



Joint Harmonization of Testing Update



Presented
by

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Joint Harmonization of Testing

Objective: Identify the necessary tasks required to create a comprehensive, joint test matrix for future non-lethal munition capabilities by combining the testing procedures of the different services into one “harmonized” matrix to prevent the duplication of testing among agencies and expedite the fielding of future capabilities.

Approach: Joint Non Lethal Weapons Directorate (JNLWD) provided funding under the Joint Integration Program (JIP) for the Services including the Naval Warfare Center (CRANE), the Army Test and Evaluation Command (ATEC) and the Air Force Operational Test and Evaluation Center (AFOTEC) to execute the task of harmonizing testing procedures. A Working Level Joint Testing IPT was created to address the Joint Service’s needs relative to service-unique test requirements and to develop the test procedures that best apply to non-lethal munitions.



Joint Harmonization of Testing



Goal: To obtain a Joint Memorandum of Agreement (MOA) wherein the signatories agree to accept test data from each other in accordance with specified joint test procedures



Background and Guidelines



- The test procedures will be for non-lethal small and medium caliber munitions
- The procedures will cover both safety tests and performance tests
- Included will be those procedures most likely to be used across services. Command specific tests (tank vibration, submarine use, helicopter stores, etc) will continue to be done by each service to its own specific requirements
- Existing military standards, such as MIL-STD-331C and MIL-STD-810F should be used wherever possible. However, it may be necessary to modify an existing procedure, or develop a new procedure, to simultaneously satisfy the requirements of all services



Background and Guidelines

- Where possible, the tests should reflect current procedures and support historical databases. They should be economical to perform and minimize investments in specialized equipment
- Each service and command is encouraged to add test procedures needed to support their missions and to comment on proposed procedures
- Each service should concur or non-concur with each proposed procedure or change to a procedure. These concurrences will serve as the basis for the final recommendations and justifications to support the Memorandum of Agreement (MOA)



Accomplishments

- Draft test matrixes completed and concurred at the IPT level
- Initiated 2nd level review (division level) with comments due back by 25 May 07
- Teamed with the Fuze Working Group to leverage their test matrices for fuzed munitions qualification
- Included Human Center of Excellence (HECOE) and the USA Center for Health Promotion and Preventive Medicine (USACHPPM) as part of the IPT to include human effects testing procedures in the test matrices

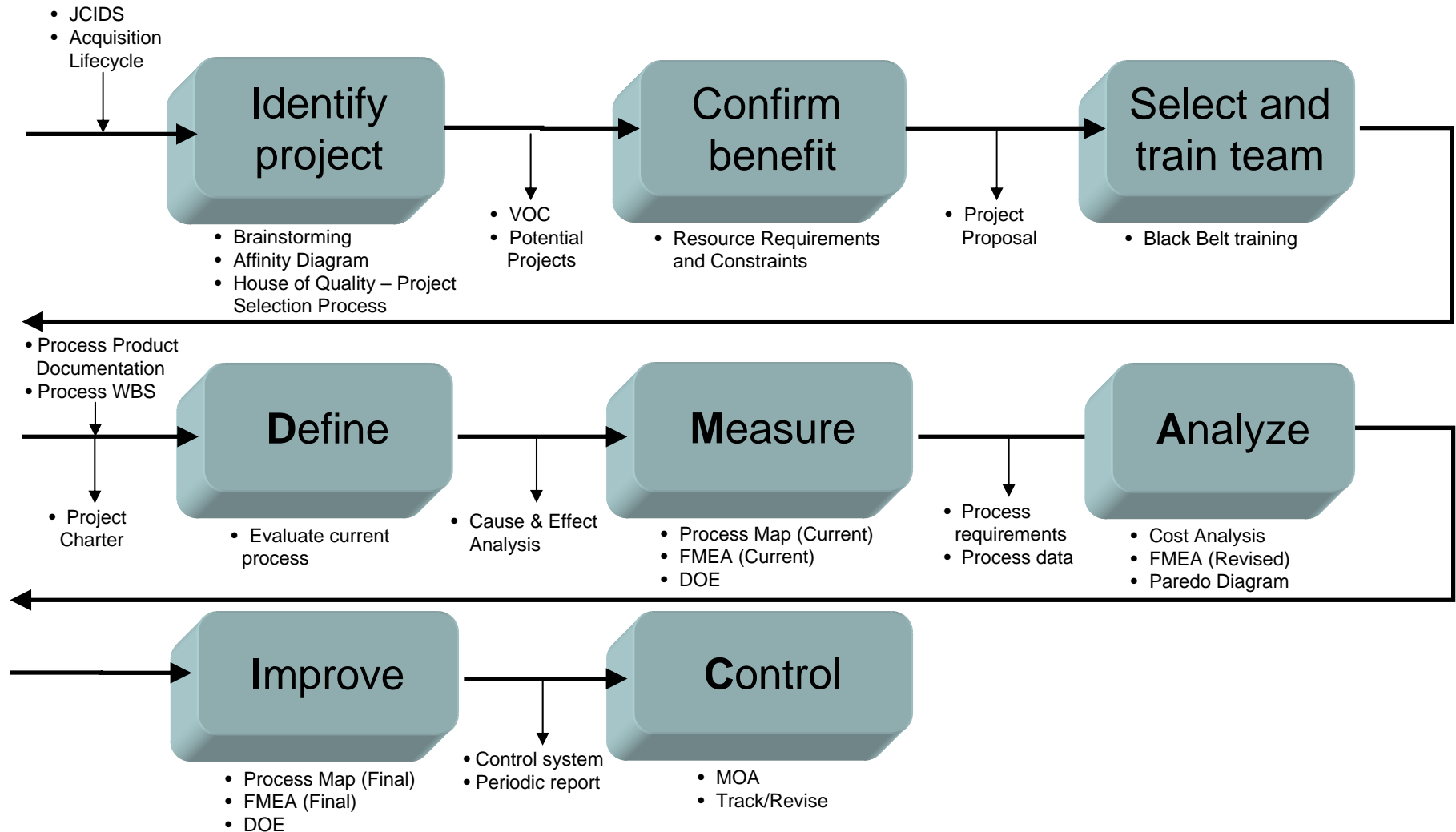


Future Activities

- Resolve any questions or comments arising from the 2nd level review.
- Consolidate comments, finalized test matrix and staff MOA for Service/Test Agency approval by June 2007
- Conduct Six Sigma Project to establish joint testing process for non-lethal munitions
- Initiate Joint Harmonization of testing for small arms munitions under the Joint Service Small Arms Program (JSSAP) sponsorship



Project Map for Lean Six Sigma Project





Test Procedure - Before

Test No. 15, Electrostatic Discharge POTENTIAL PROCEDURES

Specification Parameter	MIL-STD-331C. Test F1.2, Personnel-borne	MIL-STD-331C. Test F1.2, Helicopter-borne (bare)	STANAG 4239, Electrostatic Discharge, Munitions Test Procedures, Personnel	STANAG 4239, Electrostatic Discharge, Munitions Test Procedures, Helicopter
Preconditioning	Minimum 24 hours at 23°C±10°C at less than 50% relative humidity	Minimum 24 hours at 23°C±10°C at less than 50% relative humidity	Minimum 24 hours at 23°C±10°C at less than 60% relative humidity	Minimum 24 hours at 23°C±10°C at less than 60% relative humidity
Test conditions	23°C±10°C at less than 50% relative humidity	23°C±10°C at less than 50% relative humidity	23°C±10°C at less than 60% relative humidity	23°C±10°C at less than 60% relative humidity
Fuze Configuration	Bare fuze completely assembled (modifications permitted under certain conditions), fuzes attached to their associated weapon, if practical	Bare fuze completely assembled (modifications permitted under certain conditions), fuzes attached to their associated weapon, if practical	Fully assembled with live electroexplosive devices (EEDs); exact configuration of the test item shall be determined from the life cycle analysis.	Fully assembled with live electroexplosive devices (EEDs); exact configuration of the test item shall be determined from the life cycle analysis.
Sample size	22 minimum	22 minimum	20 minimum	10 minimum
Discharge energy	25±5% kilovolts (both polarities), capacitance 500±5% picofarads, resistance 5000±5% ohms with test repeated at 500±5% ohms.	300±5% kilovolts (both polarities), capacitance 1000±10% picofarads, resistance one ohm maximum	25±5% kilovolts (both polarities), capacitance 500±5% picofarads, resistance 5000±5% ohms with test repeated at 500±5% ohms.	300±5% kilovolts (both polarities), capacitance 1000±10% picofarads, resistance one ohm maximum

REVIEWING AGENCY COMMENTS

Reviewing Agency: Aberdeen Test Center

Procedure	MIL-STD-331C. Test F1.2, Personnel-borne	MIL-STD-331C. Test F1.2, Helicopter-borne (bare)	STANAG 4239, Electrostatic Discharge, Munitions Test Procedures, Personnel	STANAG 4239, Electrostatic Discharge, Munitions Test Procedures, Helicopter
Comments:			NATO document AOP 24 recommends ESD testing "at as low a relative humidity as can be reached"; it also gives considerations for the life cycle analysis.	
Concur/Non-concur:				



Test Procedure – After

Summary: This test determines the munition’s resistance to static electricity discharges encountered during handling.

Procedure: MIL-STD-331C. Test F1.2, Personnel-borne and also Test F1.2, Helicopter-borne

Procedure Summary

Specification Parameter	Requirement, Personnel-borne	Requirement, Helicopter-borne (bare)
Preconditioning	Minimum 24 hours at 23°C±10°C at less than 50% relative humidity	Minimum 24 hours at 23°C±10°C at less than 50% relative humidity
Test conditions	23°C±10°C at less than 50% relative humidity	23°C±10°C at less than 50% relative humidity
Fuze Configuration	Bare fuze completely assembled (modifications permitted under certain conditions), fuzes attached to their associated weapon, if practical	Bare fuze completely assembled (modifications permitted under certain conditions), fuzes attached to their associated weapon, if practical
Sample size	22 minimum	22 minimum
Discharge energy	25±5% kilovolts (both polarities), capacitance 500±5% picofarads, resistance 5000±5% ohms with test repeated at 500±5% ohms.	300±5% kilovolts (both polarities), capacitance 1000±10% picofarads, resistance one ohm maximum

Comments: Both the personnel-borne and the helicopter-borne tests are required to satisfy the electrostatic discharge test.



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Questions?