

# 73rd MORSS CD Cover Page

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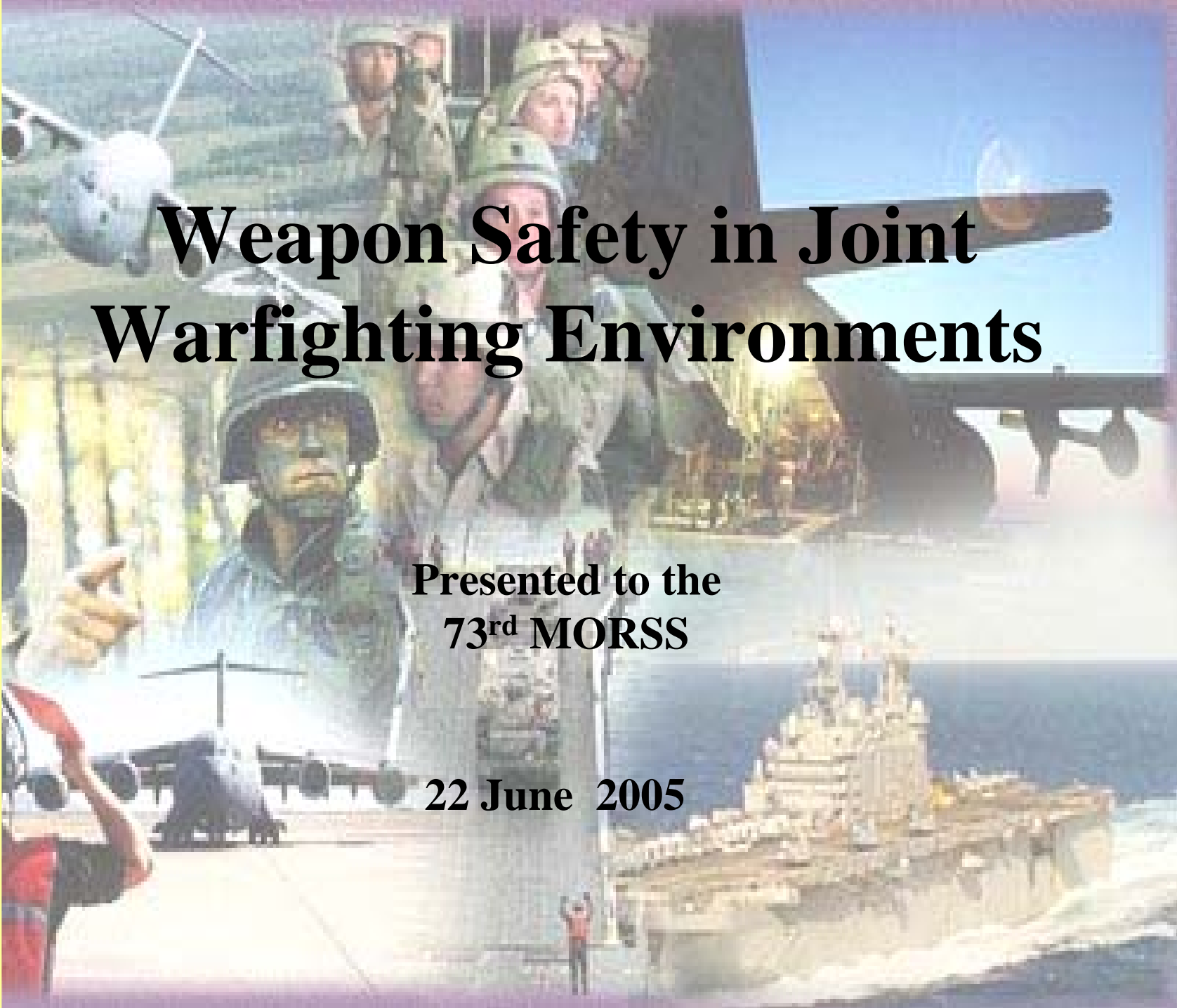
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# Weapon Safety in Joint Warfighting Environments

Presented to the  
73<sup>rd</sup> MORSS

22 June 2005



# Impediments to Safe Joint Environment

- **Downsizing of the Ordnance Community**
- **Increased weapon system complexity**
- **Multiple weapon interactions/incompatibilities**
- **Service specific design requirements**
- **Budget pressures**

# Assumptions

- **Loss or lack of forward bases**
- **Increased joint shipboard operations**
- **Increased joint or combined operations**
- **SEABASING concept being defined**
- **Increased emphasis on insensitive munitions**
- **Defense Safety Oversight Council (DSOC)**
  - 50% Reduction in injuries w/in two years



# Real World Events

# Drivers

Panama



Haiti



Afganistan



## *Increased Joint Shipboard Operations*

Many of the same Ordnance issues as in Grenada 20 years ago...

Army and SEALs frequently have non shipboard-certified ordnance

Grenada





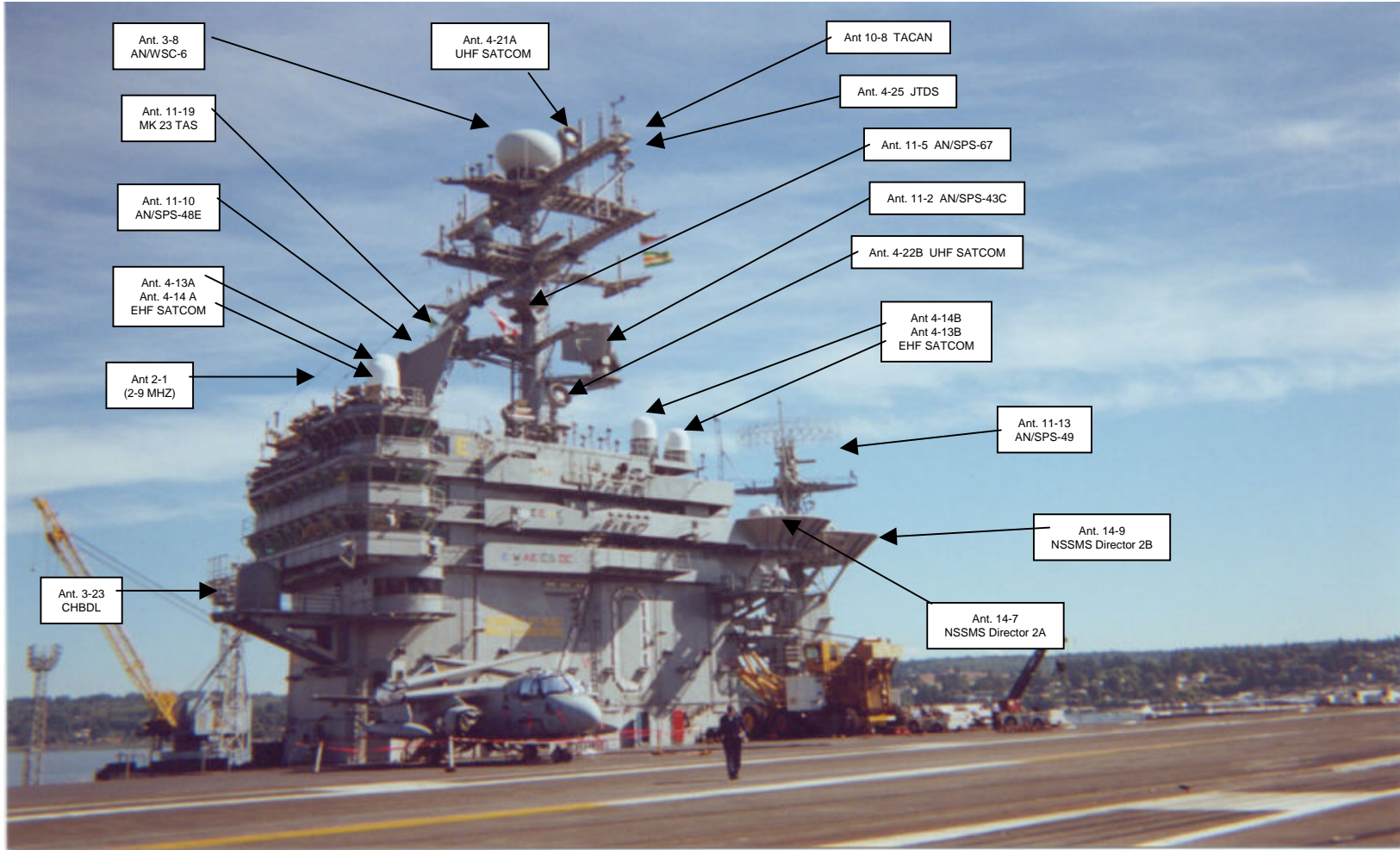
# Impact

## Limitations on Joint Shipboard Ops



**This**

# Close to this !!



Or this !!



# Unforeseen Risks



# Presentations to the Protection FCB and the JCB

- Proposed a process to ensure joint warfighting weapon safety capabilities, and potential limitations, are identified and mutually agreed upon by stakeholders early in ICD/CDD/CPD process
- Provided proposed changes to CJCSI and CJCSM 3170.01 to implement
- Recommended a technical advisory body to ensure warfighting environment safety issues are identified so that informed capability decisions can be made



# Safety Considerations within JCIDS

- **JCIDS Certifications (currently)**

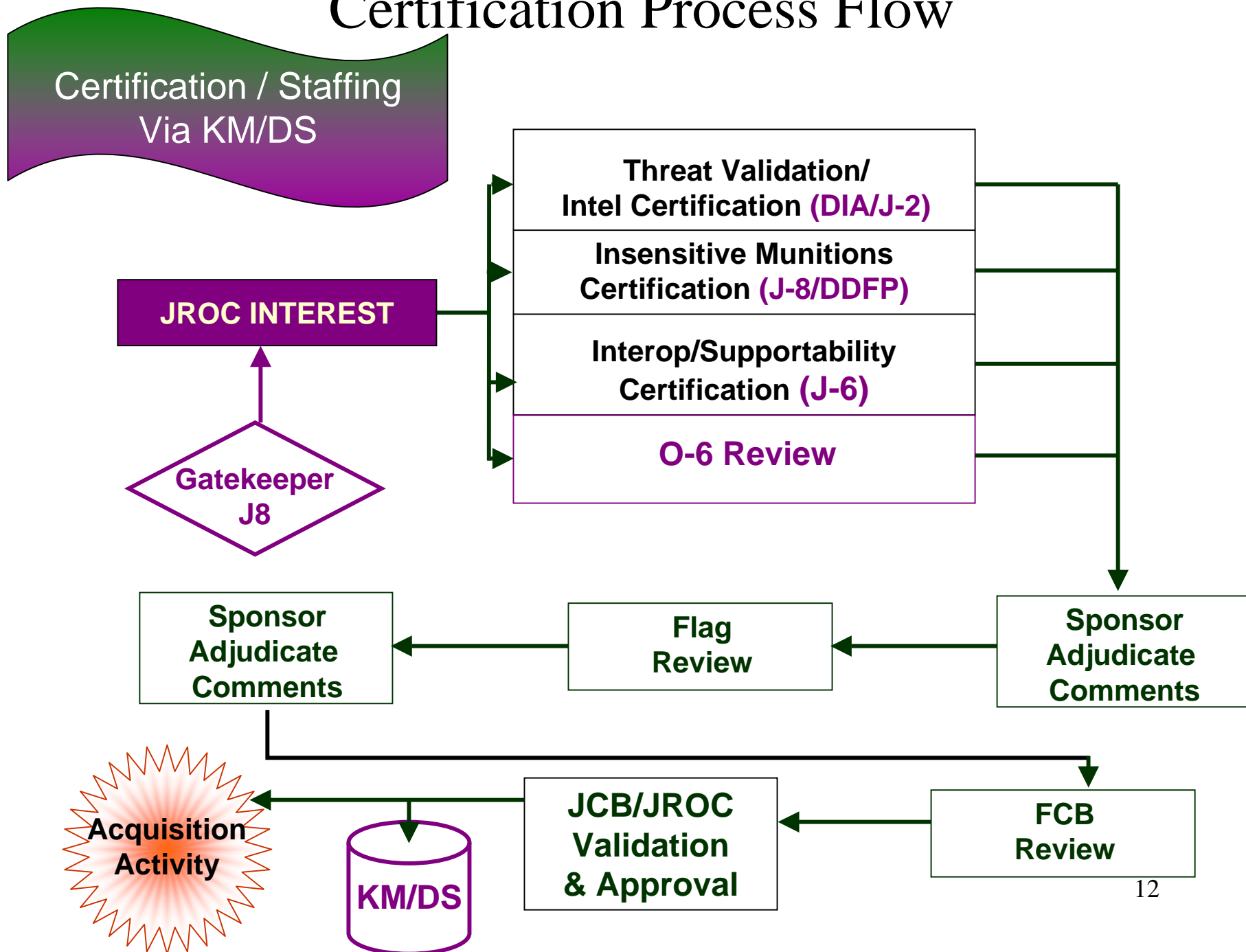
- **Insensitive Munitions (J-8/DDFP)**
- **Threat Validation/Intel (J-2/DIA)**
- **Interoperability/Supportability (J-6)**

**No Joint Safety Oversight**

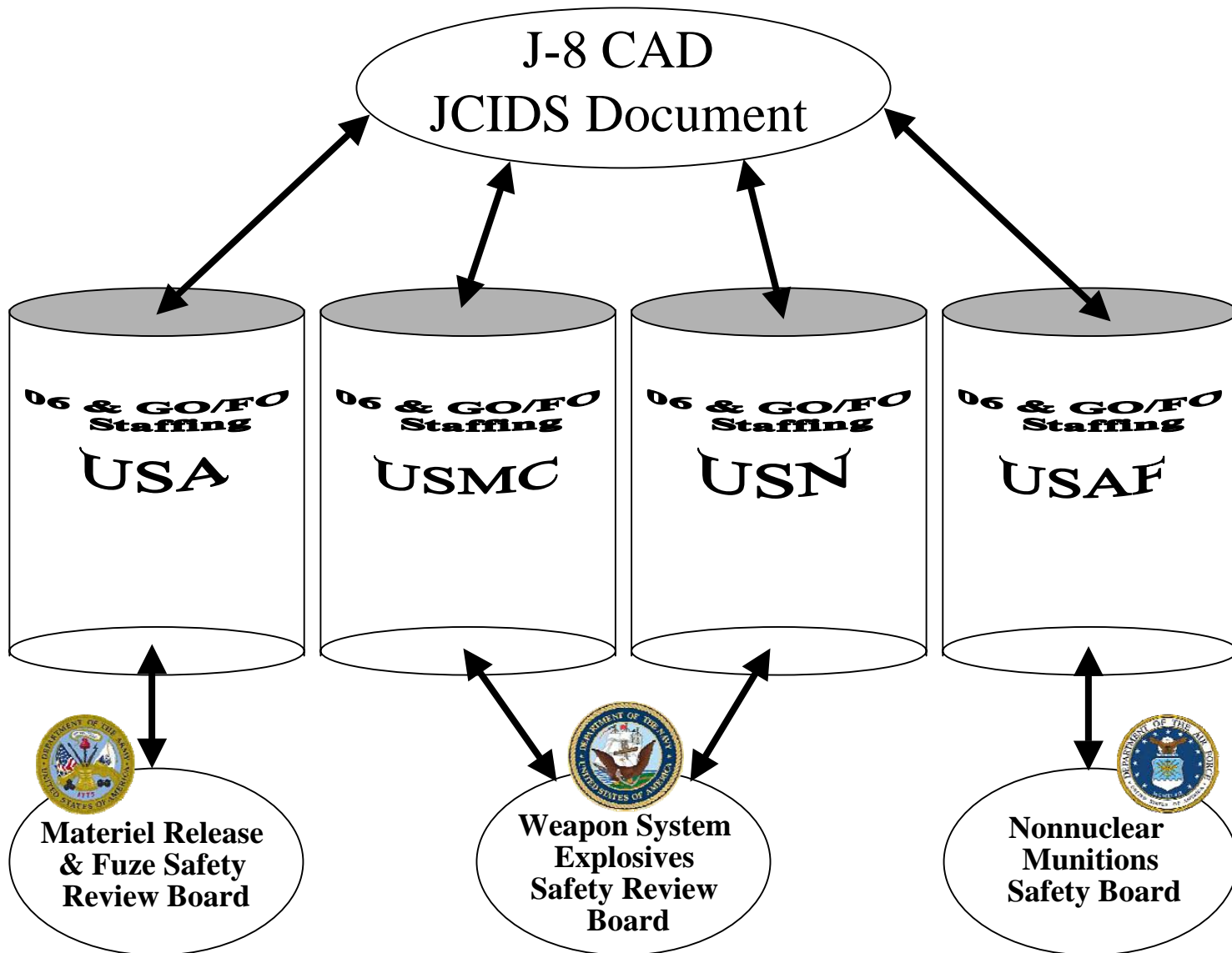
- **Safety Considerations in JCIDS**

- **Weapons in Joint environments may be exposed to hazards against which they were not adequately tested during acquisition**
  - **Each Service maintains its own weapon safety certification process**
  - **Safety certification criteria differ among the Services**
- **Service safety review processes do not necessarily account for the additional and unforeseen risks of the Joint Battlefield**
  - **Collaboration on joint weapon systems is not overseen**

# Certification Process Flow



# *Conventional Staffing as Part of JCIDS*



# **Weapon Safety in Joint Warfighting Environments**

- **Proposal**

- **DDJ-8, for Force Protection verifies weapon safety attributes ID'd in JCIDS documents are adequate for joint warfighting environments**

- **Methodology**

- **JROC establish:**

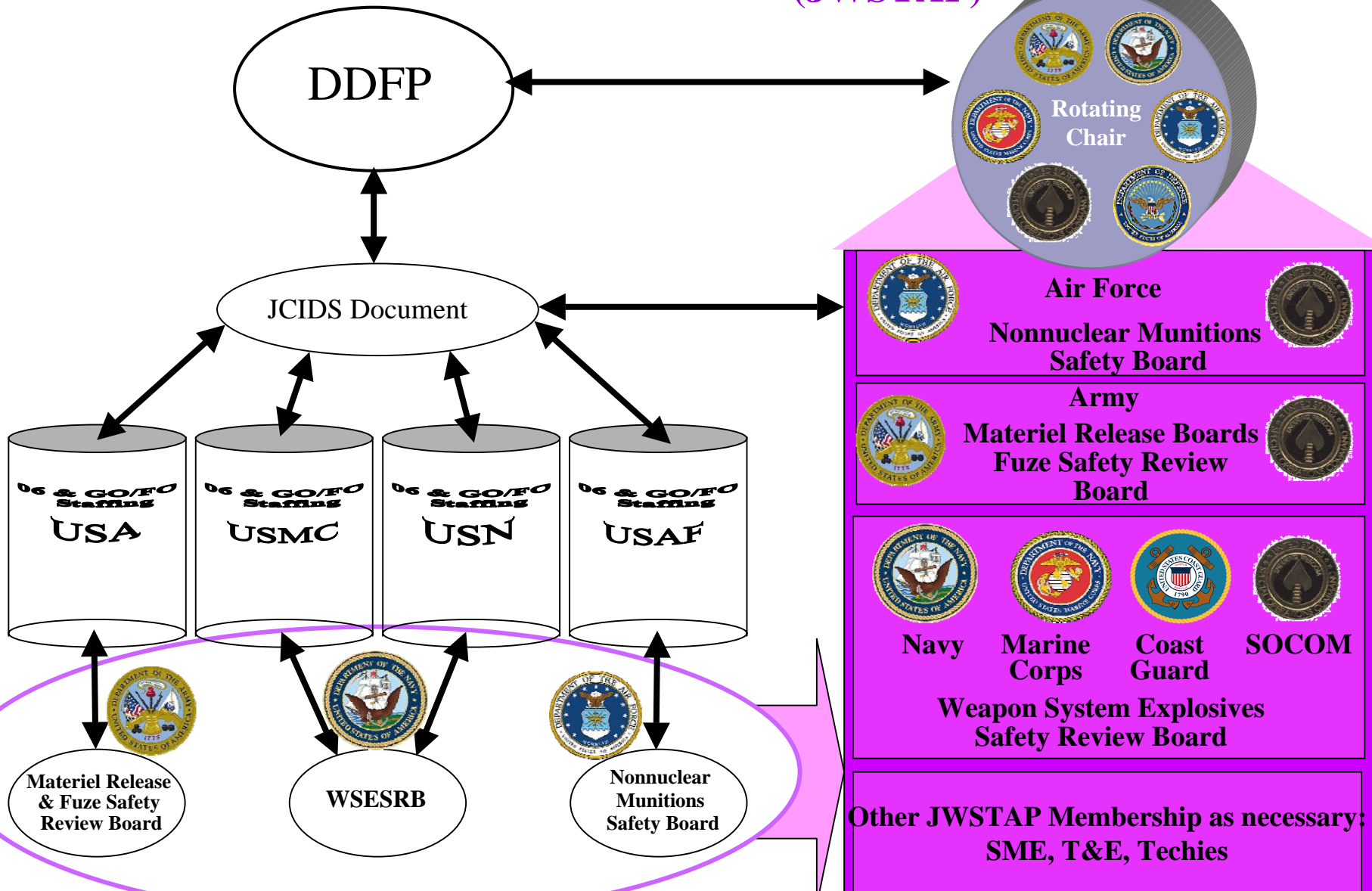
- **Safe Weapons in Joint Warfighting Environments Endorsement Process in CJCS 3170.01 (JCIDS)**
- **Joint Weapons Safety Technical Advisory Panel to advise DDFP**

- **Rationale**

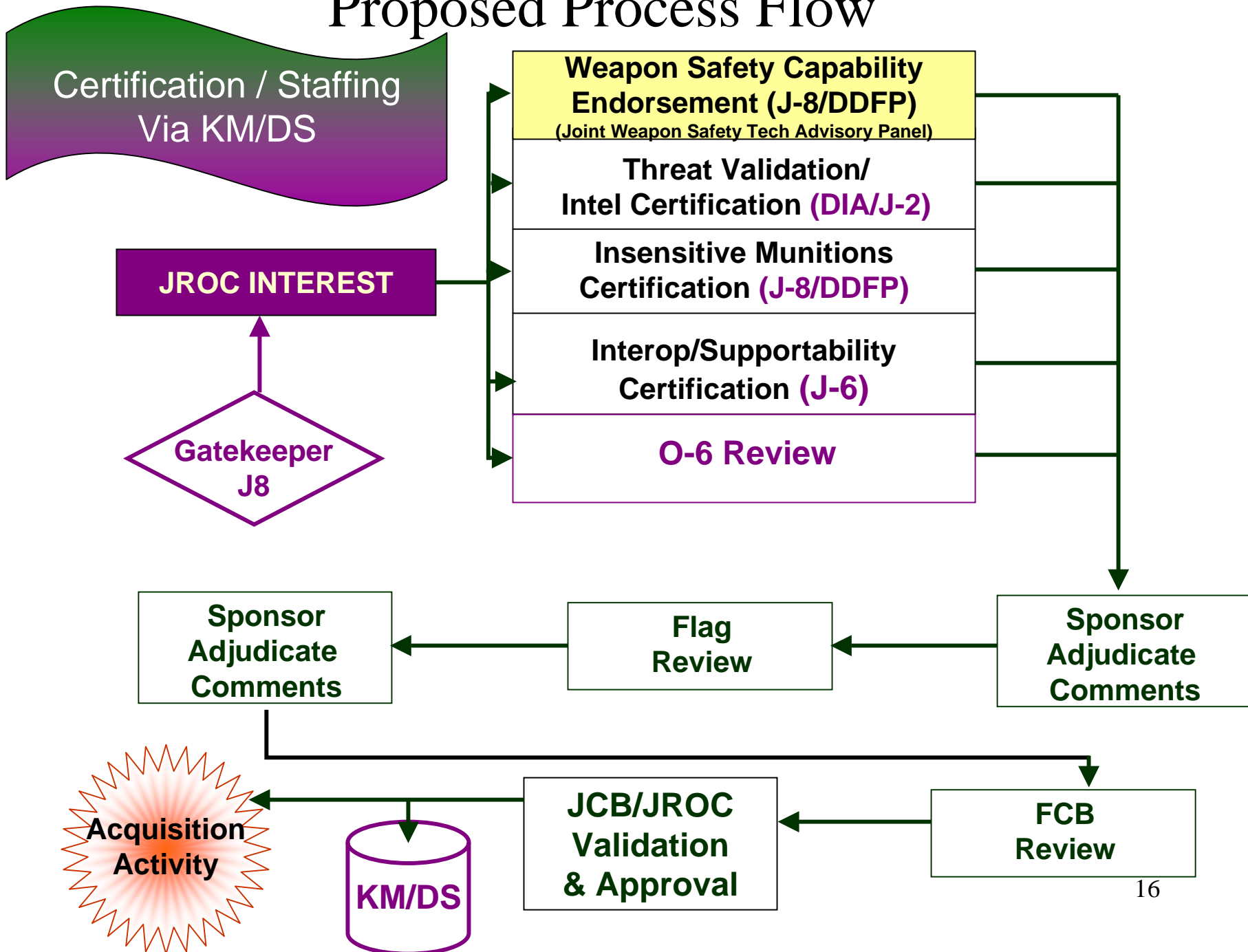
- **All future weapons/weapon systems will be considered Joint unless specifically exempted within the JCIDS process**
- **Complements Service safety and acquisition efforts with joint warfighting capability issues**

# Collaboration Towards Safety Endorsement

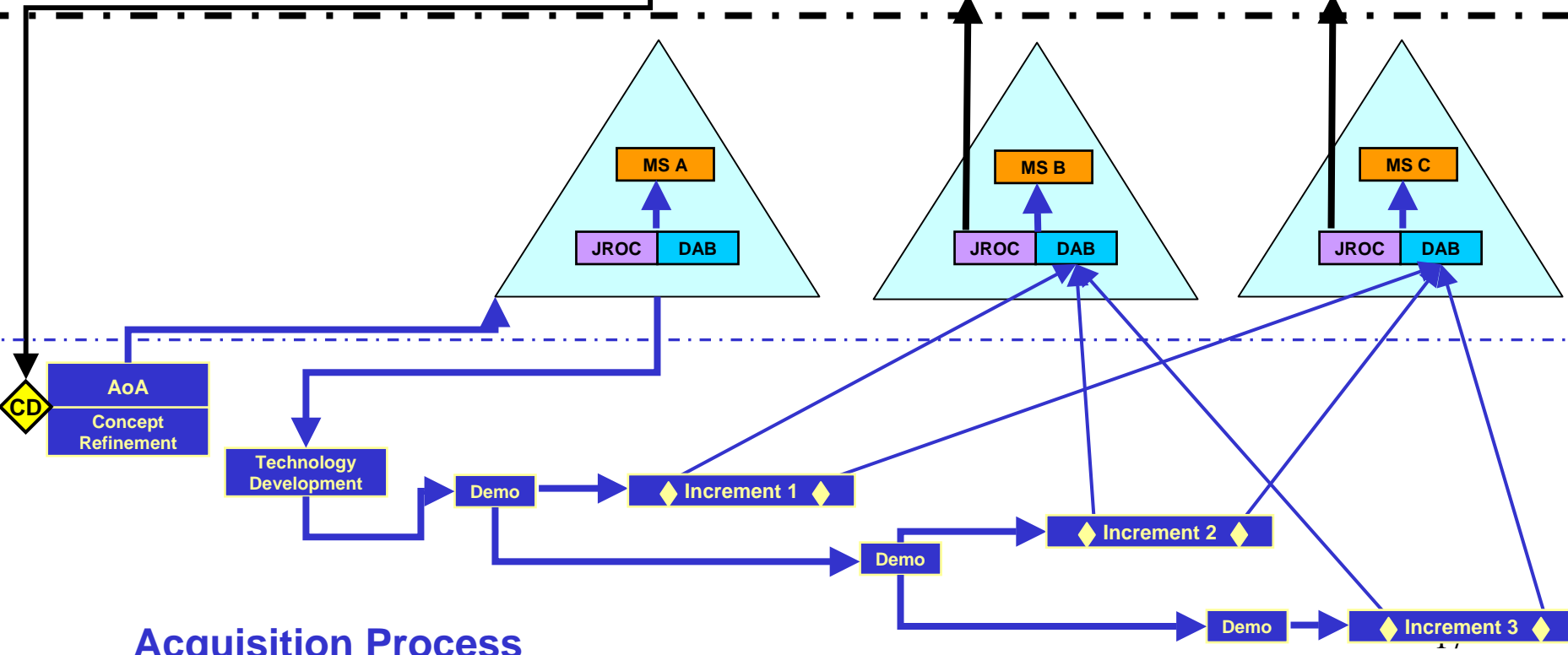
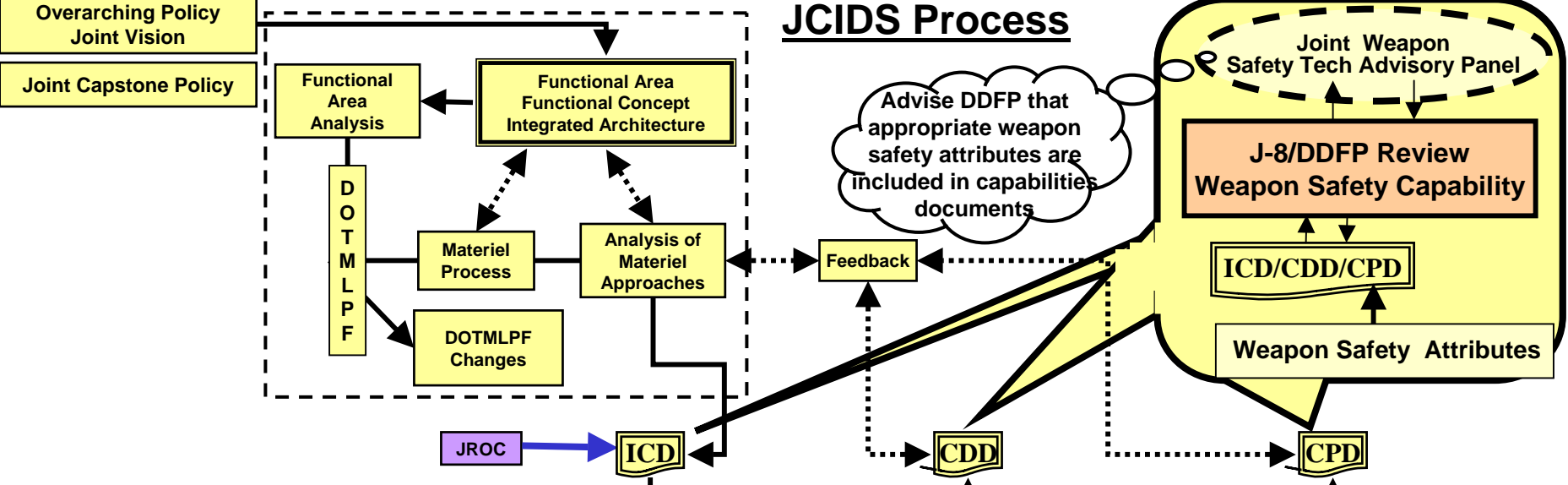
## Joint Weapons Safety Technical Advisory Panel (JWSTAP)



# Proposed Process Flow



# JCIDS Process



# Acquisition Process

# Proposed JWSTAP Membership

(DDFP approves Services' nominees)

- **Warfighters**
  - Joint warfighting perspective
  - Knowledgeable of operational environments
- **Safety Community**
  - Weapon safety expertise
  - Reps from the Services' existing safety review authorities/organizations

# Joint Weapons Safety Technical Advisory Panel

- **Warfighter and Safety representation**

- Service safety experts
- SOCOM
- Joint Staff
- OSD AT&L

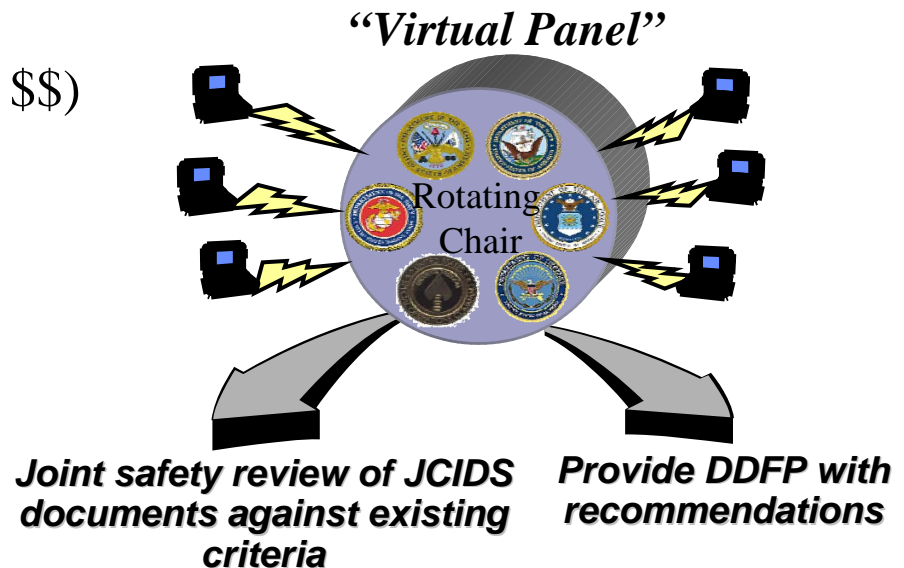
- **Concerns**

- Costly to weapon programs (time & \$\$)
- Certification too restrictive
- Council too authoritative

- **Compromise**

- *Endorsement* vs. Certification
- *Panel* vs. Council

- **JROCM signed** pending Panel charter staffing approval



# Summary

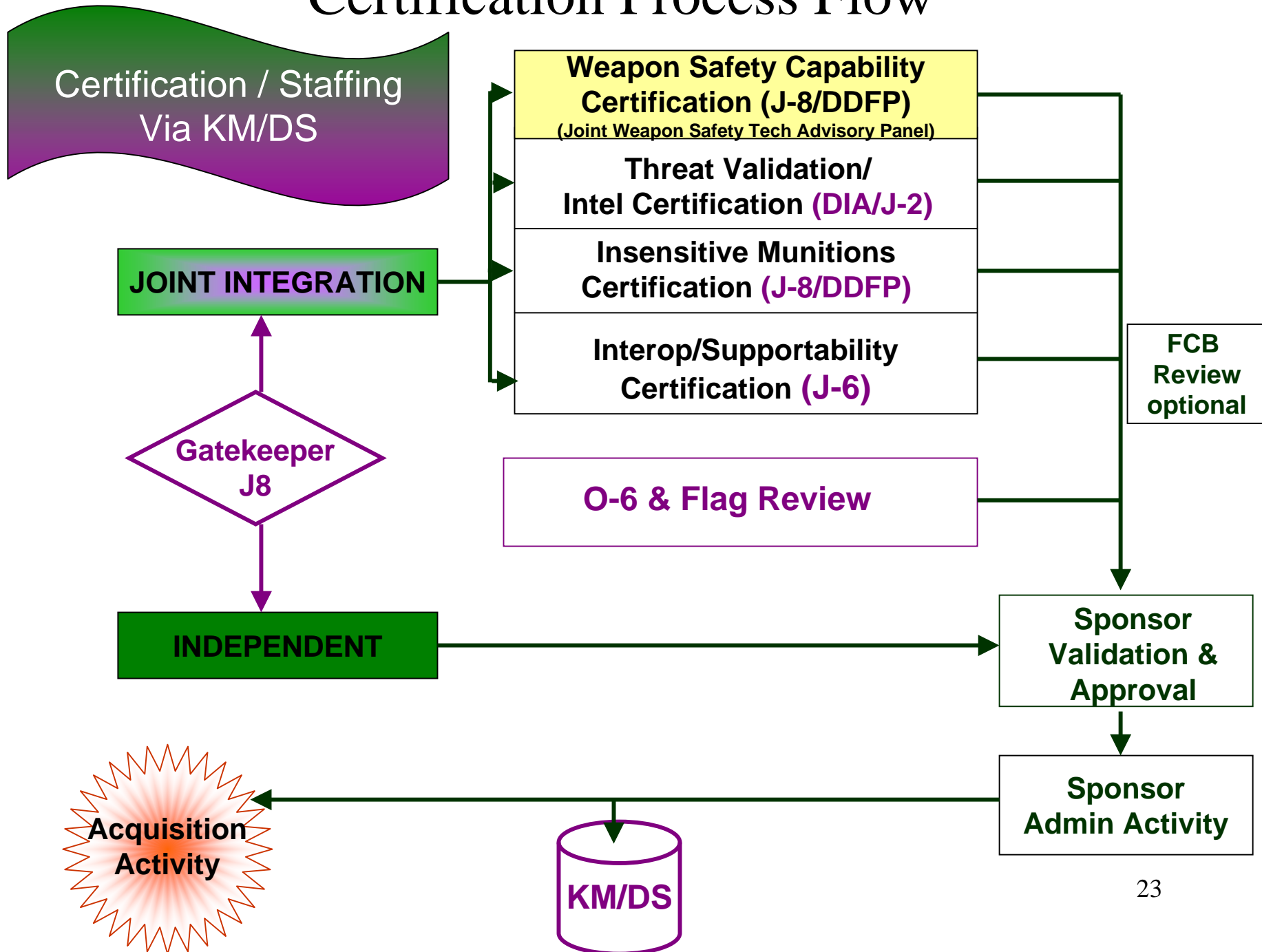
- **Weapon safety capability endorsement process as approved by JROC**
  - Will promote weapon safety in joint warfighting environments
  - Capitalizes on existing processes and Service subject matter experts
  - Supports JCIDS and acquisition policy
  - Establishes JWSTAP, promoting better Joint service weapon safety coordination
- **Implemented as changes to CJCSI 3170.01 and CJCSM 3170.01**

# Backup

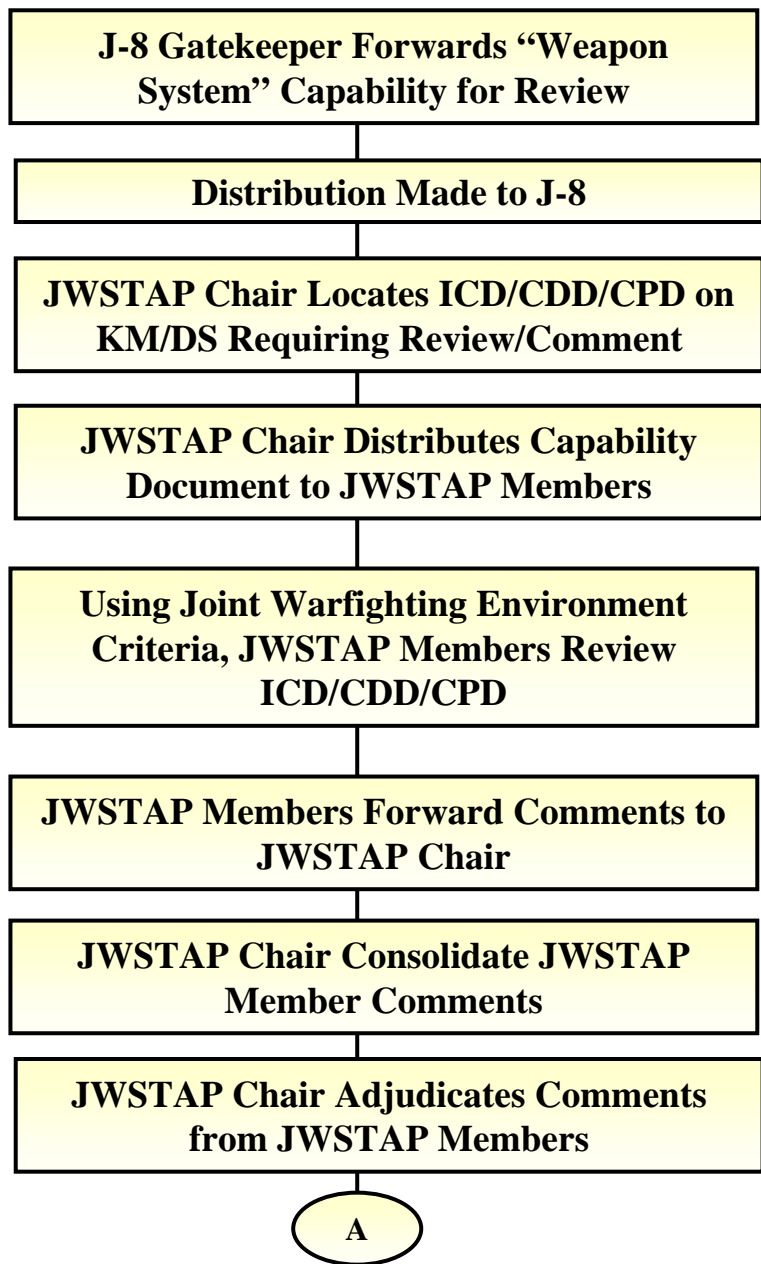
# JCB Direction

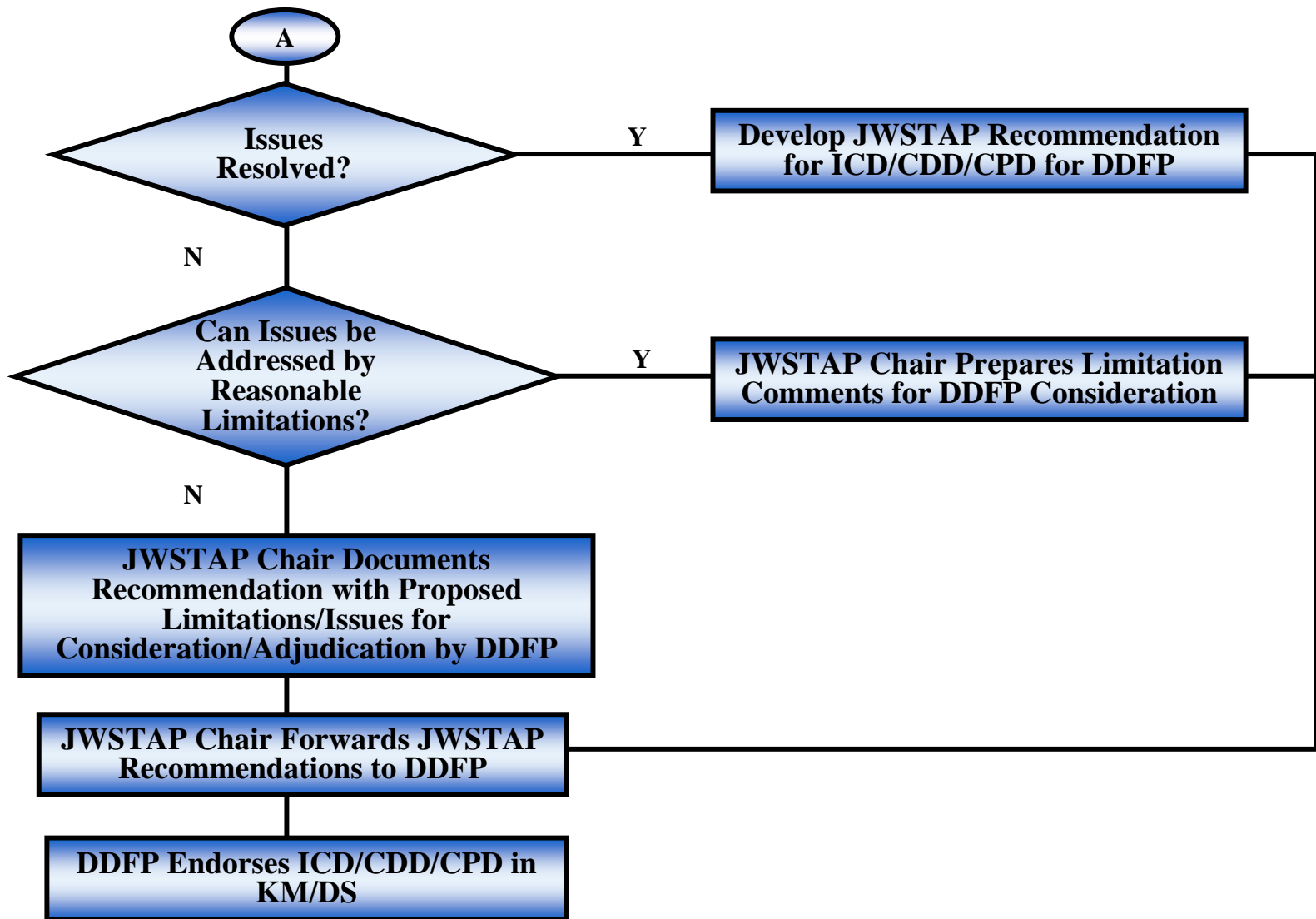
- **Authority**
  - Advisory to the DDFP
  - Not a Risk Acceptance Group
  - Identifies potential Risks/Limitations for Decision Makers to Adjudicate
- **Responsibility**
  - Review Capabilities Contained in ICD/CDD/CPD
  - Identify Risks Associated with Any Shortfalls and Provide Recommendations to the DDFP
  - Develop and Maintain Criteria Necessary for Safe Weapon Integration Into Joint Warfighting Environments.
  - Serve As a Source of Expert Consultation for Program Sponsors and the DDFP

# Certification Process Flow



# JWSTAP PROCESS WITHIN JCIDS





# Two Examples of Environmental Criteria

- Temperature -- Tailored, or default, life-cycle temperature schedules, when evaluated in accordance with MIL-STD-810
- Shock – Tailored, or default, truck, rail, aircraft, helicopter, and ship shock schedules, when evaluated in accordance with MIL-STD-810 and MIL-S-901

**Not Just Worst Case**



# Other Examples of Environmental Criteria

- Temperature
- Shock
- Vibration
- E<sup>3</sup>
- HERO
- Humidity
- Salt Environment
- Pressure
- Etc.



# Potential Examples

- HIMARS
- Thermal Coated Bombs
- 2.75 Inch Rocket System
- Launch Platform Compatibility
- Artillery/Gun Ammunition
- UXO
- Munitions Planned for SEABASING

# EMV Compatibility Issues

- **Aircraft susceptibility issues discovered during EMV testing to the Army/Navy joint operation electromagnetic environment**
  - Engine Instrumentation
  - Avionics Systems
  - Multifunction Display
  - Weather Radar
  - GPS System
  - HF and UHF Communication Set
  - Digital Electronic Control System



# Impediments to Safe Joint Environment

- **Downsizing of the Ordnance Community**
- **Increased Weapon System Complexity**
- **Multiple Weapon Interactions/incompatibilities**
- **Service Unique Design Requirements**
- **Implementation of Evolving and Varied Acquisition Strategies**
- **Budget Pressures**