
Material Potentially Presenting an Explosive Hazard:

“Doing our homework”

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Agenda

- Define MPPEH
- DoD Policy Background
- Project Overview
 - Requirements Analysis
 - Web-based Survey
 - Forum

What is MPPEH?

Material Potentially Presenting an Explosive Hazard (MPPEH):

- *Material potentially containing explosives or munitions (e.g., munitions containers and packaging material, munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris)*
- *Material potentially containing a high enough concentration of explosives such 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)*

AKA – AEDA, Range Residue, Munitions Residue, Range Scrap...

Material potentially containing explosives or munitions (e.g., ...)



Munitions Containers and Packing Material



**Munitions Debris Remaining after Munitions Use
Range Residue Processing Operation**



**Munitions Debris Remaining after Demilitarization
Disassembled Munitions Components - Projectiles**



Range Related Debris

Material potentially containing a high enough concentration of explosives such that the material presents an explosive hazard (e.g., ...)

Equipment, ... Associated With Munitions Production,
Demilitarization or Disposal Operations



Building Remediation/Demolition Cornhusker AAP



Building Remediation/Demolition Kansas AAP

What is NOT MPPEH?

- *Military munitions within the DoD's established munitions management system.*
- *Other hazardous items that may present explosion hazards (e.g., gasoline cans, compressed gas cylinders) that are not munitions and are not intended for use as munitions.*

DoD Policy Background

- **April 1997**: Scrap metal worker fatality in Fontana, CA. High explosive anti-tank round mistaken for scrap metal.
- **September 1997**: DoD IG report, *Evaluation of the Disposal of Munitions Items*, contains 25 recommended actions.
- **Late 90's**: Several DoD groups/IPTs unsuccessfully attempt to address issues.
- **Oct 99 – Jan 00**: Joint Workgroup drafts DoD policy.
- **2000-2004**: DoD formal coordination, many hits & misses....
- **December 04**: Finally! ***DoDI 4140.62, Management and Disposition of MPPEH***, issued but it requires development of DoD guidance containing MPPEH management procedures (DoD Manual).

Primary Source Documents for MPPEH Policy

- **DoDI 4140.62**, *Management and Disposition of MPPEH*
- **DoD 6055.9-STD**, *DoD Ammunition and Explosives Safety Standards*, Ch. 16 – *MPPEH*
- **DoD 4160.21-M**, *Defense Material Disposition Manual*
- **DoD 4160.21-M-1**, *Defense Demilitarization Manual*
- **Army TB 700-4**, *Decontamination of Facilities and Equipment*
- + **NAVSEA OP 5**, Ch. 13, Paragraph 15, *Material Potentially Presenting and Explosive Hazard*

**Most influence over MPPEH management methods.
Nearly all requirements can be traced to these documents.**

Current Policies Requirements Include...

- Multiple visual inspections*
- Signed certification/verification of “inert and/or free of explosives or related materials” *
- X, XXX, XXXXX, and zero(0) standards for “degrees of decontamination”
- Qualification of receivers
- Segregated and secured storage *
- Maintain chain of custody (...through final disposition) *
- Processes to provide “positive assurance” that explosives are not present
 - Thermal treatment? *
 - Closed circuit processes?
- Venting internal cavities
- Segregation of type “1a, 1b, and 2 range residues”
- Demilitarization requirements *
- Environmental requirements
- Transportation requirements, including hazard classification
- ...etc.

Need: Clear corporate objectives and procedures for MPPEH management.

Processes to Meet Policy Requirements

Small Arms Brass (a “simple” case)



Step 1

Multiple Visual Inspections:
Removing Live Rounds at the ASP

Processes to Meet Policy Requirements

Small Arms Brass (a “simple” case)



“Certified” Brass at the Qualified Recycling Program

Processes to Meet Policy Requirements

Small Arms Brass (a “simple” case)



Step 3

Security and Storage at QRP Yard

Processes to Meet Policy Requirements

Small Arms Brass (a “simple” case)



Step 4

APE 1408 Safety Certification System
For Small Arms Brass

Processes to Meet Policy Requirements

Small Arms Brass (a “simple” case)



Step 5 Mobile Deformer System For Small Arms Brass

Processes to Meet Policy Requirements

Small Arms Brass (a “simple” case)

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Scrap Brass and Bronze Recycling Exchange Listings

AVAILABLE : LA644826
Shipping Pt.: USA, XXXXXXXXXXXXXXXXXXXX

To contact this listing, ENTER YOUR EMAIL ADDRESS AND CLICK GO :

Other Brass & Bronze - FIRED BRASS - STOCK# 6048-6201.
(400,000) LBS APPROXIMATE OF LIGHT FIRED BRASS CONSISTING OF: 5.56, 7.62 & 50 CAL EXPENDED CASINGS AND BLANKS, ALSO CONTAINS 40MM PLASTIC AND STEEL CASINGS WITH AND WITHOUT PRIMERS, FUZEHEADS PRIMARILY COMPOSED OF ZINC, MAY CONTAIN SOME FOREIGN MATERIALS, SOLD AS A TERM CONTRACT VIA ONLINE AUCTION, BIDDING STARTS AT \$50 USD, STOCK# 6048-6201

 **Photo Available**

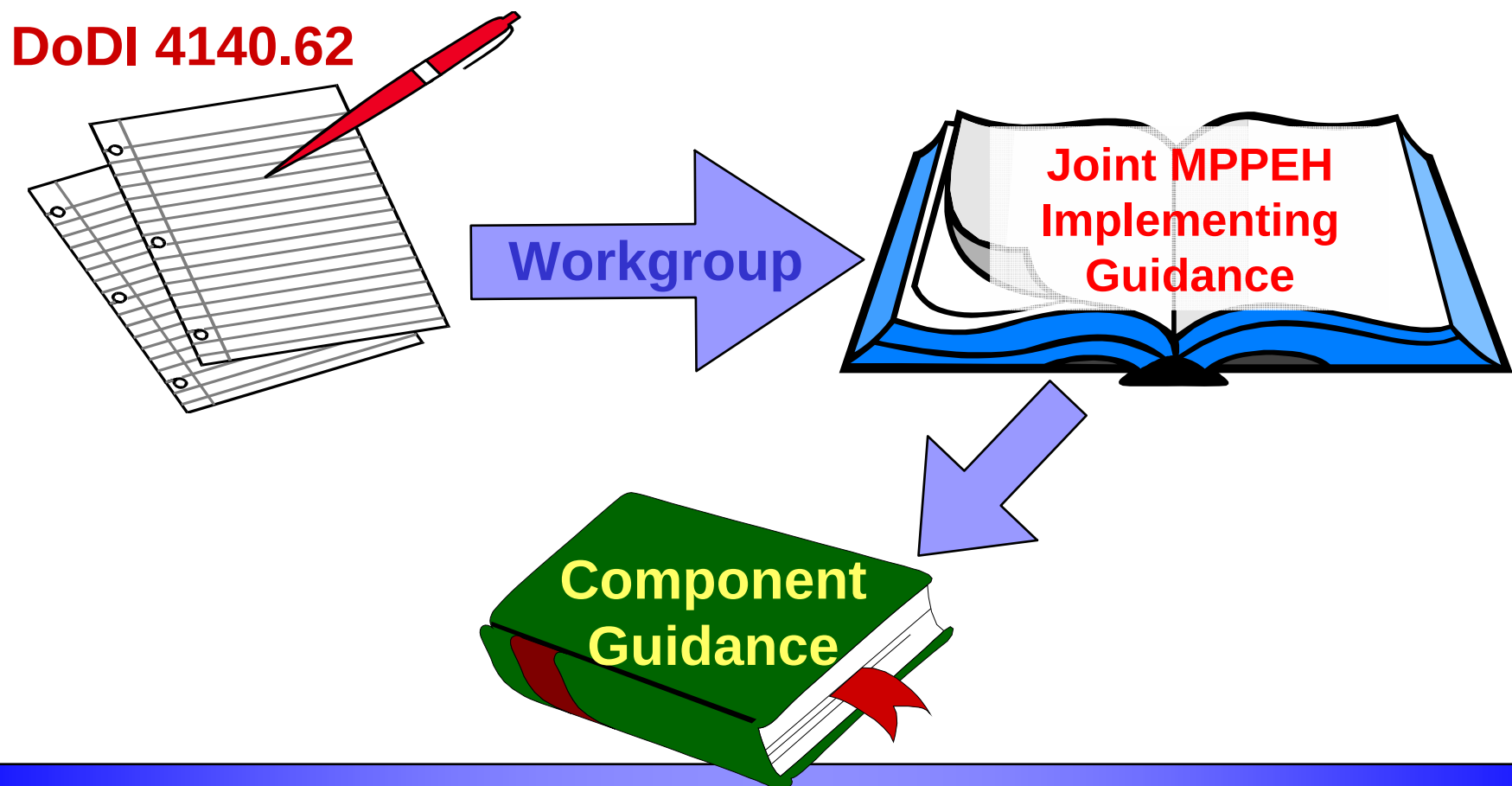
Quantity	Units	Frequency
400000	lbs	One Time Only
Price	Per Unit	Funds
50.00	each or units	USD \$

Step 6

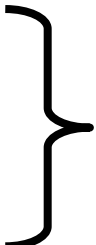
Chain of Custody...?
Internet sales of military small arms brass

Project Overview: What are we trying to accomplish?

Develop a DoD procedural manual for the management and disposition of MPPEH.



Project Overview: Doing our homework

- **Purpose: Ensure the knowledge base necessary to develop DoD Guidance on MPPEH:**
 - Understand/clarify our corporate objectives for MPPEH management
 - Understand the methods/processes employed in the field
 - Identify most efficient and cost effective ways to meet corporate objectives
 - **Project Overview:**
 - Requirements Analysis
 - Field Survey
 - MPPEH Forum
-  **Business Process Analysis**
Three Step Process

Business Process Analysis

Step 1: MPPEH Requirements Analysis

- Identify (DoD) policy documents responsible for MPPEH management behavior;
- Describe management objectives, intent, roles and authorities of the proponent organizations for these documents;
- Analyzes key issues that require resolution and clarification in DoD MPPEH management guidance;
- Make recommendations to resolve and clarify key management issues in a way that meets the intent of the DoD policy documents and their proponent organizations.

Some Questions Going In...

- What are the current requirements?
 - What do they actually say?
 - What do they really mean (intent)?
 - How do they interface with one another (interoperability)?
- Do current policies generate corresponding levels of risk reduction?
- Do current policies require over-processing of MPPEH?
- Is the confusion over the current set of requirements driving over-processing?

Want the DoD guidance to promote safe and cost-effective MPPEH management.

Requirements Analysis

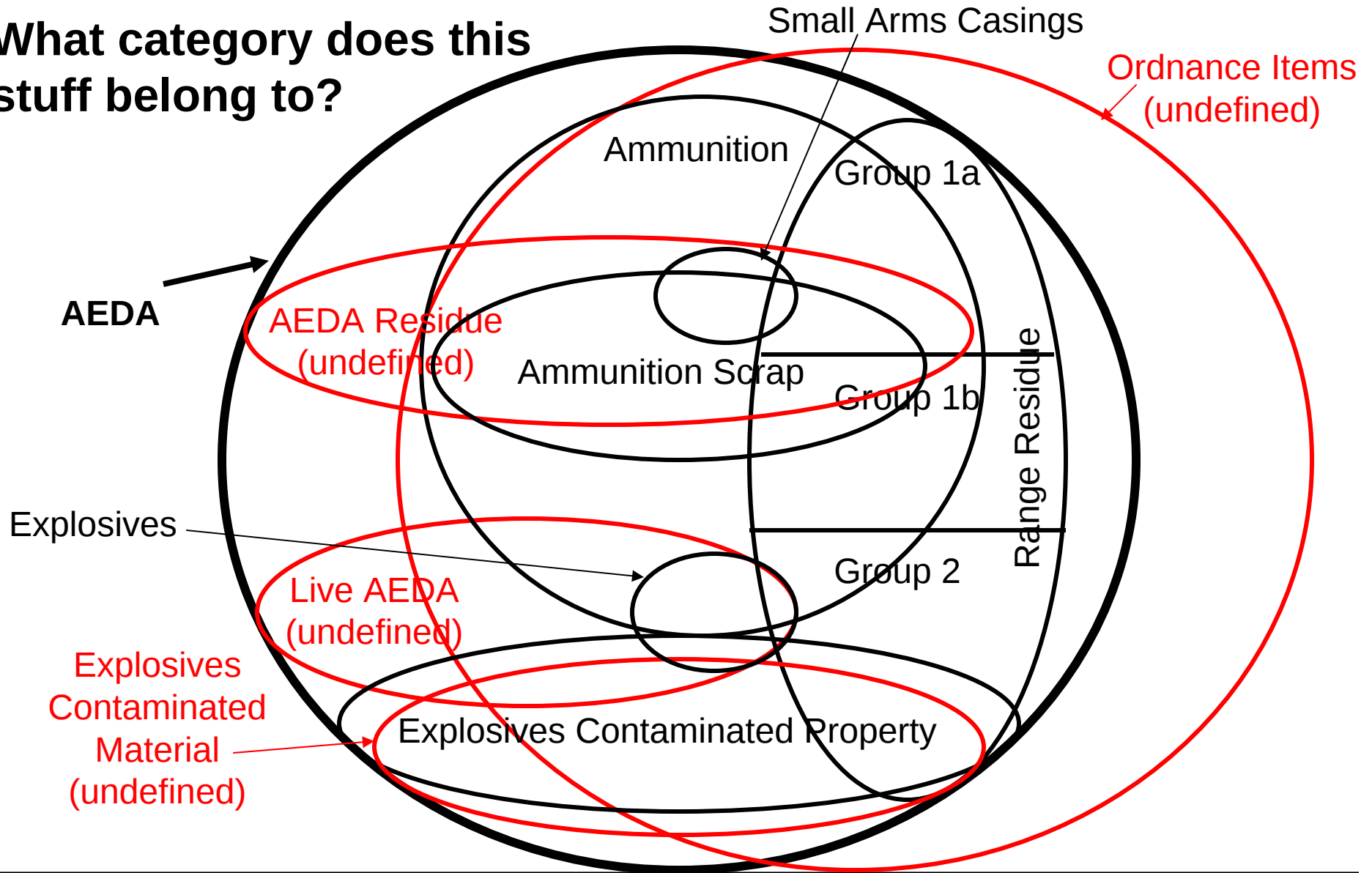
Key Issue 1: Terms and Definitions

- Materials:
 - AEDA, AEDA Residue, Live AEDA, Ordnance, Range Residue, Explosives Contaminated Material, Explosives Contaminated Property, Brass, Cartridge Casings, Small Arms Cartridge Casings, ETC.
 - All trigger specific requirements. Eliminate all that are unneeded and clearly define those that are needed.
- Certification Standards:
 - X, XXX, XXXXX, 0 (zero)
 - 1X, 3X, 5X, 0 (zero)
 - Inert and/or free of explosives or related materials
 - Contains no items of a dangerous or hazardous nature
 - Safe or Hazardous
 - Pick one and equate it to an acceptable level of risk and measurable/observable conditions.

Requirements Analysis

Key Issue 1: Terms and Definitions (Cont.)

What category does this stuff belong to?



Requirements Analysis

Key Issue 2: Standards/Methods for Determining/Mitigating Explosive Hazard

- Standards:
 - “free of explosives” – unnecessarily stringent
 - “X” standards – broadly misinterpreted/misapplied
 - “safe and hazardous” – OK but need more precision
- Methods:
 - Visual Inspection: Required? Sufficient? When?
 - Chemical/Thermal Treatment: Required? When? Safe? Visual inspection too?
 - Venting: When? Why?
 - No longer resembles munitions: When? Why? All?
 - Chain of custody: How? Who? Realistic?
 - Closed Circuit Process: When? How?

Requirements Analysis

Key Issue 2: Standards/Methods for Determining/Mitigating Explosive Hazard (Cont.)

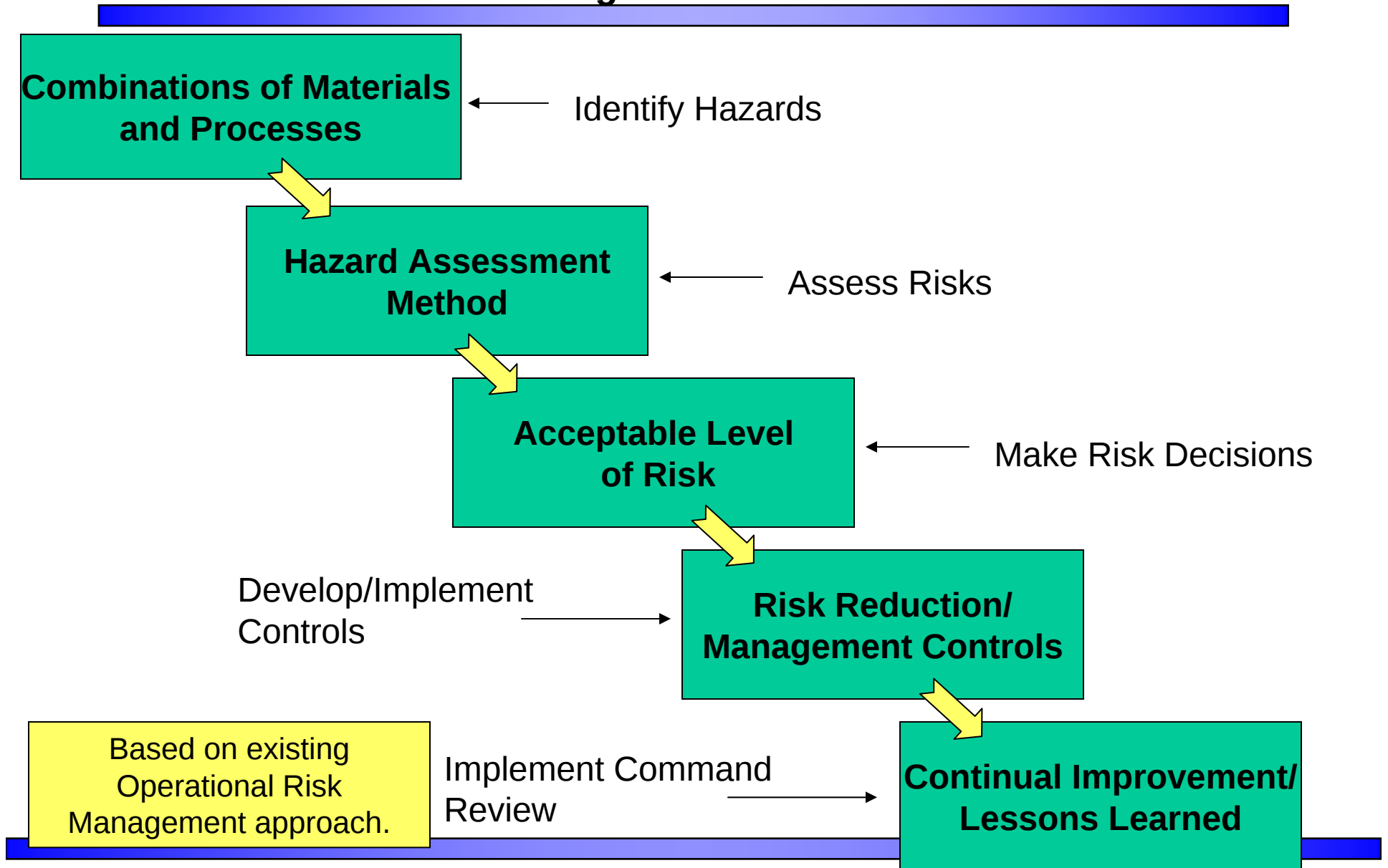
“Safe or Hazardous” is first hurdle

- What does “safe” mean? Safe for what?
 - Unrestricted use?
 - Recycling?
 - Processing by “qualified” MPPEH handlers?
- Most MPPEH is recycled as scrap metal:
 - Transported on public highways
 - Processed (exposed to heat, shock, or friction)
 - Smelted
 - Need a partnership with scrap metal recycling industry
- Recommendation: Safe (generally) = “safe for methods, processes and levels of care common to the scrap metal recycling industry”
- Recommendation: Use a standardized hazard assessment (e.g., RAC)

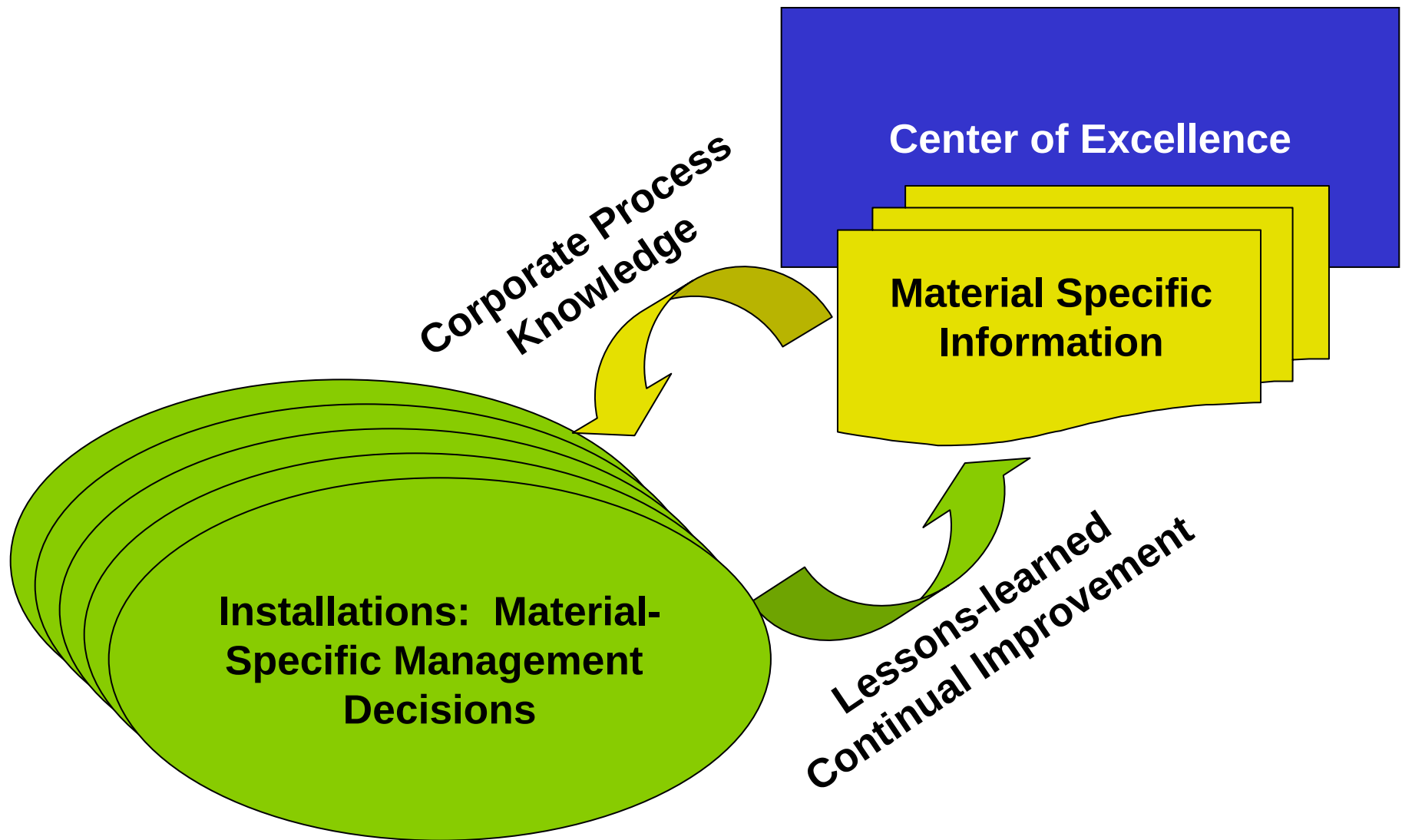
Risk is a function of both material conditions and management methods.

Requirements Analysis

Recommendation: Make Decisions Based on Risk Management Process



Recommendation: Leveraging a Source of Corporate Knowledge



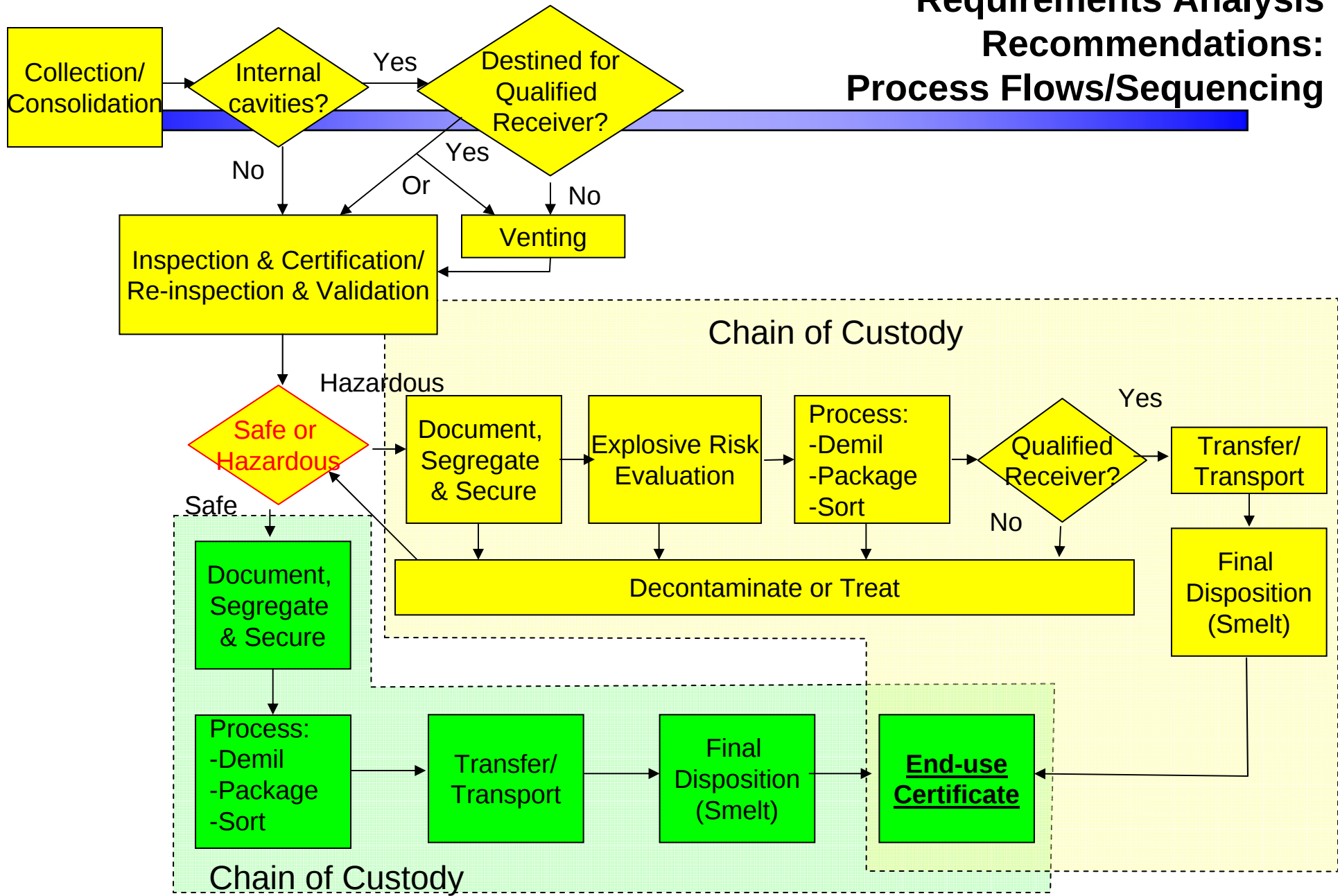
Requirements Analysis

Recommendation: Processes and Controls for Managing Explosive Hazards

- Guidance must address How and When to Apply:
 - Visual Inspection
 - Treatment
 - Venting
 - Deforming
 - Receipt by Qualified Buyers
 - Chain of custody
 - Closed-circuit process
- Address intent, standards, and sequence
- Suggest viable process flows

Controls applied based on results of risk analysis/management process.

Requirements Analysis Recommendations: Process Flows/Sequencing



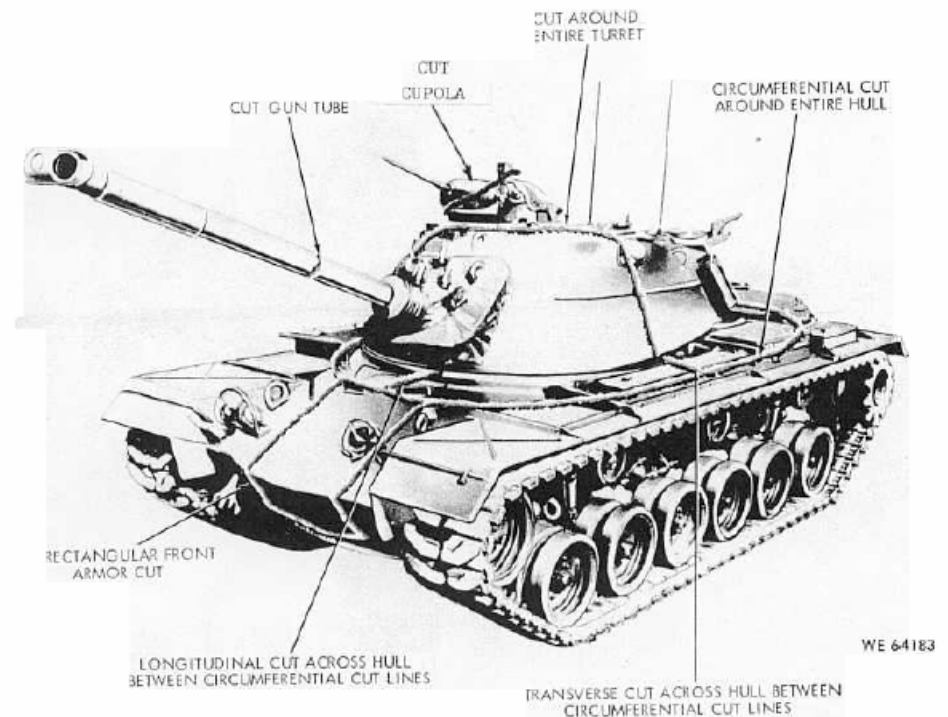
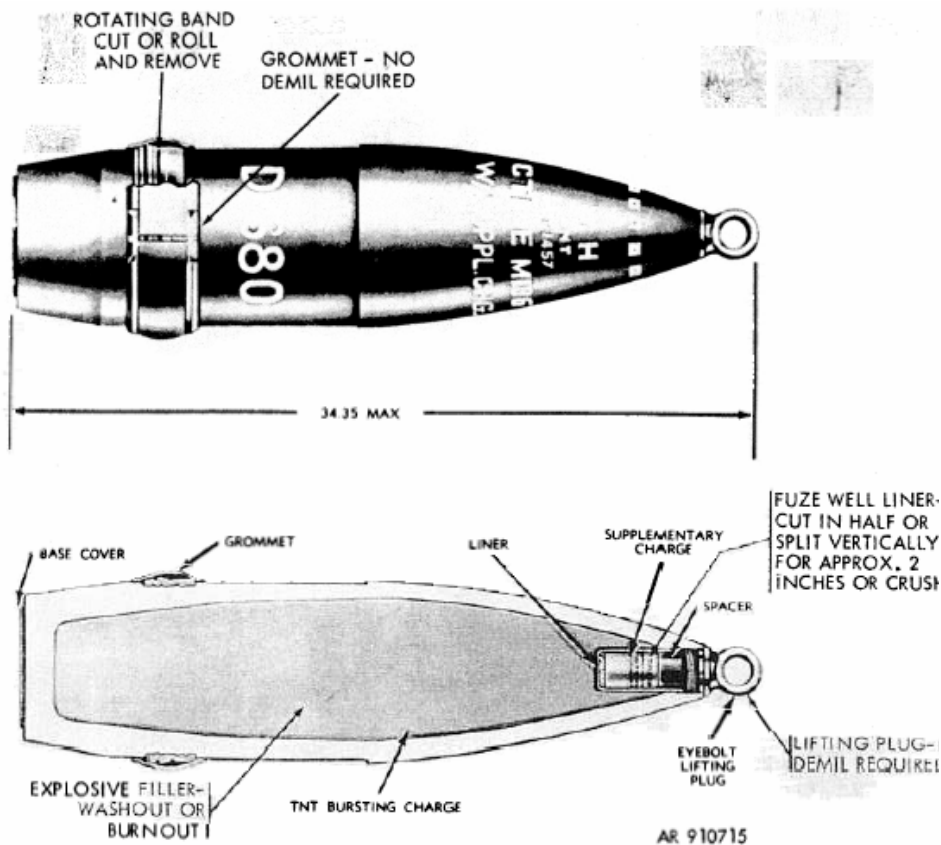
Requirements Analysis

Key Issue #3: Demilitarization and Trade Security

- Application of Demil Codes (particularly G) is poorly understood
- Munitions Demil method: “As economically as possible to ensure freedom from explosive (or other)...hazards”
 - Inert projectiles: remove rotator bands and expose filler
 - Target hulks: May require “key point” demilitarization
 - Some components of munitions and equipment require “total destruction”

Requirements Analysis

Key Issue #3: Demilitarization and Trade Security



Applicability of Item-specific demil requirements to used items.

Requirements Analysis

Key Issue #3: Demilitarization and Trade Security

- **IF** most MPPEH is recycled as scrap metal (smelted), chain of custody required, venting required, no explosive hazard...
 - Doesn't this equate to demil?
 - Potential for administrative processes to resolve demil requirements?



Can we streamline or cut out process steps?

Requirements Analysis

Key Issue #4: Transportation Requirements

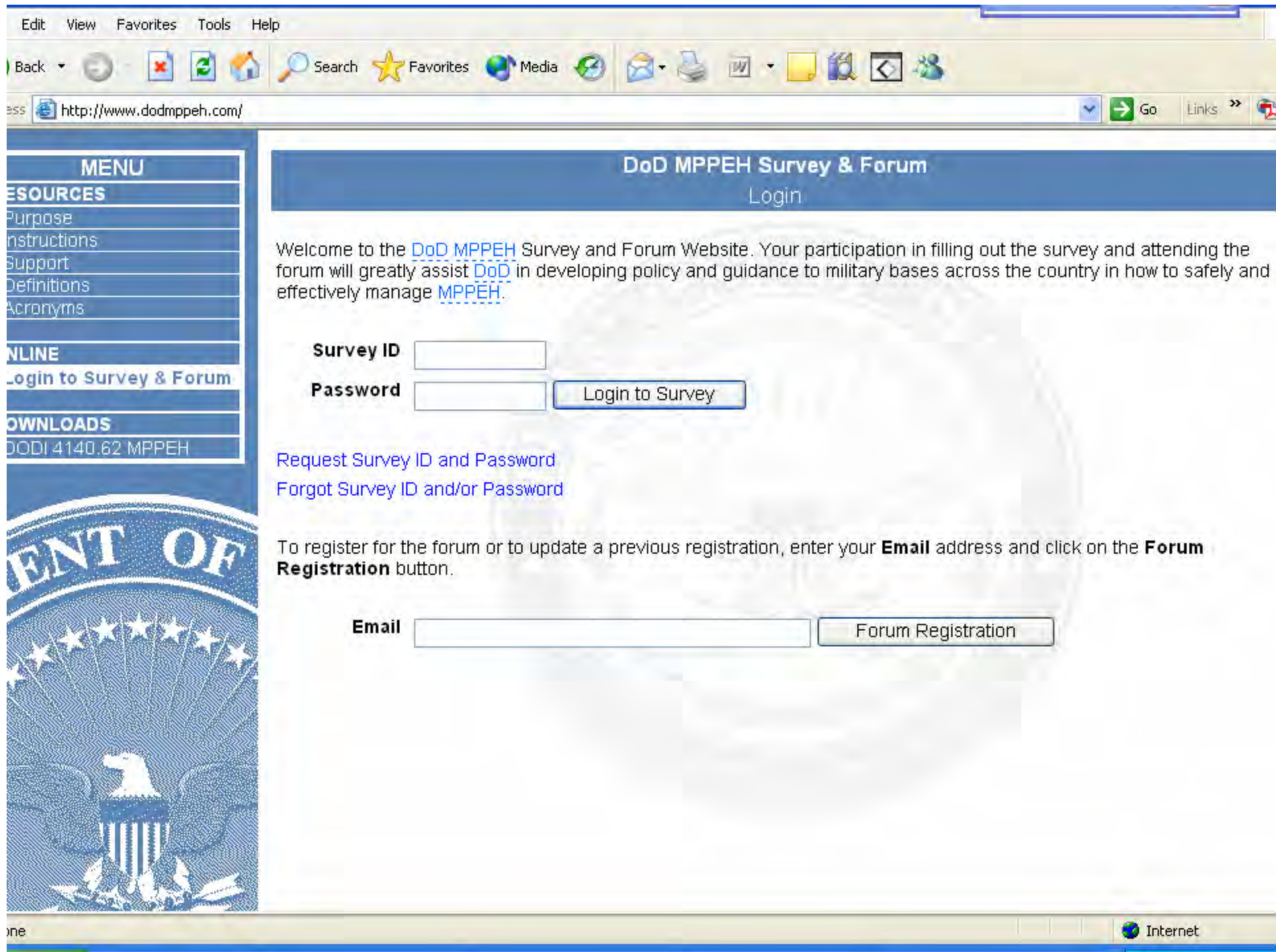
- Current policies require assignment of hazard classifications prior to MPPEH shipment
- How are hazard classifications assigned to MPPEH?
 - Testing
 - Analogy
 - Pre-1980
 - Non-new item
 - UXO? (Ship as 1.1, compatibility, blocking/bracing/packing)
- Recommendation: Stress MPPEH certified “safe” does not require explosive hazard classification
- Recommendation: Capture/provide decision criteria for RCRA exclusions and exemptions for recyclable material

Business Process Analysis

Step 2: MPPEH Survey

Purpose: Ensure understanding of MPPEH processes currently used by the DoD

- **Participants: Over 150 respondents**
 - OSD (DDESB, I&E)
 - Army (IMA, ATEC, JMC, COE, DAC)
 - Navy
 - Marine Corps
 - Air Force
 - Scrap Metal Recycling Industry (ISRI liaison)
 - Ordnance Contractors (NAOC liaison)
- **Format: Web-based survey (16 Jan – 16 Feb)**



Overview: DoD MPPEH Web-based Survey

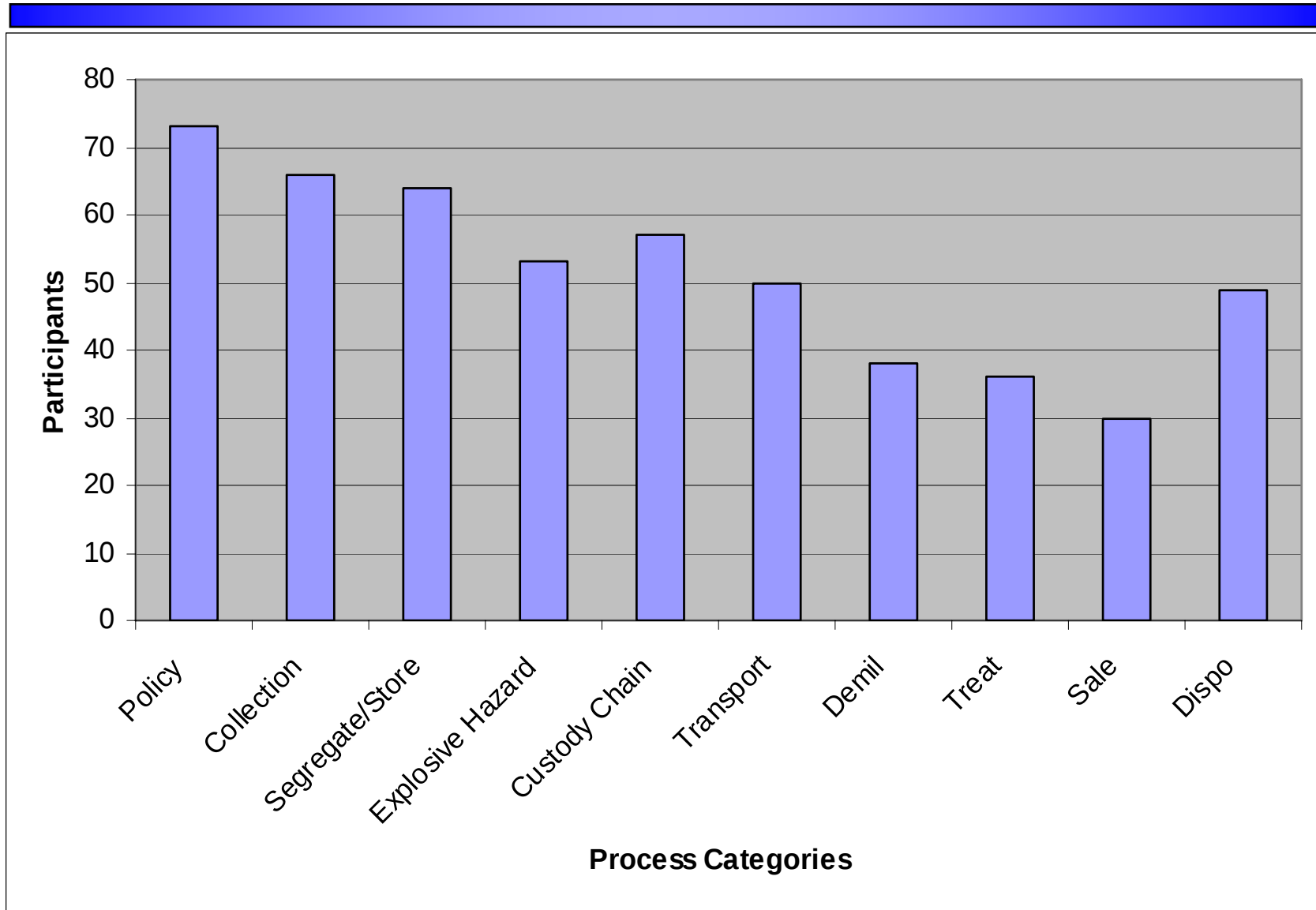
- **Personal Information:**
 - Who are you?
 - What do you do w/ MPPEH?
- **What kinds of MPPEH do you manage?**
 - How (processes and equipment) do you manage this material?
 - Why (requirement citation) do you manager this material in this way?
- **Challenges?**
- **Successes and innovations?**
- **Most problematic/least understood requirements?**

Participant Activity

Service	Password Sent	Started Survey	Finished Survey
Air Force	2	4	4
Army	25	52	17
USMC	3	5	8
Navy	5	9	5
Contractors	19	15	3
Other	12	8	8
TOTALS	66	93	38

Total Active Participants (Started or Finished) = 131

MPPEH Processing Categories (contd)



MPPEH Survey Results

What is the #1 Challenge????

**LACK of CLEAR, CONSISTENT
GUIDANCE !!!**

Others:

- **Lack of manpower/funding**
- **Equipment maintenance**

Several requests for consolidated guidance and cross-referencing within existing guidance documents.

MPPEH Survey Results

Most confusing/problematic requirements????

- **Costly/time consuming inspection and certification.**
- **Conflicting requirements for inspection and certification.**
- **Understanding demil requirements for specific items.**
- **Application of RCRA requirements.**
- **Proper storage space limitations.**
- **Chain of custody/security.**

**Evidence of terminology inconsistencies
and cost constraints.**

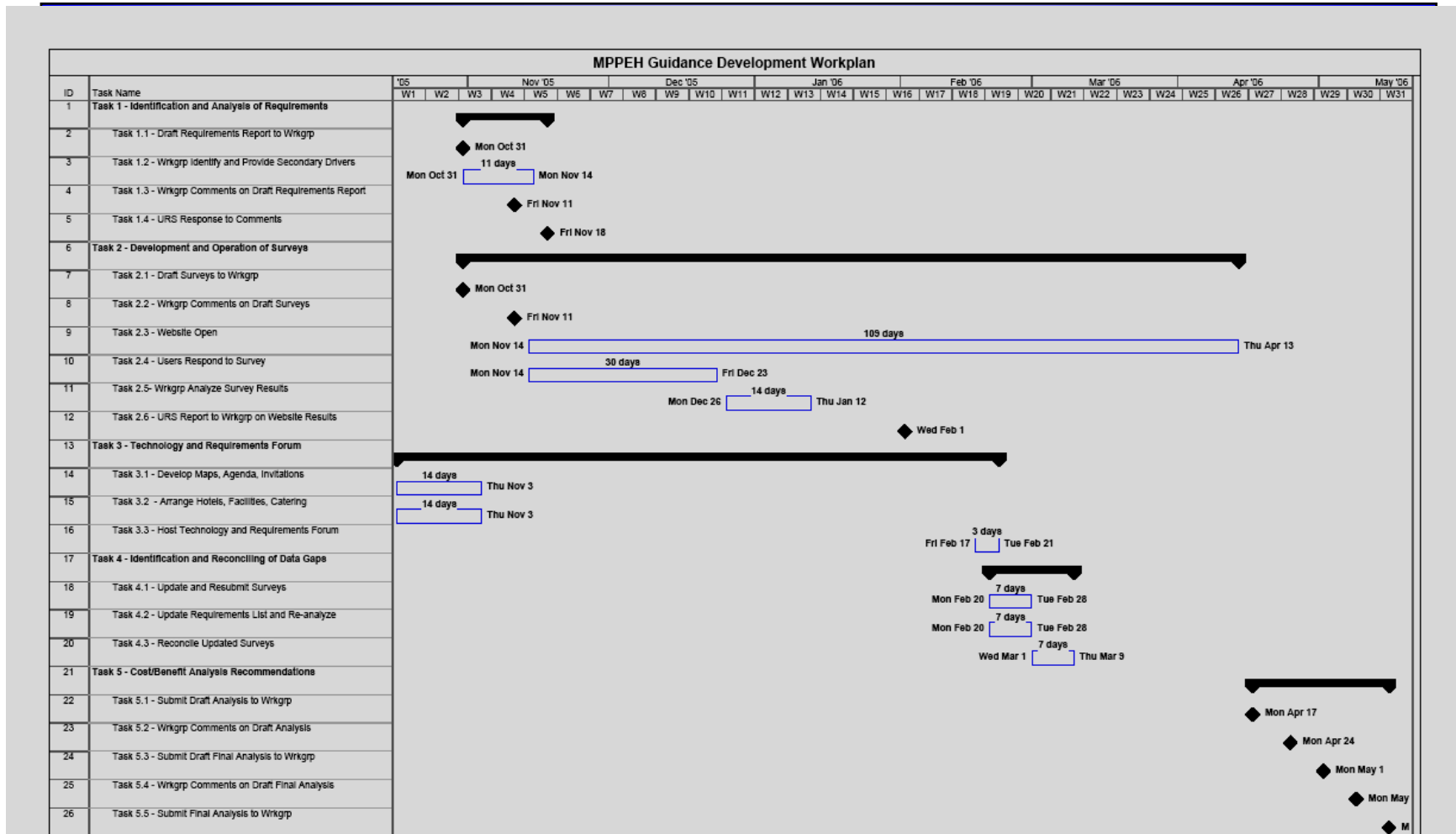
Business Process Analysis

Step 3 MPPEH Forum

- 7-9 March 06, Aberdeen Proving Ground, MD
- 90+ attendees from public and private sector
- Opportunity for MPPEH requirement “owners” and MPPEH managers to present and discuss:
 - the methods and rationale for specific MPPEH management practices (i.e., How we manage MPPEH? Why we manage MPPEH the way we do?);
 - the effectiveness of current DoD guidance; and
 - the challenges faced by installation personnel in the management of MPPEH.

Frank and open discussions about what works and what doesn't.

Business Process Analysis: Project Timeline



Bottom-line: Started in October. Requirements Analysis completed in January. Survey completed in February. Forum in March. Procedures in development.

QUESTIONS?



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