technologies for Initial Submission:
  - ❖ Physical Mutilation
  - ❖ Thermal Neutralization
  - ❖ Chemical Neutralization
  - ❖ Automated Explosives Sensors and Sorting Equipment



# DDESB-APPROVED PROCESSING



- “...When DDESB-approved processing is used as a method of determining the explosives safety status of MPPEH, appropriate **POST-PROCESSING INSPECTION** (i.e., on a sampling basis) of any processed material must be performed.”
- **POST-PROCESSING INSPECTION** can be satisfied by:
  - Inspection of the product
  - Verification of the process control limits were not exceeded



# DDESB-APPROVED PROCESSING



- DDESB has stipulated that requests for approval be submitted to the appropriate Service Component Safety Office
- USATCES will provide Army review (after Submitting Organization has followed their Chain of Command)
- Submissions will be processed through USATCES, and subsequently to DDESB with the following considerations:
  - ❖ Required for both Army Organizations and DOD Contractors (supporting Army MPPEH demilitarization)
  - ❖ Proprietary considerations/cautions may be required for contractor submissions!
  - ❖ Contain details of the process(s), procedures, or technologies to include any testing results and post-process quality control.
- USATCES will request additional information, disapprove the request, or submit it to the DDESB with a recommendation for approval.



# DDESB-APPROVED PROCESSING



- Submissions will address:
  - ❖ The type and condition of the **MPPEH/MDEH** to be processed
  - ❖ The total net explosives weight of **MPPEH/MDEH** to be processed at any given time (safely)
  - ❖ Process flow diagrams
  - ❖ **OPERATING PROCEDURES** (to include safety measures)
  - ❖ Design Drawings (including material compositions of the equipment)
  - ❖ Personnel qualifications / training requirements
  - ❖ Anticipated / Actual condition of the material at process end (**SEE THE NEXT SLIDE!**)
  - ❖ Quality Control / Quality Assurance measures



And most importantly:

A **detailed, validated, quantitative** assessment of the presence and/or absence of explosives residue at the end of the process!



# “EXPERT KNOWLEDGE” - New Concept



## ➤ Expert Knowledge “points” incorporated into the Instruction:

- ❖ “The DoD Component heads...(2) Applying expert knowledge as an alternative approved means to determine that the release or transfer of material does not present an unknown explosive hazard to the receiver.”
- ❖ As the third option to determine the Explosives Safety Status...”(3) The application of DoD Component-established expert knowledge criteria may be used.
- ❖ As signatories of the **MDAS** documentation, “...If the first signatory applied expert knowledge, the second signatory must have independently applied expert knowledge criteria to verify the material is in the condition expected.”
- ❖ The DOD Components will establish if required ...”(1) The application of expert knowledge to determine, by **MPPEH** type, that specific material does or does not pose an explosive hazard.”
- ❖ In waiving the requirement to vent...”Expert knowledge is applied to determine that the subject material is in the condition expected. In this event, MPPEH can be documented as **MDEH** or **MDAS** without the venting of cavities. When internal cavities are not vented and expert knowledge does not apply, the qualified receiver must be notified in writing of the cavities’ existence and the potential explosive hazards.”





# MPPEH UPDATE



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# MPPEH UPDATE



# QUESTIONS?



# MPPEH UPDATE



## Supplemental Slides

# MPPEH Defined IAW DODI 4140.62



- Material Potentially Presenting an Explosives Hazard (**MPPEH**):
  - ❖ Material owned or controlled by the DoD that, before determination of its explosives safety status, potentially contains explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris) or potentially contains a high enough concentration of explosives that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization, or disposal operations).
  - ❖ Excluded from **MPPEH** are:
    - Military munitions and military munitions-related materials, including wholly inert components (e.g., fins, launch tubes, containers, packaging material), that are to be used or reused for their intended purpose and are within a DoD Component-established munitions management system.
    - Non-munitions-related material (e.g., horseshoes, rebar, other solid objects) and munitions debris that are solid metal fragments that do not realistically present an explosive hazard
    - Other items (e.g., gasoline cans, compressed gas cylinders) that are not munitions or munitions-related material but may present an explosion hazard.



# MDEH & MDAS Defined IAW DODI 4140.62



- Material Documented as Explosive Hazard (**MDEH**):
  - MPPEH that cannot be documented as MDAS, that has been assessed and documented as to the maximum explosive hazards the material is known or suspected to present, and for which the chain of custody has been established and maintained. *This material is no longer considered to be MPPEH.*
- Material Documented as Safe (**MDAS**):
  - MPPEH that has been assessed and documented as not presenting an explosive hazard and for which the chain of custody has been established and maintained. *This material is no longer considered to be MPPEH.*

# MPPEH UPDATE (ARMY GUIDANCE)



- Army is developing guidance to assist operators in determining the explosives safety status of objects (e.g., projectile, fragment, grenade spoon, dud mortar, empty ammo box, SAA brass, G + C circuit card, old tank hulk, etc.) as being **MDAS** or **MDEH**
- ODASA (I & E) had tasked USATCES to write a ‘picture heavy’ book to assist operators in determining the explosives safety status of objects and material removed from ranges
- Draft document created and submitted for review/modification
- Path forward for the document is based on the detail established in the DOD 4140.62-M