13120 Joint Service Safety Testing Requirements for Munitions

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ESOH Track 7

Acquisition & Technology Programs TF
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Purpose

Update the Systems Engineering Conference attendees on the Defense Safety Oversight Council (DSOC) Acquisition and Technology Programs Task Force (ATP TF) Initiative to develop munitions safety testing standards, and institutionalize these documents as DoD and NATO requirements in the near term.

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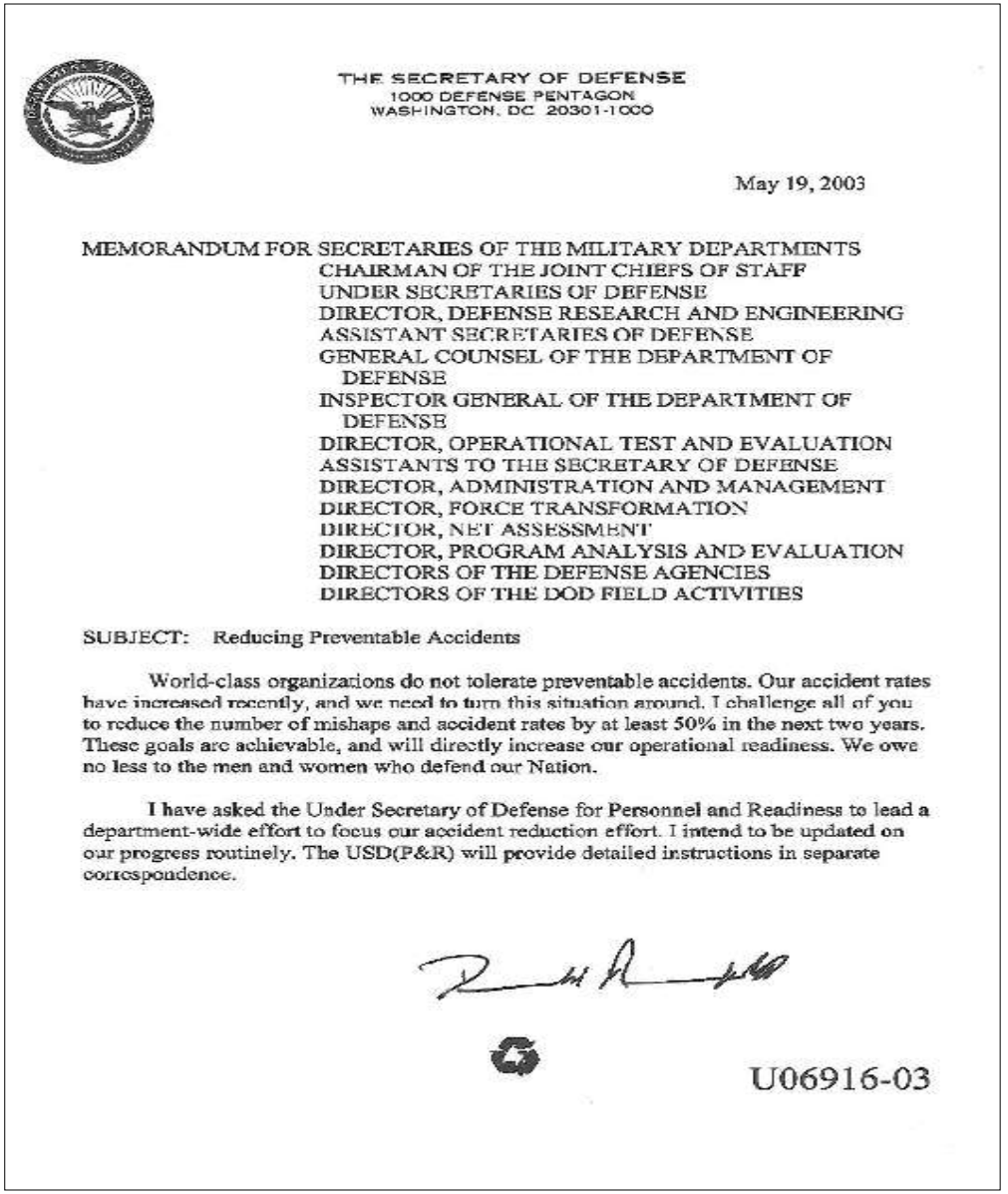
DSOC Established by SECDEF Memo

DSOC Task Forces

- Acquisition and Technology Programs
- Human Systems Integration
- Deployment and Operations
- Enterprise Data and Information
- Installation and Industrial Operations
- Military Training
- Private Motor Vehicle Accident Reduction
- Workers' Injury Compensation



THE SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

May 19, 2003

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE
DIRECTOR, OPERATIONAL TEST AND EVALUATION
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTOR, FORCE TRANSFORMATION
DIRECTOR, NET ASSESSMENT
DIRECTOR, PROGRAM ANALYSIS AND EVALUATION
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTORS OF THE DOD FIELD ACTIVITIES

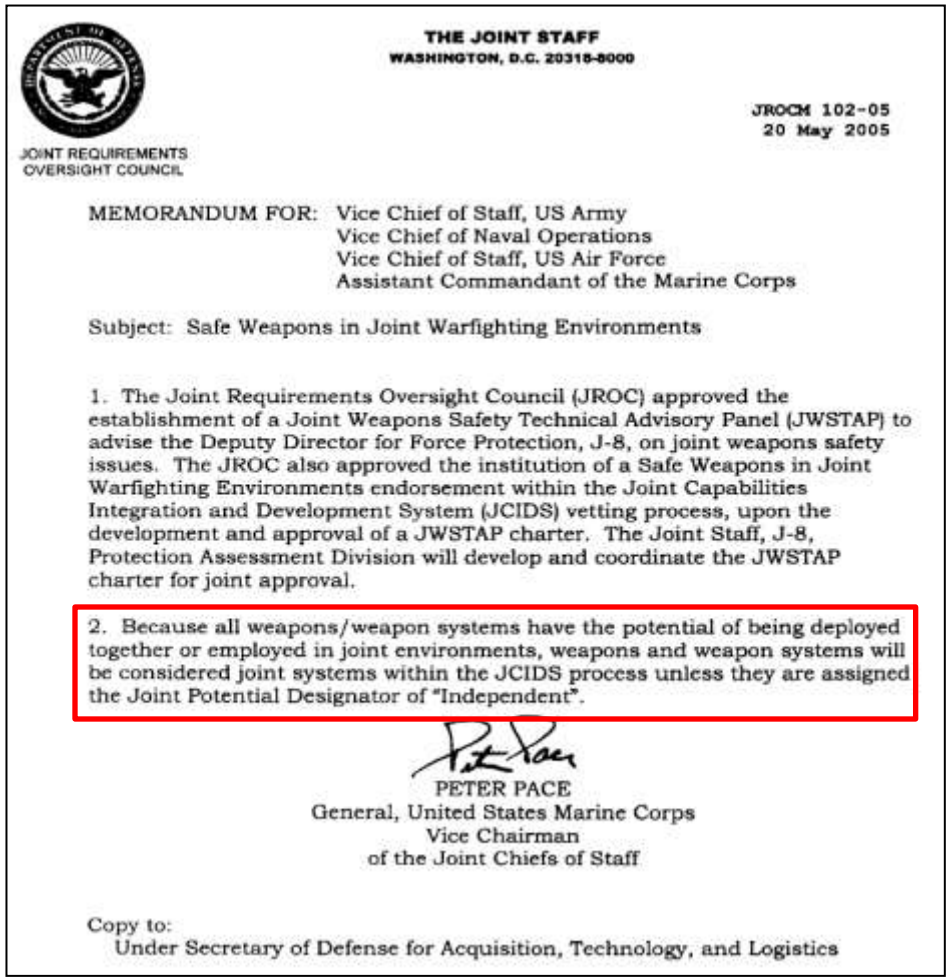
SUBJECT: Reducing Preventable Accidents

World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. I challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years. These goals are achievable, and will directly increase our operational readiness. We owe no less to the men and women who defend our Nation.

I have asked the Under Secretary of Defense for Personnel and Readiness to lead a department-wide effort to focus our accident reduction effort. I intend to be updated on our progress routinely. The USD(P&R) will provide detailed instructions in separate correspondence.

U06916-03

Initiatives Interwoven to Enhance Support to the Joint Warfighting Environment



THE JOINT STAFF
WASHINGTON, D.C. 20318-9000

JOINT REQUIREMENTS OVERSIGHT COUNCIL

JROCM 102-05
20 May 2005

MEMORANDUM FOR: Vice Chief of Staff, US Army
Vice Chief of Naval Operations
Vice Chief of Staff, US Air Force
Assistant Commandant of the Marine Corps

Subject: Safe Weapons in Joint Warfighting Environments

1. The Joint Requirements Oversight Council (JROC) approved the establishment of a Joint Weapons Safety Technical Advisory Panel (JWSTAP) to advise the Deputy Director for Force Protection, J-8, on joint weapons safety issues. The JROC also approved the institution of a Safe Weapons in Joint Warfighting Environments endorsement within the Joint Capabilities Integration and Development System (JCIDS) vetting process, upon the development and approval of a JWSTAP charter. The Joint Staff, J-8, Protection Assessment Division will develop and coordinate the JWSTAP charter for joint approval.

2. Because all weapons/weapon systems have the potential of being deployed together or employed in joint environments, weapons and weapon systems will be considered joint systems within the JCIDS process unless they are assigned the Joint Potential Designator of "Independent".

PETER PACE
General, United States Marine Corps
Vice Chairman
of the Joint Chiefs of Staff

Copy to:
Under Secretary of Defense for Acquisition, Technology, and Logistics

Initiatives

- **Materiel Reviews:** Collaborate on Joint Weapons Safety Reviews
- **Requirements:** Integrate Joint Weapons Safety Requirements in Joint Capabilities Integration and Development System (JCIDS)
- **Testing:** Develop Joint Service Weapons Safety Testing Standards

Expedites safety processes and testing to field weapons to the warfighter faster.

JMST Objective

- JMST originated as JSSTR, and the Objective was -
  - Part 1: implement Report (ATP TF April 04, 2008) recommendations to support the Joint Weapons Safety Technical Advisory Panel (JWSTAP)
  - Part 2: establish Joint Service Safety Tests for the JWSTAP
- ATP TF Report codified an “Index” of common set of system-level safety testing standards for weapon / explosive systems in the JCIDS Manual [Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3170 (online)].
- JMST effort does no harm to the existence of singular tests that are Service-unique that may be included in JCIDS documents assigned Joint Potential Designator “Independent” for Programs below Acquisition Category Level II.
- JMST contributes to a more streamlined Safe Weapons Endorsement advisory function of the JWSTAP by providing members a template for consistency in addressing JCIDS documents under review.
- The success of JMST will be measured by the establishment of common safety testing requirements by all the Services, reducing the time to field weapon/explosive systems, and yielding cost savings through reduced testing by avoiding the duplication of tests

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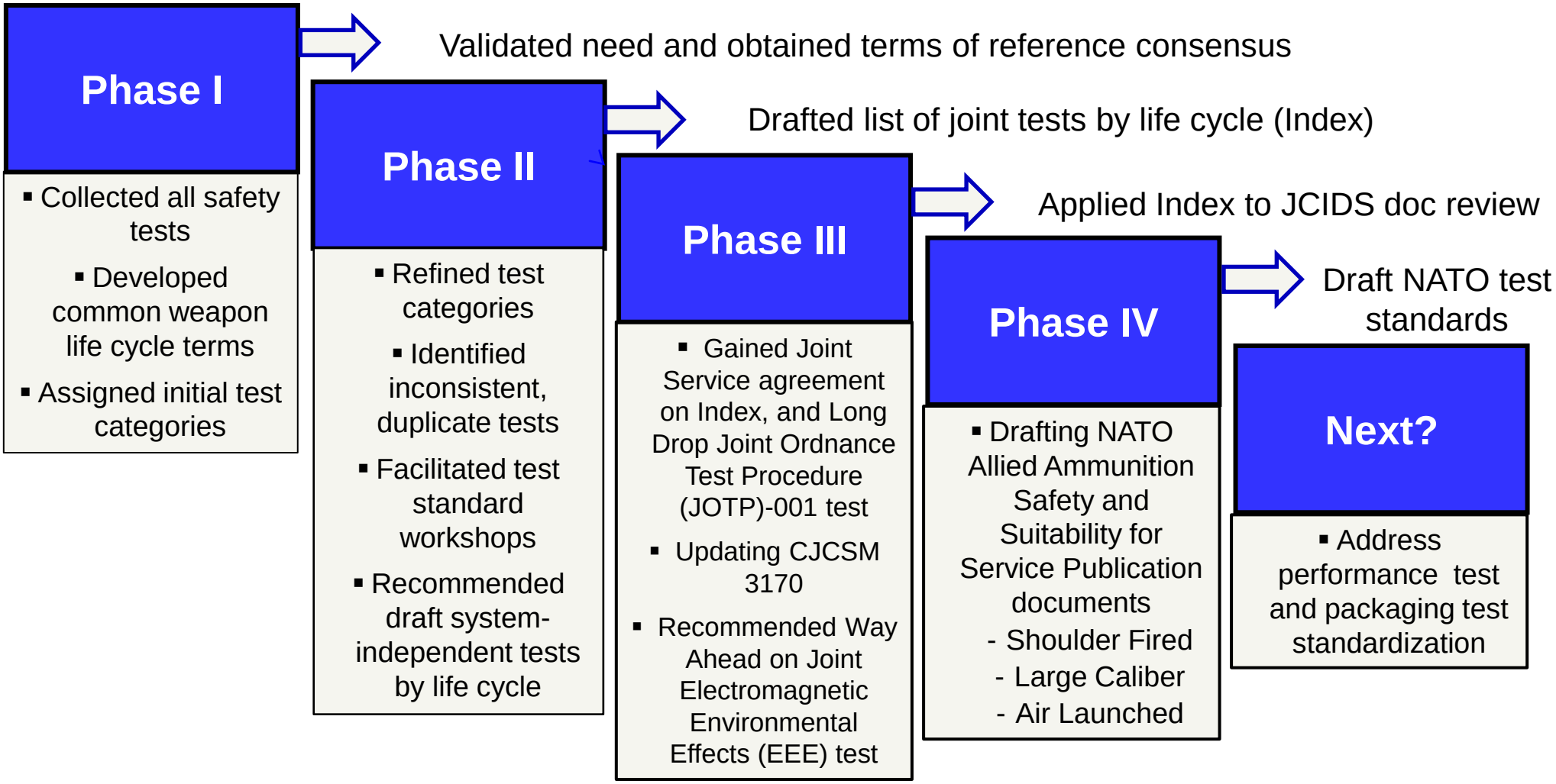
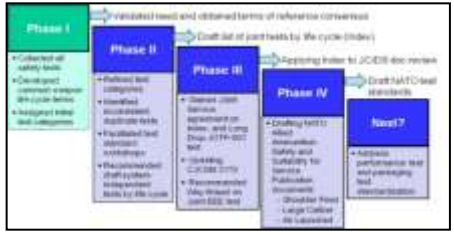
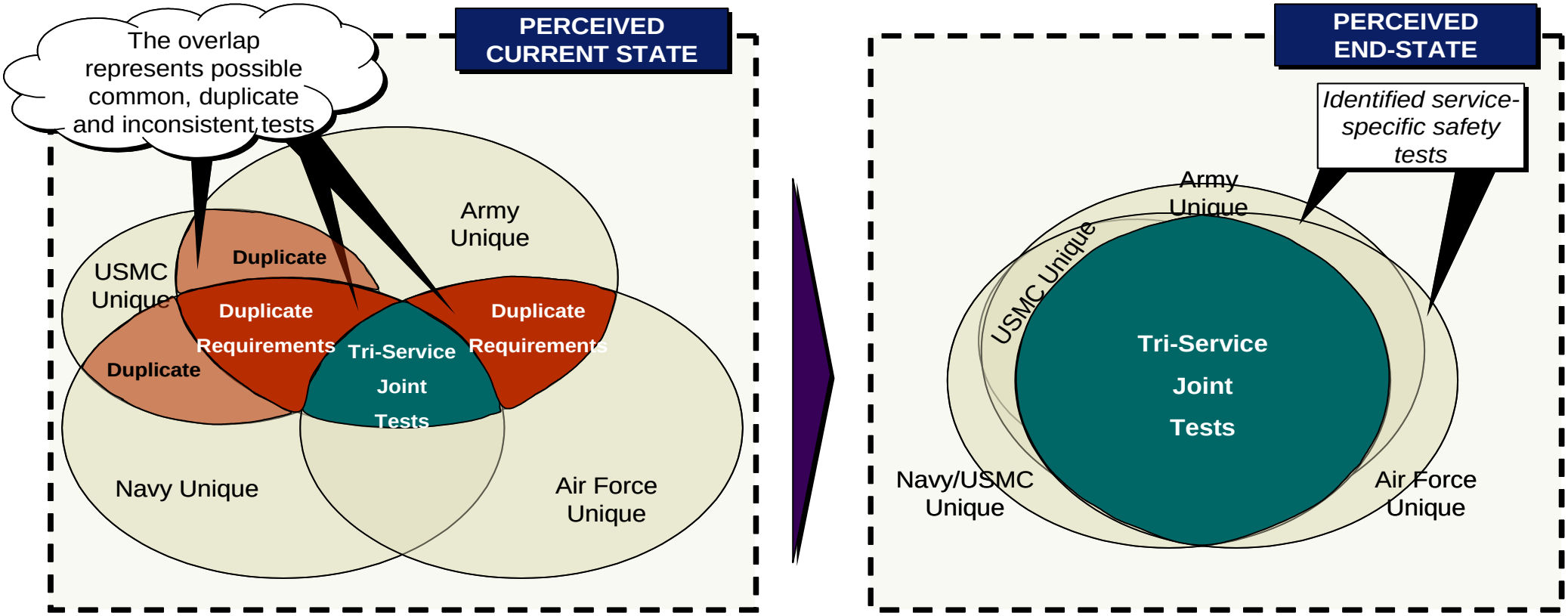
Joint Service Safety Testing Requirements Progression



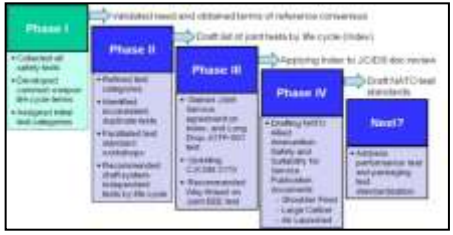
Validated Need for Joint Service Safety Testing Requirements



Given the increasingly joint nature of the current military conflicts, Services are increasingly hindered and delayed by the need to require duplicate and inconsistent safety tests in order to certify munitions for use, and qualify munitions for military transportation to deployed sites.



Obtained Consensus on Terms of Reference for Munitions Life Cycle



CD

A

B

C

Initial Capabilities Document (ICD) → **Capability Development Document (CDD)** → **Capability Production Document (CPD)**

Modes / Joint Warfighting Environments

- ❑ Handling
  - ❑ Forklift
  - ❑ Handcart
  - ❑ Crane
  - ❑ Man Carried
  - ❑ Underway Replenishment (VERTREP, CONREP)
- ❑ Storage
  - ❑ Protected/Environmentally -Controlled Land Based Magazines
  - ❑ Unprotected/Open Land Based Magazines
- ❑ Transportation
  - ❑ Wheeled Land Vehicles
  - ❑ Rail
  - ❑ Fixed Wing Aircraft
  - ❑ Rotary Wing Aircraft
  - ❑ Navy and Army Vessels
  - ❑ Prepo /Merchant Marine/Commercial
  - ❑ Undersea
- ❑ Employment
  - ❑ Tracked Land Vehicles
  - ❑ Wheeled Land Vehicles
  - ❑ Fixed Wing Aircraft
  - ❑ Rotary Wing Aircraft
  - ❑ Operational Navy Vessels
  - ❑ Undersea
  - ❑ Man Carried

Drives System Independent Tests

System Independent and Dependent Tests

1. **Joint** Shock Test
2. **Joint** Vibration Test
3. **Joint** Temperature Test
4. **Joint** EEE Test
5. …

Drives System Dependent Tests

- ❑ Generic Subsystem
- ❑ System -Specific
- ❑ Ammunition
- ❑ Cannon
- ❑ Electric Initiators
- ❑ Explosives
- ❑ Fuze
- ❑ Power Sources
- ❑ Rocket Motors
- ❑ Software
- ❑ Submunitions
- ❑ Unmanned Targets

Safety test results inform the CPD

Phase II focused on identifying the system independent tests for each mode. Modes are defined in the ICD and CDD. The CDD and CPD reference specific Safety test requirements.

Phase III work focused on harmonizing service safety tests.

Designed Index of Joint Warfighting Modes for Munitions Safety Tests by Life Cycle

Handling	
Crane	STANAG 4375, Para 8a (Shock-Mechanical); MIL-STD-648, Test 5.8.3 (Lifting)
Man Carried	MIL-STD-331, Test F1.2 (Personnel-borne ESD) (EEE)
VERTREP	MIL-STD-331, Test F1.2 (Helicopter-borne ESD) (EEE); STANAG 4375, Para 8a (Shock-Mechanical); MIL-STD-648, Test 5.8.3 (Lifting)
Storage	
Protected/Climate--controlled Land-based Magazine	MIL-STD-2105C, Test 5.1.1 (T&H); MIL-STD-2105C, Test 5.1.2 (Vibration); MIL-STD-2105C, Test 5.1.3 (T&H); MIL-STD-648, Test 5.7 (Impact)
Unprotected/Open Land-based Magazine	MIL-STD-464, Test No. 5.8.3, HERO (EEE); MIL-STD-331, Test F1.2 (Lightning Strike) (EEE); MIL-STD-2105C, Test 5.1.1 (T&H); MIL-STD-2105C, Test 5.1.2 (Vibration); MIL-STD-2105C, Test 5.1.3 (T&H)
Transportation	
Wheeled Land Vehicle	MIL-STD-464, Test No. 5.8.3, HERO (EEE); MIL-STD-648, Test 5.11 (Storage)
Rail	MIL-STD-648, Test 5.2.7 & Appendix L (smaller items) OR Appendix M (larger items) (Impact); MIL-STD-648, Test 5.11 (Storage)
Fixed Wing Aircraft (Transport)	MIL-STD-464, Test No. 5.8.3, HERO (EEE); MIL-STD-648, Test 5.8 (Tiedown); MIL-STD-810, Method 500.4 (Pressure-Low)
Rotary Winged Aircraft	MIL-STD-464, Test No. 5.8.3, HERO (EEE); MIL-STD-331, Test F1.2 (Helicopter-borne ESD) (EEE); MIL-STD-648, Test 5.8 (Tiedown) ; MIL-STD-810, Method 500.4 (Pressure-Low)
Navy and Army Vessels	MIL-STD-464, Test No. 5.8.3 (EEE); MIL-S-901, Test 3.1.2a/b/c (Shock); STANAG 4375, Test 8a (Shock-Mechanical); MIL-STD-648, Test 5.8 (Tiedown)
Prepo/Merchant Marine/Commercial	MIL-STD-648, Test 5.8 (Tiedown); STANAG 4375, Test 8a (Shock-Mechanical)
Undersea	ITOP 4-2-601, Test 4.2 (Shock-Mechanical); MIL-STD-648, Test 5.8 (Tiedown)
Employment	
Tracked Land Vehicle	MIL-STD-464, Test 5.8.3, HERO (EEE); ITOP 4-2-601, Test 4.2 (Shock-Mechanical); ITOP 4-2-504(2), Test 4.8.9 (Function); MIL-STD-810, Method 514 (Vibration)
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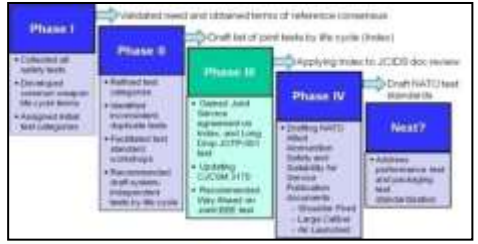
Rotary Winged Aircraft	MIL-STD-464, Test No. 5.8.3, HERO (EEE); MIL-STD-331, Test F1.2 (Helicopter-borne ESD, Personnel-borne ESD and Lightning Strike) (EEE); MIL-STD-810, Method 500.4 (Pressure-Low), Method 514 (Vibration)
Operational Navy Vessel	MIL-STD-464, Test No. 5.8.3, HERO (EEE); MIL-S-901, Test 3.1.2a/b/c (Shock); STANAG 4375, Test 8a (Shock-Mechanical); MIL-STD-810, Method 528 (Mechanical-Vibration)
Undersea	MIL-S-901, Test 3.1.2a/b/c (Shock); ITOP 4-2-601, Test 4.2 (Mechanical-Shock)
Man Carried	MIL-STD-331, Test F1.2 (Personnel-borne ESD) (EEE)

Obtained Consensus on Munitions Safety Tests by Joint Warfighting Modes: "Index"



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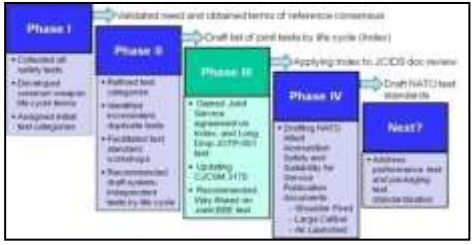
Applying the "Index" to JCIDS Document Review



Process begins: DDFP, J-8 notifies Chair, JWSTAP

Chair notifies membership, with a due date for response

JWSTAP members review & submit comments to Chair

Chair reviews comments / revised documents & issues WSE recommendation, with CRM

Recommendation to grant a WSE

No

Yes

DDFP, J-8 Issues final WSE

Sponsor

Sponsor

DDFP, J-8

Adjudication

Revised JCIDS document

21 Days
JWSTAP Review Phase

45 Days
Adjudication Phase

Time 0

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Safety Test Development Methodology

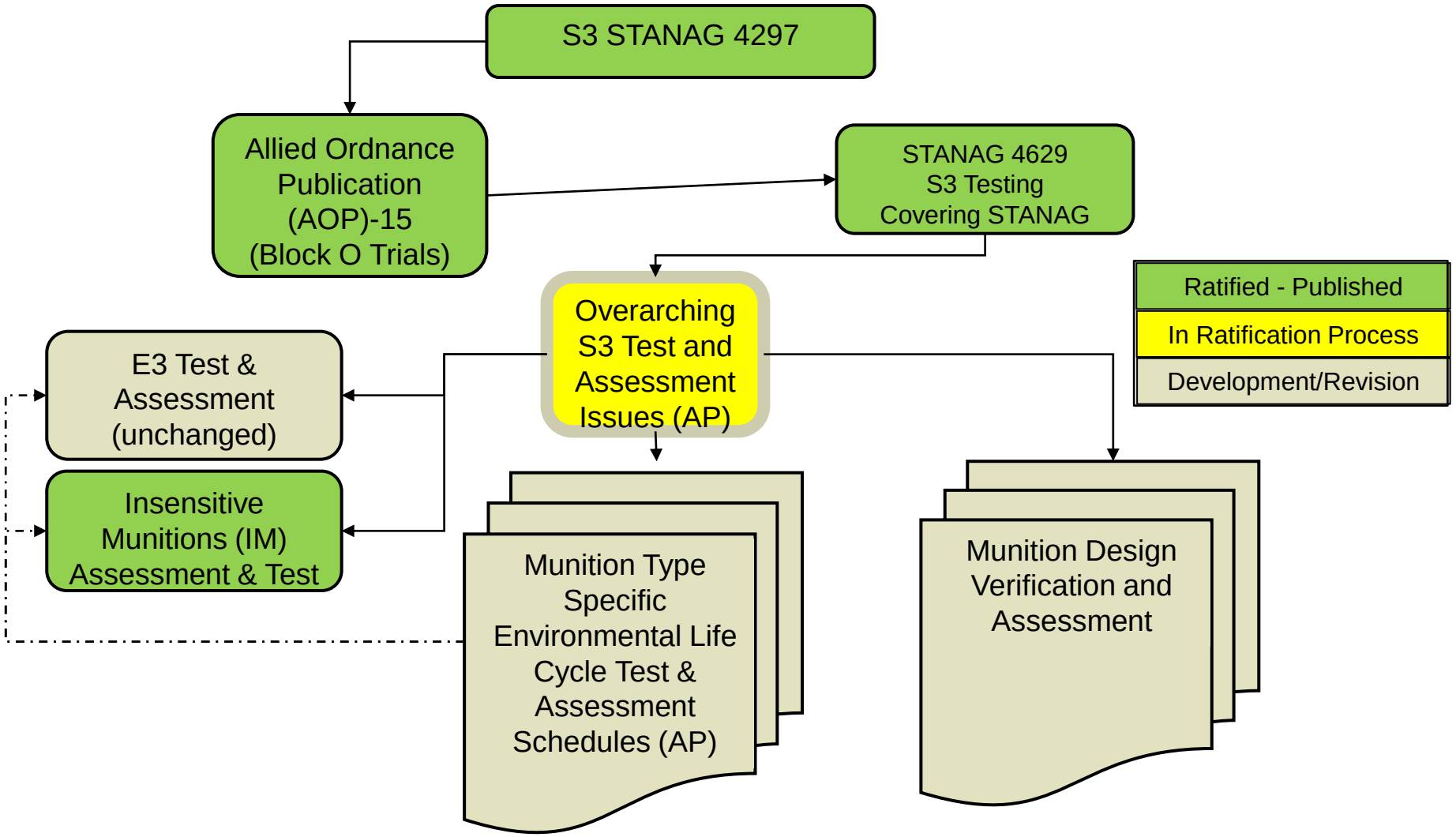
- Conduct initial analysis and detailed comparisons for purpose, applicability, item configuration, preconditioning requirements, conditions, pass/fail criteria, sample size.
- Pre-Workshop activity captures common testing objectives, documents duplicative testing and validates technical rationale for any differences.
- Conduct Workshops to resolve issues and create working draft test document by key Subject Matter Experts (SME).
- Post-Workshop activity builds on consensus, is characterized by full transparency and collaboration, and expands the participation of stakeholders to the broader test community.
- Documents are formatted and produced in accordance with S3AP (Safety and Suitability for Service Allied Publication) of STANAG 4629 for AC326 approval.

Safety Test Draft Document Development

- Pre-Workshop Test document development approach
  - Validate data collected during Joint Service Safety Testing (JSST) Study Phase II
  - Continue Stakeholder interviews and surveys
  - Identify test commonalities, discrepancies and issues for resolution
  - Conduct virtual workshops using groups collaborative tools and other methods
- Workshops conducted with key SMEs from the Testing Community representing the Joint Staff, Combatant Commands, Services, Department of Defense Explosives Safety Board, OSD (AT&L) and other JWSTAP members
  - Long Drop (40 ft/12m) Test 19-20 May 09 in Arlington, VA
  - EEE Testing 01-02 Dec 09 in Dahlgren, VA
  - S3 Large Caliber Ammo Test Document 12-13 Apr 10 in Arlington, VA
  - S3 Air Launched Missile/Rocket Test Document 14-16 Sep 10 in Aberdeen, MD
  - S3 Surface Launched Missile/Rocket Test Document 20-23 Sep 11 in Arlington, VA

DoD and NATO Standardization

NATO AC326 – S3 Overarching Document Structure



JMST: Drafting Joint Standards for Munitions Safety Testing

System Independent

Warfighter Mode Specific: Storage, Handling, Transportation and Employment by platform family (Submode)

System Dependent

Munition Specific: STANAG 4297 – AOP 15 & STANAG 4629 - Overarching S3AP

- Ammunition (A)
  - Large Caliber (A-LC)
  - Medium Caliber (A-MC)
  - Small Caliber (A-SC)
  - Non-Lethal (A-NL)
  - Man Emplaced Demolition (A-MC)
- Missile/Rocket (MR)
  - Air Launched (MR-AL)
  - Surface Launched (MR-SL)
  - Man-Carried (MR-MC)
- Explosive Ancillary (D)
  - Pyrotechnics (D-PF)
  - Fuze and Ignition Systems (D-FI)
  - Underwater (D-UW)

System Level Design Verification

- Integrated Fuze

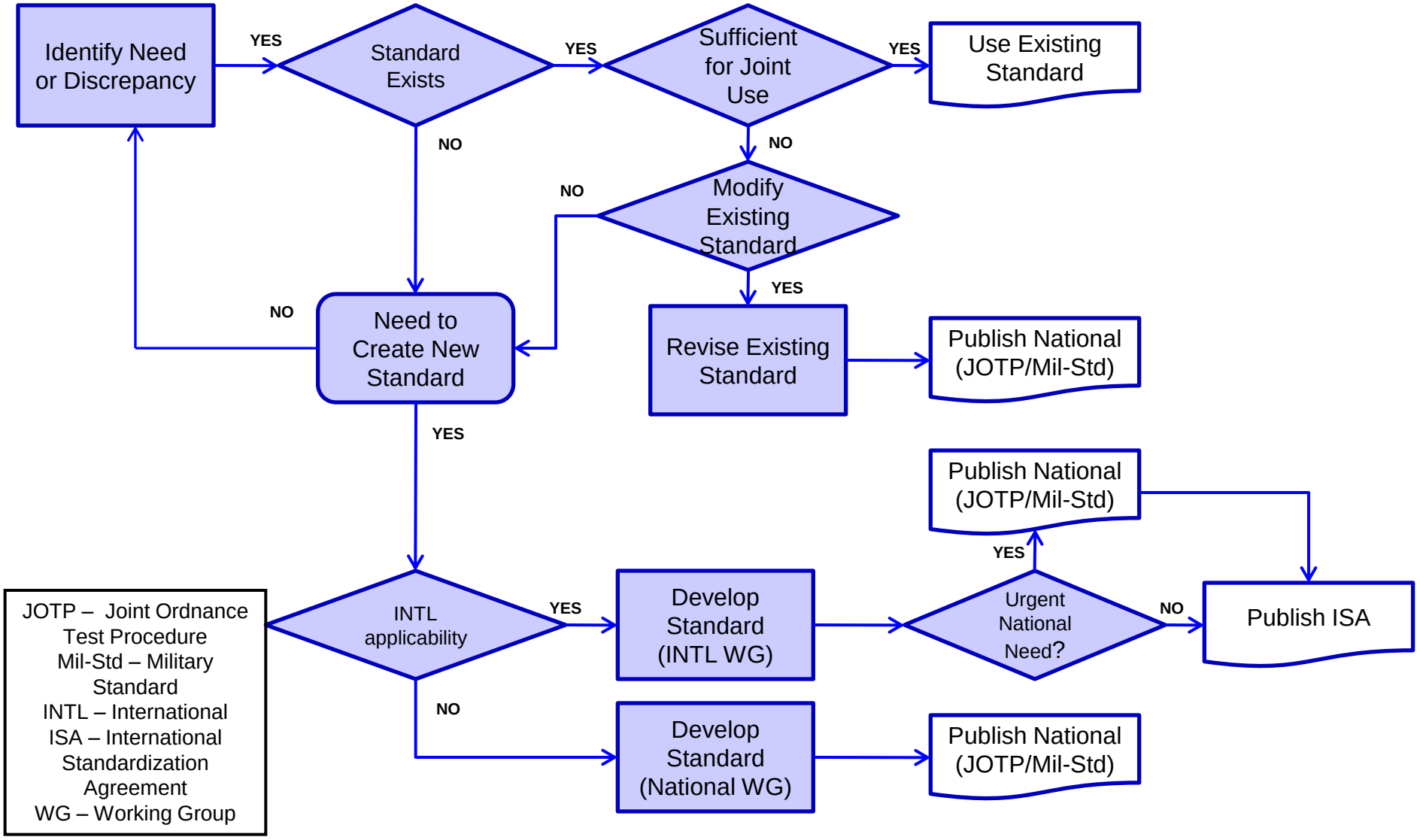
Support

- Guidance (G)
- Single Environment (G-SE)
- Glossary (G-GY)

Vulnerabilities

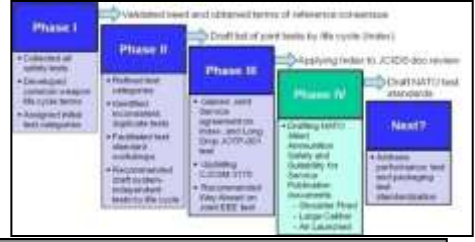
- IM (IM)
- E3 (E3)
- Software (SW)

Standardization Process

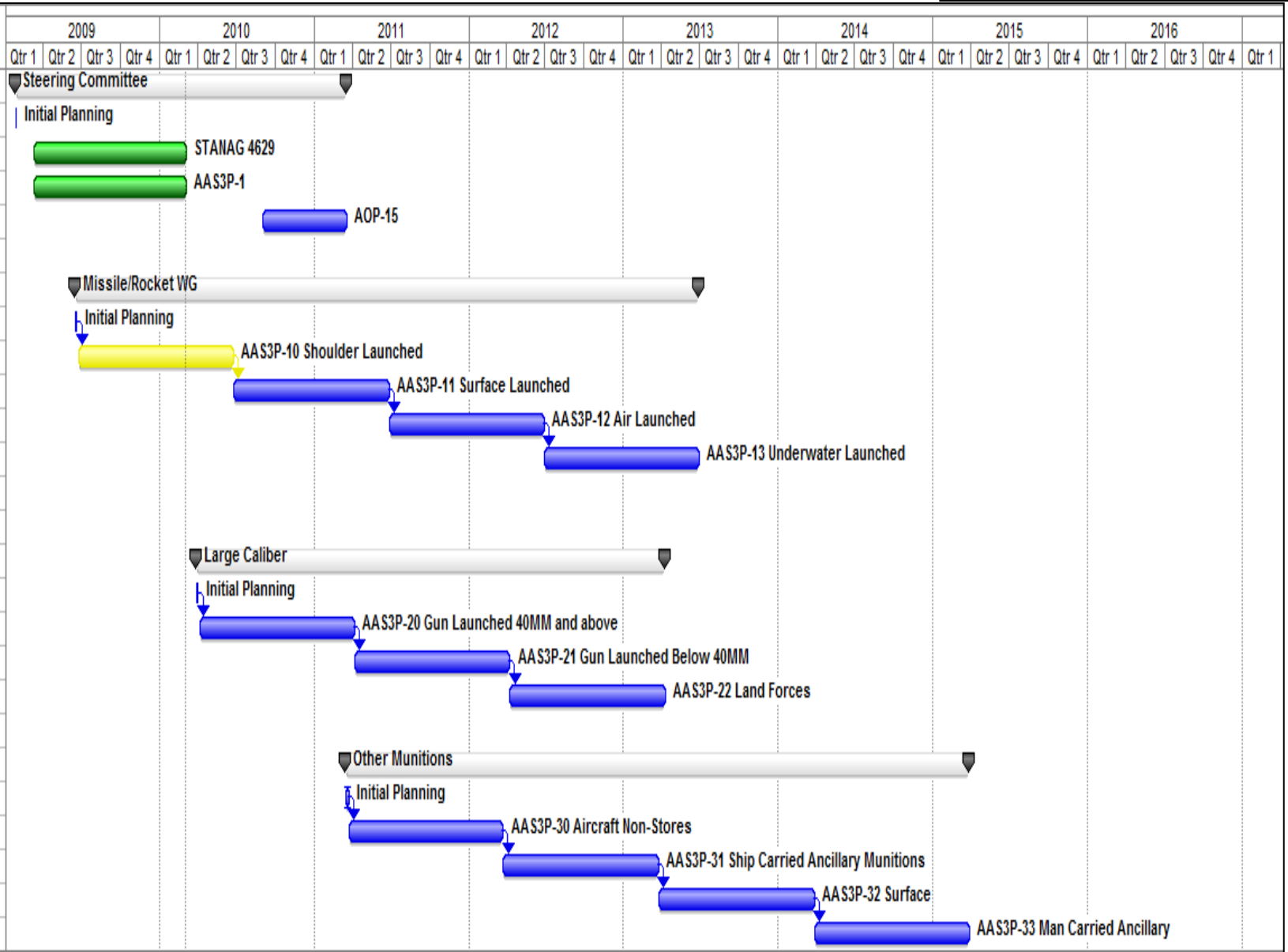


Flow point sequence is based upon the need identified

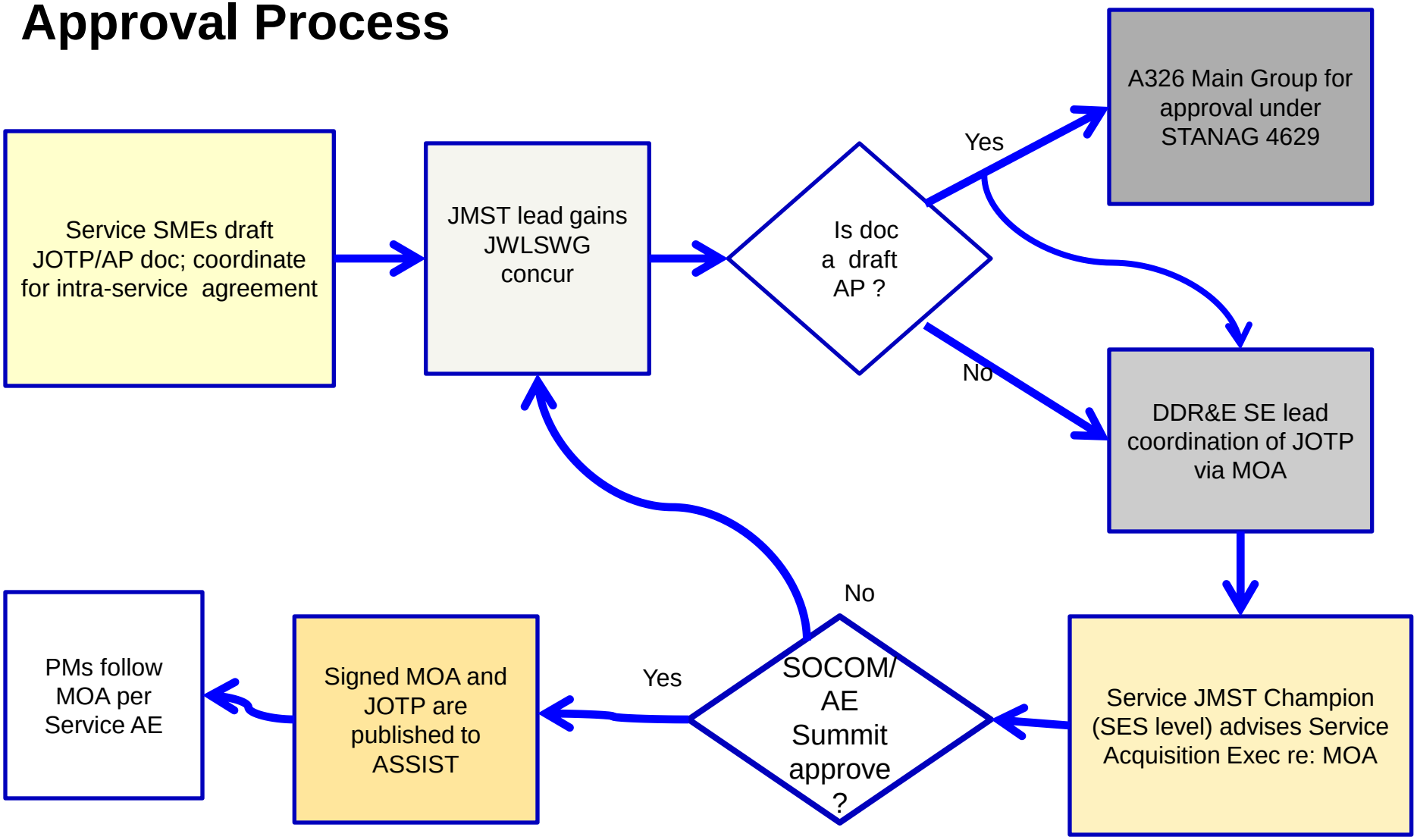
JMST Document Development



ID	Task Name
1	Steering Committee
2	Initial Planning
3	STANAG 4629
4	AAS3P-1
5	AOP-15
6	
7	Missile/Rocket WG
8	Initial Planning
9	AAS3P-10 Shoulder Launched
10	AAS3P-11 Surface Launched
11	AAS3P-12 Air Launched
12	AAS3P-13 Underwater Launched
13	
14	
15	Large Caliber
16	Initial Planning
17	AAS3P-20 Gun Launched 40MM and above
18	AAS3P-21 Gun Launched Below 40MM
19	AAS3P-22 Land Forces
20	
21	Other Munitions
22	Initial Planning
23	AAS3P-30 Aircraft Non-Stores
24	AAS3P-31 Ship Carried Ancillary Munitions
25	AAS3P-32 Surface
26	AAS3P-33 Man Carried Ancillary



JMST Memorandum Of Agreement (MOA) Approval Process



JOTP/AP – Joint Ordnance Test Procedure/Allied Ammunition S3 Publication
JWLSWG – Joint Weapons and Laser Safety Working Group (J8 JS/JROC)

Current Document Status

- **STANAG 4629** – *Safety for Service Assessment Testing of Non-Nuclear Munitions (US)*
  - US ratified 15 Apr 2011. completed.

- **AAS3P1** – *Allied Ammunition Safety And Suitability For Service Assessment Testing Publication – Guidance (UK)*
  - AP-001 completed. Will be revised on a routine basis by Main Group to take into account new munitions specific documents. JOTP-001 in staffing as attachment to MOA (#1).

- **AAS3P10** – *Shoulder Launched Munitions (US)*
  - AP-10 approved by Main Group Aug 2011, completed. JOTP-010 in staffing as attachment to MOA (#1).

- **AAS3P12** – *Air Launched Missiles/Rockets (UK)*
  - Final draft at 99%; AP-12 to be sent to SG3 Jan 2012 for approval. (MOA #2)

- **AAS3P20** – *Large Caliber Munitions (US)*
  - Completed comment adjudication for final draft, at 80%; AP-20 to be sent to SG3 March 2012 for approval. (MOA #3)

Current Workshop Status

- **JOTP-EEE –** *Electromagnetic Environmental Effects*
  - Workshop I March 2011; Workshop II Dec 2011; draft at 45 %; anticipate completion Jan 2012 for final comment adjudication and forwarding to JWLSWG for approval April 2012.

- **AAS3P11** – *Surface Launched Missiles/Rockets (US – Army)*
  - Kickoff conducted Sep 2011; Workshop Spring 2012 for 70 % draft; anticipate completion and forwarding to SG3 for approval Sep 2012.

- **AAS3P21** – *Small Caliber Munitions (Netherlands)*
  - In coordination w/ AC225; Kickoff Jan 2012 Crystal City, VA; Workshop Spring 2012 for 50% draft; anticipate completion and forwarding to SG3 for approval Dec 2012.

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Way Ahead

- Next meeting 27 thru 30 Mar 2012 S3 WG (Western Europe – TBD); Workshop for:
  - AAS3P-11 *Surface Launched Missiles/Rockets* (i.e., GMLRS, Rapier, TOW)
  - AAS3P-21 *Small Caliber Munitions* (i.e., small arms, < 40 mm)

- Spring 2012 Kickoff for Fall 2012 program of work:
  - AAS3P-13 *Under Water/Above Water Launched Munitions* (i.e., torpedoes, depth charges, and sea mines) *(US – Navy)*
  - AAS3P-22 *Land Forces Munitions* (i.e., mortars and grenades) *(UK ?)*

Conclusion

We have explored the JSSTR / JMST initiative to develop munitions safety testing standards and institutionalize these documents as DoD and NATO requirements in the near term.

JMST

Avoids Re-testing

+

Increases Acceptability of Test Data

+

Reduces Asset Quantity Required for Test: ‘Interchangeability’

→

Saves Program Time + $$$

Backup

As of: 11 Mar 2010

JMST SMEs

- Ian Carr (GBR)
- Ken Thompson (USA)
- Jean Bergeron (CND)
- Francois Keller (FRA, DGA)
- Roland Huelsebusch (DEU, Meppen, BWB)
- Wolfgang Koppman (DEU, Meppen, BWB)
- LtCol Peter Van Harmelen (NLD)
- Albert Bouma (NLD)
- Grant Milne (GBR, DOSG)
- Mark Simmons (GBR, DOSG)
- John Banks (USA ARDEC)
- Ken Rose (US Army AMC)
- Bill Barber (US Army ATEC)
- Alan Tinseth (US Army ATEC)
- Robert Sayer (US Army ARDEC)
- James Gerber (US Navy NOSSA)
- Ken Tomasello (US Navy NOSSA)
- Steve Tanner (US Navy NAVAIR)
- Brian Haugen (US Navy NAVAIR)
- Richard Henry (US Air Force)

Safety And Suitability For Service Assessment Testing For Shoulder Launched Munitions AAS3P-10

- Developed for S3 testing of “Shoulder Launched Munitions.”
- Contains detailed approach and sequential flow.
- Points to existing NATO documents (IM, HC, E3, and fuze testing)
- Embraces tailoring where possible with proper approval.
- Contains cross-reference table

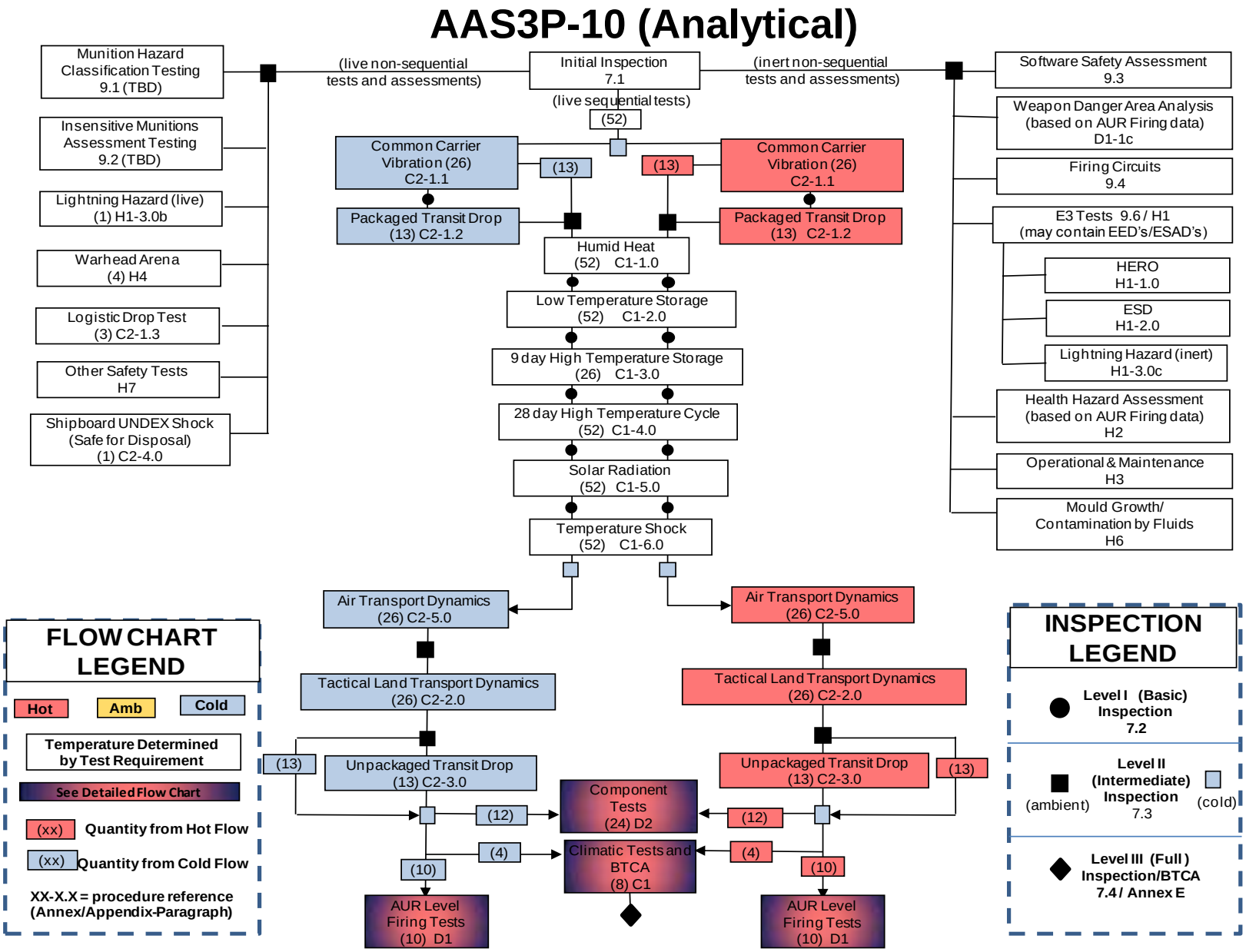


Figure B1-1. Analytical S3 Test Flow Charts for Shoulder Launched Munitions

AAS3P-10 (Analytical)

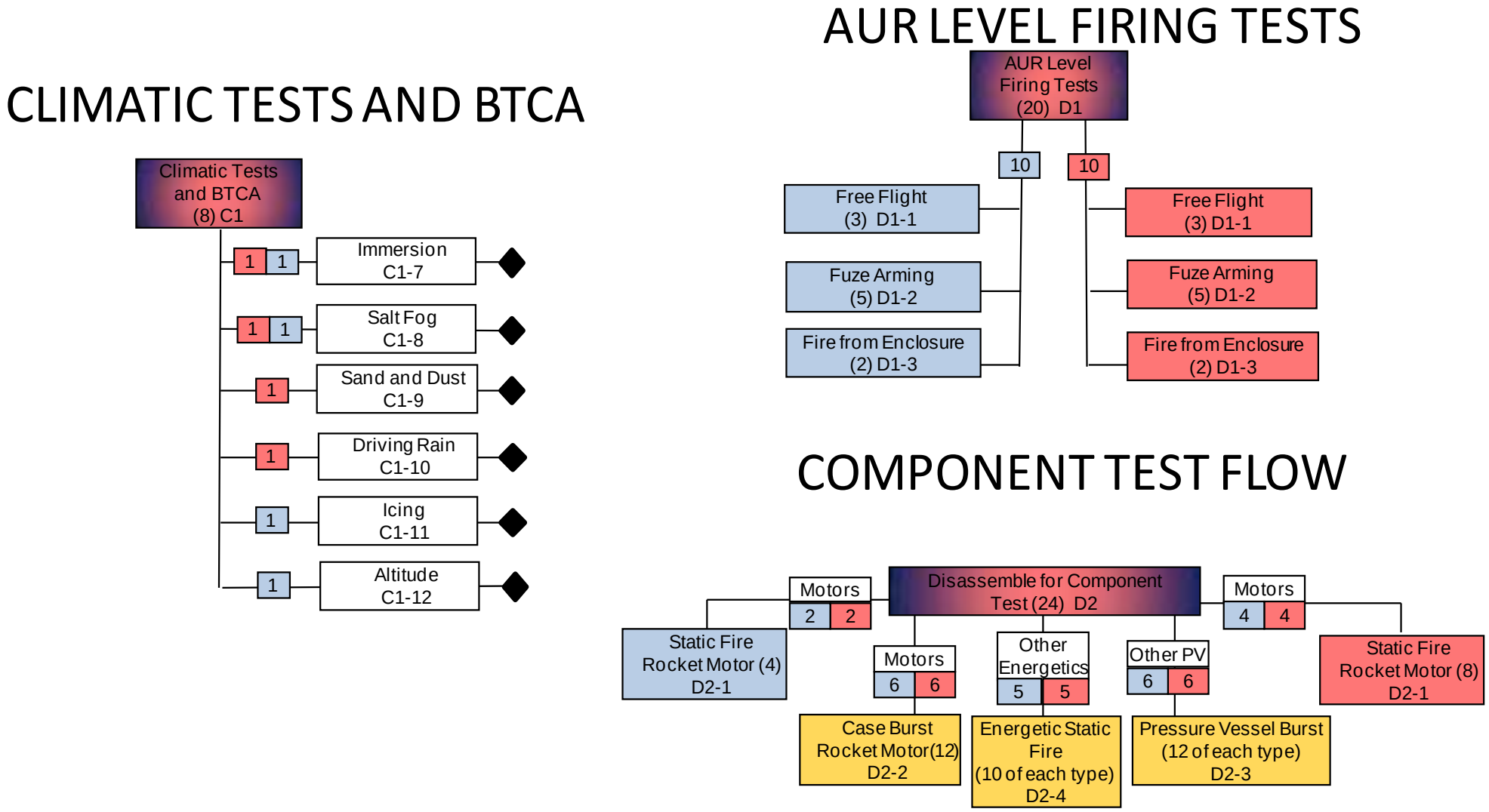


Figure B1-2. Analytical S3 Test Flow Charts for Shoulder Launched Munitions

AAS3P-10 (Empirical)

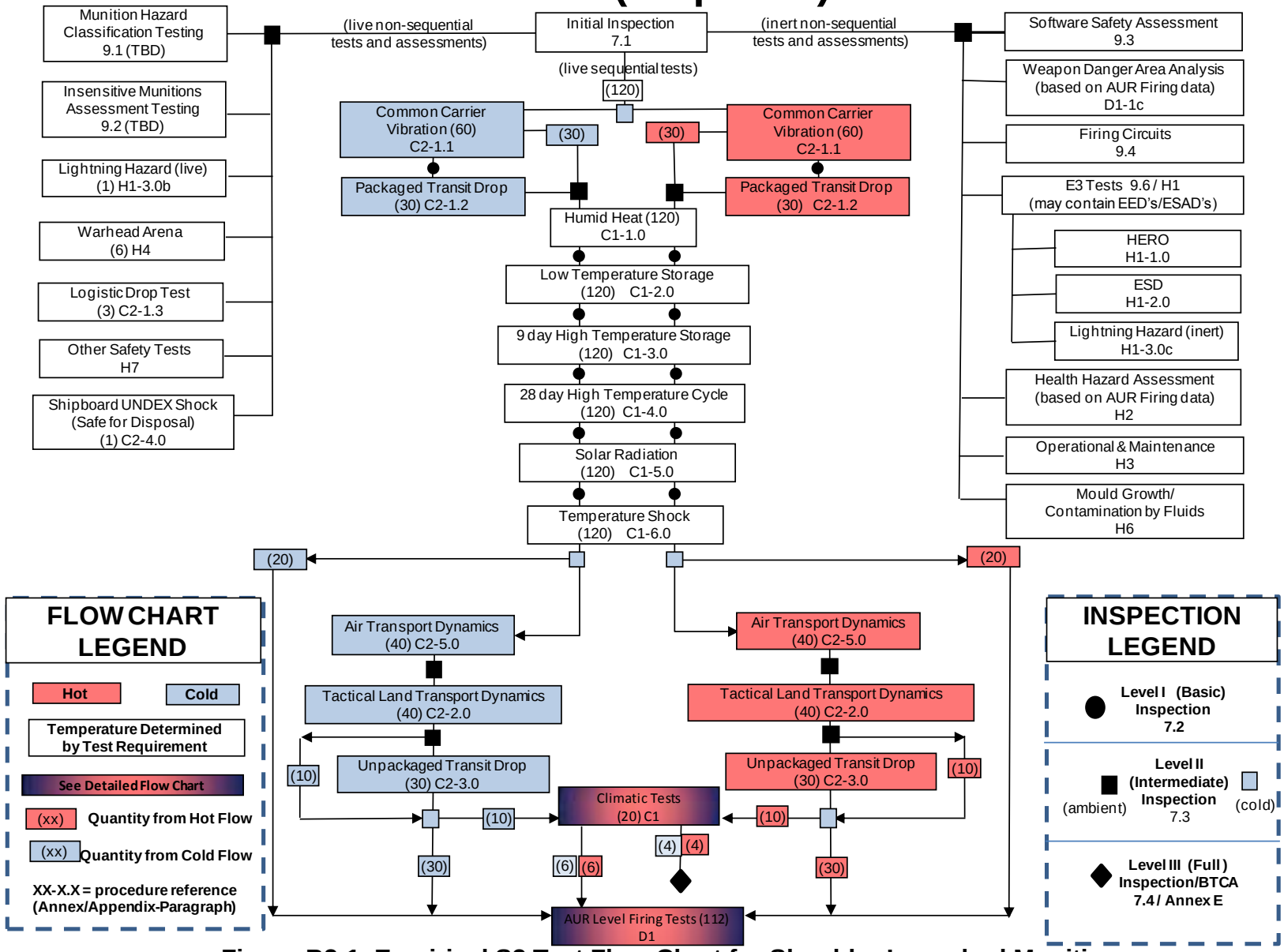


Figure B2-1. Empirical S3 Test Flow Chart for Shoulder Launched Munitions

AAS3P-10 (Empirical)

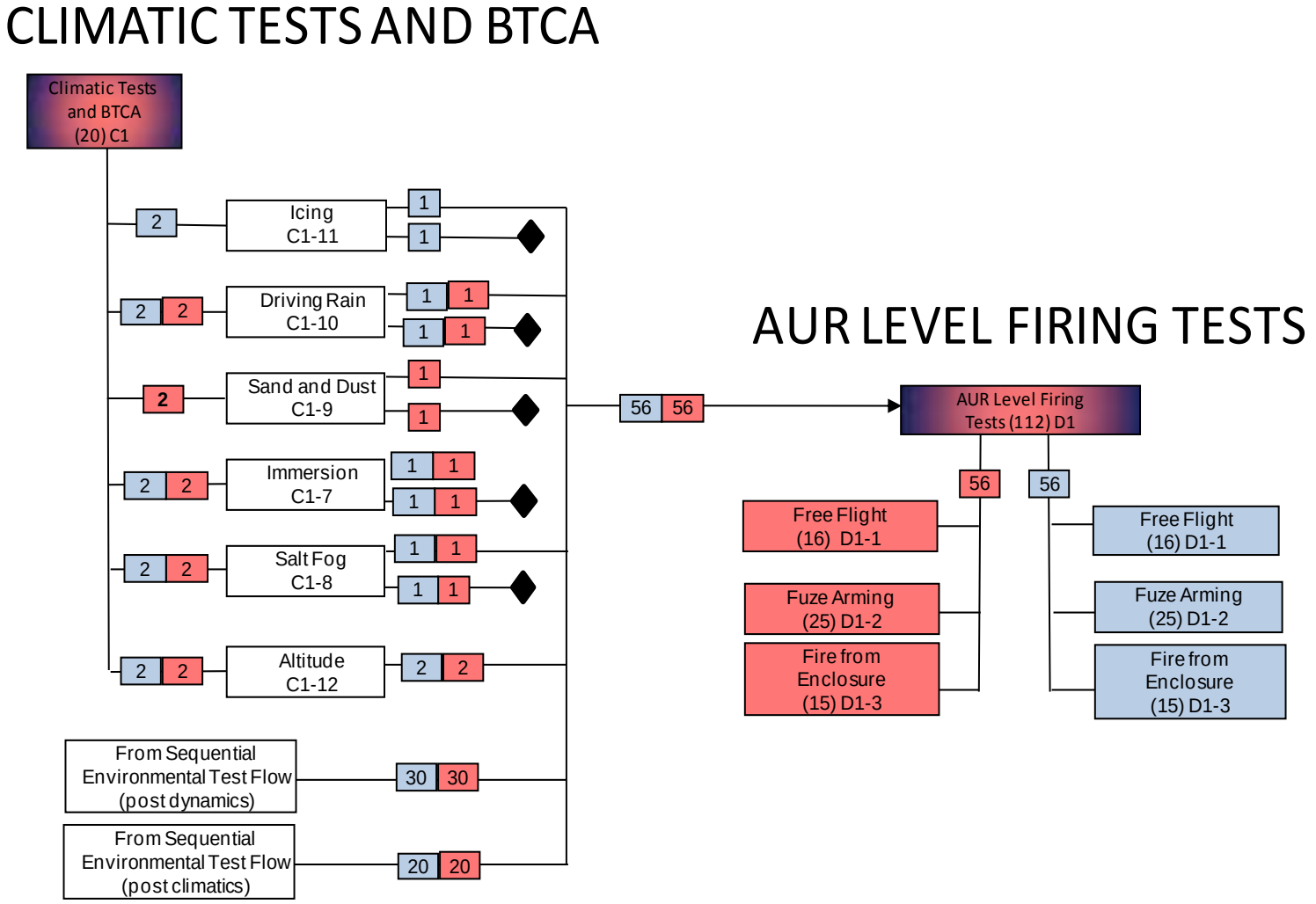


Figure B2-2. Empirical S3 Test Flow Chart for Shoulder Launched Munitions

AAS3P-10 (Tailoring)

- Tailoring shall be approved by National S3 Authority

- Example Annex B, Appendix 3, “An S3 test program is to be conducted for a previously fielded system with a new propulsion unit. The modifications include new propellant charge weight and new igniter, but structural and sealing components remain unchanged. Warhead, guidance, and seeker systems are unchanged, as is the anticipated user environment. The warhead safe and arm/fuze component(s) have been qualified (or has a favorable S3 assessment) in accordance with AOP-20.”

- Example uses the analytical approach and reduces the sample size from 52 down to 22 (additional rounds required for IM, HC, E3, and logistical drop).

Joint Munitions Safety Testing

20 April 2010; ATP TF

Objective: Develop Joint standardized munition safety tests by commodity grouping, i.e., type-specific for all acquisition programs involved in developing weapons systems and all sponsors involved in developing capabilities documents, thereby enhancing transparency and data parity in Joint Service safety reviews, material release, and acceptance.

Justification/Mishap Data: In support of the ATP TF's initiative to develop a process for conducting Joint Service, collaborative safety reviews of weapon systems, the development of a standard technical data package that will provide each Service with the required information, including universal test results, is essential. The Objective directly supports the ATP TF Master Plan, and helps to close gaps 3.5, 3.6. 3.7 and 6.3.

Outcome and Metrics: Develop and publish under the STANAG structure a family of Allied Publications (AP) that form joint munition type-specific test templates for Ammunition-Large Caliber, -Medium Caliber, - Small Caliber, -Non-Lethal, -Man Emplaced Demo, Missile/Rocket-Air Launched, - Surface Launched, - Man-Carried, Explosive Ancillary, Pyro, Fuze and Ignition Systems, Underwater, EEE, and others.

Will other Services, OSD, vendor &/or other source contribute matching funding or in-kind services to complete the work? Other OSD Directorates and the Joint Staff have expressed interest in the effort.

Has any prior work been accomplished related to this task? Yes. Under the auspices of NATO AC326 Subgroup 3, the Working Group for the Development of Safety and Suitability for Service (S3) Documents developed STANAG 4629 "Safety for Service Assessment Testing of Non-Nuclear Munitions," a 5 page standardization agreement paving the way for improved munitions type-specific joint test standards.

Is a study part of this initiative? No. The ATP TF funded the Joint Service Safety Testing (JSST) Study by USMC and Booz Allen (Phase II) which produced a 80 page Report in April 2008. By continuing funding in Phase III, the ATP TF, through the Joint Weapons Safety Technical Advisory Panel, institutionalized some of the Study recommendations by achieving joint consensus on a list of system independent environmental safety tests for use by Sponsors in drafting JCIDS documents. (**Leverage JSST**: see accompanying slide)

Period of Performance once funding awarded: 18 months

Funding Required: $247K (**Cost estimate methodology:** see accompanying slide)

Business Case: The ATP TF sponsored an initiative in 2005 to conduct Joint safety reviews of USSOCOM weapons. Partly based on the success of this initiative, and the policy (JROCM 102-05) that all weapons be developed as joint, the Joint review process is being expanded across the Department, creating a demand DoD-wide for improved harmonization of munitions test standards and allowable test methodologies.

Challenges (Risks): Collecting all of the Services' safety requirements, identifying commonality, and funding policy changes and implementation of joint standardized testing protocols by each individual Service. (**Prognosis**: see accompanying slide)

Points of Contact Role	Name and Title	ORG	Phone # and Email
Task Force POC	Dr. Elizabeth Rodriguez-Johnson	OSD/ AT&L	(703) 695-4813 elizabeth.rodriguez-johnson@osd.mil
Service Co-Lead POC	Mr. James Gerber	Navy / NOSSA	(301) 744-6018 james.gerber1@navy.mil
Other Government Technical POC	Mr. Ken Thompson	Army	(410) 278-1476 ken.thompson2@us.army.mil
Other Service Stakeholder	Mr. Preston Parker	Air Force	(850) 882-7306 preston.parker@eglin.af.mil
Service Co-Lead POC	MAJ Steven Hart	Army	(410) 417-0550 steven.c.hart@us.army.mil

Summary of Technical Approach (Work Breakdown Structure):

- Develop Plan of Action
- Review current individual Service guidance documents and test requirements by munition commodity groupings; consider best practice and consistency
- Facilitate and conduct up to 13 meetings with Service stakeholders
- Develop a draft munition type-specific AP template for each commodity group
- Coordinate draft documents with stakeholders.
- Submit documents for US ratification; dual-path as final domestic joint test requirement and re-format for NATO approval-process

Transition Plan: Continued development of standard tests better positions DoD Components to apply principles championed by AT&L: accelerate delivery of technical capabilities while reducing cost, acquisition time, and program risk.

Forecasted ROI: Long-term loss rate studies have shown a marked reduction in frequency and consequence of loss events with well applied practices of System Safety and Developmental Testing

Joint Munitions Safety Testing (Supplemental Information) 20 April 2010; ATP TF

- Has any prior work been accomplished related to this task? Yes. In addition to the prior STANAG 4629 work, significant related work was accomplished under the JSST study effort through which the ATP TF, through the Joint Weapons Safety Technical Advisory Panel, institutionalized some of the Study recommendations by achieving joint consensus on a list of system independent environmental safety tests for use by Sponsors in drafting JCIDS documents.

- How will this initiative leverage JSST? This is a complementary new start initiative that takes advantage of the work accomplished under the DSOC-funded JSST Initiative. Specifically, the Joint Munitions Safety Testing Initiative builds on the system-independent Joint environmental safety testing of ordnance agreed across the Services in order to craft Allied Publications harmonizing system-dependent safety testing by munitions commodity groupings to be applied by Joint and eventual Combined [international] weapons acquisition programs.

- Cost Estimate Methodology? Required funding identified by a cost estimate of the Work Breakdown Schedule based on a comparable task methodology; twelve munitions type-specific documents are within budget if previous work is leveraged, and given that demand for reducing duplicative testing continues fueled in part from pressured investment accounts, and acquisition reform remains a department priority.

- How will standard testing be sold to the Users (Prognosis)? The developed tests will not necessarily have to be sold to users; rather, by involving the stakeholder community early and often, the tests will be revised, optimized and relevant. Resultant AP's will have the procedural detail of ITOPS and carry the compliance mandate of existing policy, standardized under STANAG 4629.

Preliminary comparative analysis

- JMST and JSST goals are similar.
- Levels are different and compatible.
  - JSST is high level, system independent.
  - JMST is commodity specific, system dependent.
- If merged, JMST and JSST are complimentary; combined, they bridge the capabilities developer community and material review acquisition community.
  - Potential improved consistency in safety of use policy Department-wide; compressing time, factory to foxhole.
  - Potential to increase Program development stability for the Program Manager; conserving constrained resources.

Leveraging Joint Service Safety Testing Initiative

JSST Study April 2008

JSST Follow On Effort 2008-2010

- Joint Ordnance Test Procedure (JOTP-001) 40-ft Drop Test
  AAS3Ps will provide additional detail.
- Joint Munitions Safety Test Matrix - Warfighter Mode Index
  AAS3Ps will reference.
- Joint Standard EEE Testing: Way Ahead
  AAS3Ps will institutionalize best practice.

STANAG 4629, Allied Ammunition Safety And Suitability For Service Publication (AAS3P)-1 and Ammunition (A) Series Replaces:

STANAG

4224 Ed 4	AAS3P-20	Large Calibre Artillery and Naval Gun Munitions Greater than 40mm, Safety and Suitability for Service Evaluation
4493 Ed 1	AAS3P-20	Tank Ammunition Safety and Suitability for Service Assessment
4517	AAS3P-20	Large Calibre Ordnance Greater Than 40mm, Design Safety Requirements and Safety and Suitability for Service Evaluation of Weapon/Munition Interface
4667 Ed 1	AAS3P-20	Gun Launched Guided Munitions
4423 Ed 2	AAS3P-21	Cannon Ammunition (12.7 to 40 mm) - Safety and Suitability for Service Evaluation.
4516	AAS3P-21	Cannon (above 12.7) Design Safety Requirements and Safety and Suitability for Service Evaluations of Weapon/Munition Interface
4608 Ed 1	AAS3P-21	Ammunition Below 12.7 mm calibre – Design Safety Requirements and S3 Evaluations
4225 Ed 2	AAS3P-22	The Safety Evaluation of Mortar Bombs
4433 Ed 1	AAS3P-22	Field Mortar Munitions, Design Safety Requirements
4520	AAS3P-22	Rifle Launched Grenades, Design Safety Requirements and S3 Evaluation
4599 Ed 1	AAS3P-22	Weapon Launched Grenades – Design Safety Requirements and S3 Evaluations

Missile/Rocket (MR) Series Replaces

STANAG

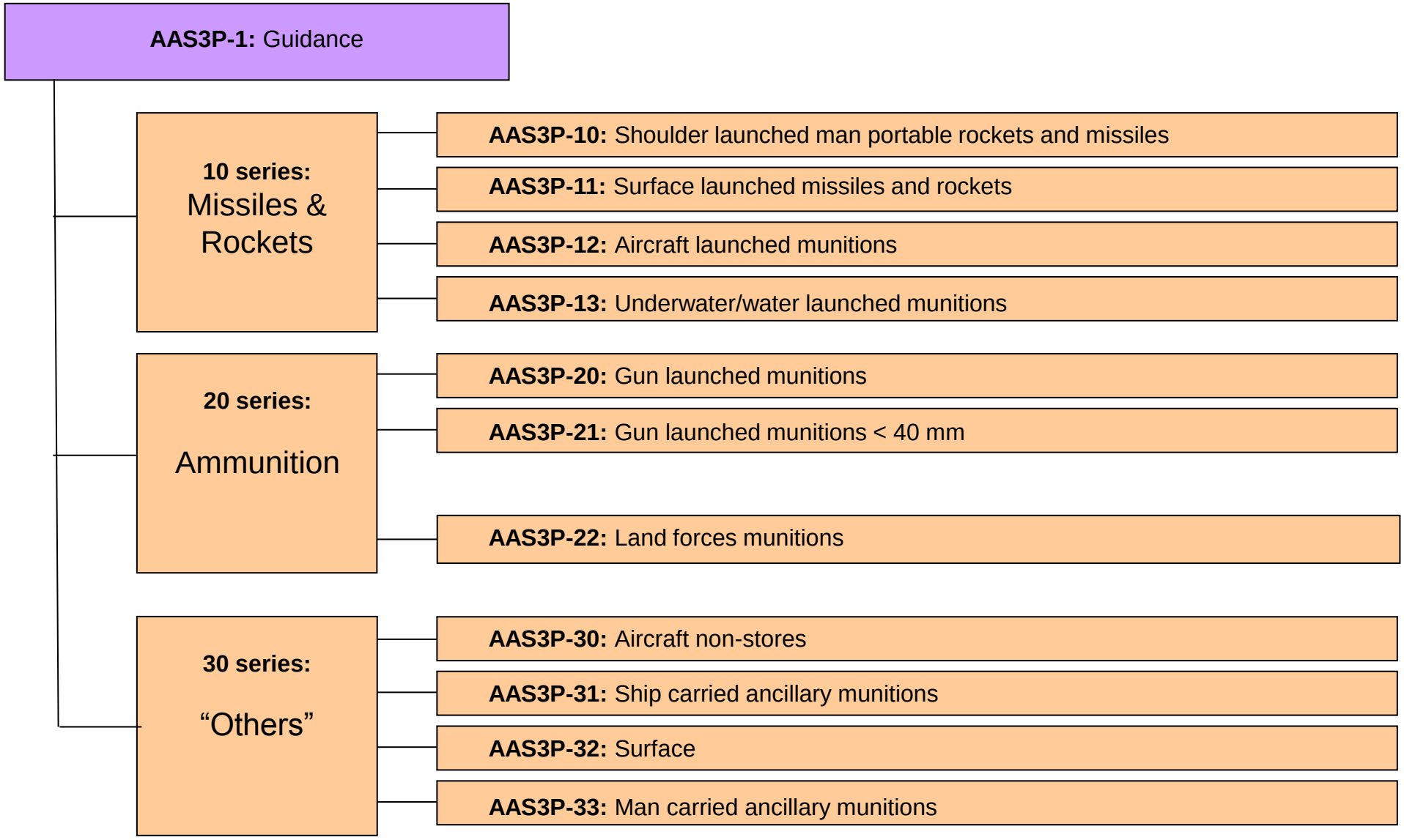
4337 Ed 1	AAS3P-11	Surface-Launched Munitions, Appraisal Safety and Environmental Tests
3786 Ed 4	AAS3P-12	Safety Design Requirements for Airborne Dispenser Weapons
4325 Ed 2	AAS3P-12	Environmental and Safety Tests for the Appraisal of Air Launched Munitions
4432 Ed 1	AAS3P-12	Air-Launched Guided Munitions, Principles for Safe Design
4333 Ed 1	AAS3P-13	Underwater Munitions, Principles for Safe Design
4338 Ed 1	AAS3P-13	Underwater-Launched Munitions, Safety Evaluation

Explosives/Ancillary [Other] (D) Series Replaces

STANAG

4519	AAS3P-3x	Gas Generators, Design Safety Requirements and S3 Evaluation
2818 Ed 2	AAS3P-32	Demolition Materiel - Design, Testing and Assessment
AOP-31 Ed 1	AAS3P-32	Demolition Materiel – Design Principles and Criteria for Safety – STANAG 2818.
AOP-32 Ed 1	AAS3P-32	Demolition Materiel – Testing and Assessment – STANAG 2818.
4497 Ed 2	AAS3P-32	Hand Emplaced Munitions, Principles of Safe Design

S3 Documents



Document-specific Scope

AAS3P-10: Shoulder launched man portable	
AAS3P-11: Surface launched missiles and rockets	MLRS, Rapier, ASTER, TOW
AAS3P-12: Aircraft launched munitions	Missiles, Bombs
AAS3P-13: Underwater/water launched munitions	Torpedoes, Depth charges, Sea mines
AAS3P-20: Gun launched munitions > 40 mm	Larger caliber; land and sea
AAS3P-21: Gun launched munitions < 40 mm	Small arms
AAS3P-22: Land forces munitions	Grenades, Mortars
AAS3P-30: Aircraft non-stores	Canopy severance devices, ejector seat cartridges, ERU carts
AAS3P-31: Ship carried ancillary munitions	
AAS3P-32: Surface	
AAS3P-33: Man carried ancillary munitions	Naval pyros/cartridges, cutting torches