*BY ORDER OF THE COMMANDER*
*AIR FORCE NUCLEAR WEAPONS CENTER*

*AFNWC INSTRUCTION 99-103*
*6 Nov 2009*

*Test and Evaluation*

*TEST AND EVALUATION MANAGEMENT*

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements AFPD 99-1 *Test and Evaluation Process*, AFI 99-103 *Capabilities-Based Test and Evaluation*, AFMCPD 99-1 *Test Management* and AFMCI 99-103 *Test Management*. Development, sustainment, and test activities of nuclear components are governed by joint Department of Defense (DoD)-Department of Energy (DOE) agreements. However, nuclear and non-nuclear components, sub-systems, and associated logistics support elements that require testing and nuclear certification throughout the system lifecycle are covered as described in AFI 63-103, *Joint Air Force – National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management* and AFI 63-125, *Nuclear Certification Program*. In conjunction with AFI 63-103 and AFI 63-125, this instruction provides test management policy guidance and procedures for all Test and Evaluation (T&E) conducted by or for the AFNWC. Send recommended changes, additions, or deletions to AFNWC Center Test Authority, 1551 Wyoming Blvd SE, Kirtland AFB NM 87117. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at **https://afrims.amc.af.mil/**.

***SUMMARY OF REVISIONS***

This is the first publication of AFNWCI 99-103 and should be reviewed in its entirety.

**1. Introduction and Overview.** In conjunction with AFI 99-103 and AFMCI 99-103, this instruction establishes a consistent Test and Evaluation (T&E) management process to be used in the acquisition and sustainment of nuclear weapon systems by the Air Force Nuclear Weapons Center (AFNWC). This includes defining the role of a T&E manager within Wings and Direct Reporting Groups (DRG) and the role of the AFNWC Center Test Authority (CTA) in performing functions relative to T&E management.

**1.1. Scope.** This instruction applies to all AFNWC organizations. The T&E management described herein encompasses all T&E activities required for acquisition and sustainment of nuclear weapon systems.

**1.2. Applicability.**

1.2.1. The procedures outlined in this instruction apply to all acquisition and sustainment efforts for which AFNWC has management or engineering responsibility for the test project. This includes AFNWC support for tests conducted for AFNWC organizations involving non-Air Force Materiel Command (AFMC) organizations.

1.2.2. AFNWC has management and engineering responsibility when a proposed test involves the evaluation of designs, modifications, upgrades, or changes that fall under the management responsibility of the AFNWC group commanders. When AFNWC does not have management responsibility, the processes outlined within AFI 63-103, AFI 63-125, or other applicable directives take precedence in support of the responsible organization's test policy.

1.2.3. AFNWC subordinate units geographically separated from Kirtland Air Force Base shall comply with this instruction in addition to local guidance at their host base set forth in their Host-Tenant Agreement (HTA). In the event of a conflict between this instruction and local HTA guidance, a proposed solution shall be negotiated at the unit working level; the proposed solution shall be coordinated with the AFNWC Center Test Authority (AFNWC/CTA) and at an appropriate level with the Host Unit. The agreement, deviation, or waiver for the agreed upon solution shall be approved by AFNWC/CC and the Host Unit Commander or their delegated authority.

**1.3. AFNWC T&E Organizations.**

1.3.1. CTA: The AFNWC/CTA will establish procedures for implementing T&E processes for nuclear and non-nuclear components, sub-systems, and logistic support elements in accordance with (IAW) AFI 99-103, AFI 63-125, AFI 63-103, and AFMCI 99-103. The CTA will provide the single face to the Program Manager (PM) for T&E assistance and advise Center leadership on T&E issues, policy, and procedures.

1.3.2. Wing Test Authority (WTA) or DRG Equivalent. Wing and DRG Commanders will appoint a focal point for T&E matters. The WTA or DRG equivalent will liaison with the CTA, guide Wing/DRG T&E efforts, and provide Wing/DRG leadership a single face for T&E issues.

1.3.3. Tailored Reviews. AFNWC Wing/DRG commanders and their designees will tailor Technical Reviews, Safety Reviews, and Test Readiness Reviews (TRRs) with regard to nuclear and non-nuclear components, sub-systems, and logistic support elements. Wings/DRGs will coordinate with the CTA for reviews conducted below the Center to ensure appropriate technical assessment, rigor, and appropriate review of risk.

## 2. Organizational Responsibilities.

**2.1. AFNWC/CC**. The AFNWC/CC is responsible for establishment of the CTA and procedures for implementing the AFNWC's T&E process consistent with public law, the DoD 5000-series regulations, the AFI 63-series publications, the AFI 99-series publications, and AFMCI 99-103. AFNWC/CC will:

2.1.1. Establish the CTA within AFNWC Engineering Directorate (AFNWC/EN).

2.1.2. Authorize waivers to this publication.

2.1.3. Approve Memorandums of Agreement (MOAs) with other Government Agencies for Joint T&E and appropriate DoD test centers to maintain local Test Representative (TESTREP) support, as required.

**2.2.** AFNWC/**EN** will:

2.2.1. Review Wing/DRG candidates to chair Technical Review Boards (TRBs) to ensure thorough assessment of test plans for technical soundness and adequacy.

2.2.2. Assign EN representatives to specific tests, as appropriate.

**2.3.** AFNWC/**SU** will:

2.3.1. Review Wing/DRG candidates to chair Safety Review Boards (SRBs) to ensure thorough assessment of test plans for safe conduct.

2.3.2. Assign SU representatives to specific tests, as appropriate.

**2.4. CTA.** The responsibility of the CTA is to advise AFNWC leadership on issues concerning T&E policy and procedures as they relate to acquisition decision making and to provide a single face to the PM and test manager for program assistance. The CTA will:

2.4.1. Serve as the AFNWC focal point for T&E policy and guidance.

2.4.2. Support the program offices, Joint Test Working Groups (JTWGs) and Integrated Test Teams (ITTs) by performing duties as outlined in AFMCI 99-103, paragraph 2.2.2.

2.4.3. Review applicable program documentation and assist in development and review of test program documentation and coordinate T&E issues with external organizations to include:

2.4.3.1. Test and Evaluation Strategies and Nuclear Certification Impact Statements (NCIS) to determine test requirements where AFNWC has management and/or engineering responsibility.

2.4.3.2. Test and Evaluation Master Plans (TEMPs), Certification Requirement Plans, and Nuclear Weapon Subsystem Test Plans (NWSSTPs).

2.4.3.3. Review all test plans and subsequent test reports, unless delegated by the CTA to the WTA or DRG equivalent. The ITT will present delegation requests to the CTA with appropriate technical and safety risks identified. The request must be submitted 60 days prior to first test event.

2.4.3.4. JTWG and ITT charters IAW attachment 2.

2.4.3.5. Additional test related program documentation as required. Templates for test plans, test reports, and TRRs will be maintained by the CTA's office and provided to test programs as required.

2.4.3.6. Operational Test and Evaluation (OT&E) Certification recommendations.

2.4.4. Act as Responsible Test Organization (RTO) when a recognized Developmental test organization is not appropriate for the level of test. As the RTO, the CTA will report directly to the AFNWC/CC for all matters concerning the associated test. The ITT will recommend to the CTA which RTO is appropriate for an associated test.

2.4.5. Serve as advocate for AFNWC T&E workforce issues, providing review of T&E workforce requirements and advising AFNWC senior staff as required.

2.4.6. Chair Test and Evaluation Working Group (TEWG) IAW attachment 3.

2.4.7. Notify HQ AFMC/A3 of RTO approval.

2.4.8. Coordinate qualified primary and alternate candidates for TRB and SRB chairmen with AFNWC/EN and AFNWC/SU respectively.

**2.5. Wings/Direct Reporting Groups.** Each Wing and DRG Commander will:

2.5.1. Identify a WTA or DRG Equivalent T&E management focal point within their organization. Waivers for this requirement will be submitted for review and approval by AFNWC/CC. The focal point will:

2.5.1.1. Act as a single point of contact for the Wing/DRG for communication of T&E information and support the AFNWC T&E Working Group. Appointed WTA will be certified as level II APDP in T&E or will achieve level II APDP T&E certification within one year.

2.5.1.2. Provide an accounting of personnel resources involved in T&E management in the Wing/DRG to the CTA on an annual basis. Personnel names, job titles,

AFSC/series, grade and percent of time managing T&E will be included. Updates are to be provided to the CTA as personnel changes are made.

2.5.1.3. When the AFNWC/CTA is the RTO, ensure test plans are developed for all appropriate test projects per applicable test planning guidance. The test plan will include test procedures, applicable Test Hazard Analyses (THAs), and a safety annex/appendix, as appropriate. The WTA has overall responsibility for the contents of the test plan. This responsibility includes ensuring that the plan is complete and ready for applicable technical, safety, and readiness reviews.

2.5.1.4. When an external organization is the RTO, the WTA or DRG equivalent will review the test plan, associated reviews, and reports for compliance with applicable guidance to include AFI 63-125 and AFI 63-103,

2.5.1.5. Coordinate/review all test plans and test reports with the CTA.

2.5.1.6. Make initial recommendations on technical and safety risk.

2.5.1.7. Ensure tests are conducted in accordance with an approved test plan.

2.5.1.8. Coordinate all Test and Evaluation Strategies, to include RTO recommendations, TEMPs/NWSSTPs, ITT/JTWG charters and OT&E Certification recommendations with the CTA prior to submittal for approval.

2.5.2. Ensure programs are adequately staffed to carry out test management responsibilities IAW AFI 99-103, AFMCI 99-103, AFI 63-103, AFI 63-125, applicable MOA or Memoranda of Understanding (MOU), and other applicable guidance. Nuclear components are governed by joint DOE/DoD agreements.

2.5.3. Appoint a PM who is responsible for ensuring that T&E management responsibilities are carried out IAW public law, AFI 99-103, and AFMCI 99-103, and applicable MOAs or MOUs. The PM may delegate test management responsibilities IAW these publications.

2.5.3.1. The PM is responsible for ensuring that program protection planning is factored into program documentation including test plans as necessary IAW DoD 5200.1M, *Acquisition Systems Protection Program,* DoDD 5200.39, *Security, Intelligence, and Counterintelligence Support to Acquisition Program Protection* and AFPD 63-17, *Technology and Acquisition Systems Security Program Protection.*

2.5.4. Each Wing/DRG that conducts testing will nominate potential TRB chairperson candidates to the AFNWC CTA in January (each year) by letter. Candidates must be technically qualified to oversee test and evaluation management.

2.5.5. Approve test plans and appoint chairpersons to TRRs and integrated test teams/test working groups.

**3. Test Management.** AFNWCI 99-103 guidelines will apply to all test management processes for AFNWC managed test programs, as well as AFNWC managed portions of test programs in which AFNWC participates via MOA/MOU. AFNWC has management and technical responsibility when a proposed test involves the evaluation of designs, modifications, upgrades, or changes that fall under the management responsibility of the group commanders within AFNWC. Regardless of the origin of the test requirement, AFNWCI 99-103 guidelines will be followed. The AFNWC/CTA, through the JTWG, will establish the process to determine which programs require formal implementation of this test management process. Wing and DRG Commanders will evaluate low-risk, low-cost, short duration testing for non-formal test management implementation.

**3.1. Programs Supported.** AFNWC test requirements originate from AFNWC program or process management activities supporting nuclear certification management, independent safety analyses, and special studies programs. AFNWC test requirements may also arise as a result of AFNWC participation in interagency test efforts outlined under MOAs/MOUs. Specific examples from AFI 63-103, AFI 63-125, and MOAs/MOUs are:

3.1.1. Weapon Program Officer Groups (POGs): Nuclear weapon/warhead POGs (B61, B83, W80, W87, W78, etc) follow the guidelines established in AFI 63-103. Testing associated with acquisition and modification of nuclear weapons, are driven by joint DOE/DoD requirements and governed by MOU between the National Nuclear Security Administration (NNSA) and the Department of the Air Force.

3.1.2 Weapon System POGs: Nuclear weapon systems (Minuteman III, F-15, F-16, B-2, and B-52) follow the guidelines established in AFI 63-103. Testing associated with acquisition and modification of nuclear weapon systems, are driven by joint DOE/DoD requirement and governed by MOU between the NNSA and the AFNWC.

3.1.3 Aircraft Monitor and Control (AMAC) POG: The AMAC POG as established by DOD letter from the Director of Defense Research and Engineering to the Chairman of the Atomic Energy Commission via the Military Liaison Committee to "standardize, coordinate, publish and maintain interface and test criteria for assuring compatibility between NNSA developed nuclear weapons (bombs and warheads) and DoD developed aircraft/air launched delivery systems. The AMAC POG assists appropriate Weapon System POGS on matters pertaining to AMAC- related interface criteria and requirements.

3.1.4. Nuclear Certification: The AFNWC has nuclear certification responsibility for all combat and non-combat delivery vehicles, facilities and support equipment as described in AFI 63-125. The System Program Office (Aircraft, Cruise Missiles, and ICBMs) is the focal point for detailed DoD acquisition and modification activities relating to systems that have a nuclear weapon delivery role. The System Program Office has responsibility to fund and conduct activities required to obtain Nuclear Certification of the system IAW AFI 63-125. The AFNWC performs AMAC testing as part of the aircraft certification process to verify the electrical signals and characteristics between aircraft and the weapon. AMAC testing is governed by AFNWC OI 99-01. AFNWC has Nuclear Certification responsibility (review of testing and analysis) for all support equipment that interfaces (holds/stores, lifts, carries, uploads/downloads, tests, etc) with a nuclear weapon or

weapon system. AFNWC has oversight responsibilities for all US owned facilities where nuclear assets are stored, secured, maintained, uploaded/downloaded, and transported. The AFNWC supports safety design evaluation IAW AFMAN 91-118 and AFMAN 91-119.

**3.2. ITT/JTWG.** The AFNWC will follow the T&E principles articulated in AFI 99-103. Testers must collaborate with each other, acquisition officials, and requirements sponsors using the ITT or JTWG as the T&E focal point for each program. The ITT/JTWG is responsible to create and manage the T&E strategy for the life of each program. Wing/DRG Commanders will establish ITTs at the appropriate programmatic level. Formal direction for JTWGs is established within the MOU between The NNSA and the Department of the Air Force. The ITT/JTWG will:

3.2.1. Identify previously accomplished testing that is relevant to the current project. Furthermore, if testing is required, determine how the testing will be funded and supported.

3.2.2. Define Overall Test Objective(s). Explain what testing needs to accomplish.

3.2.3. Prioritize test projects under ITT purview.

3.2.4. Initiate the RTO Designation Process. The ITT will nominate an RTO to the CTA.

**3.3. Test Integrated Product Team (TIPT).** A TIPT will be established for each project determined to have a test requirement. The TIPT membership will change based upon test requirements and phases in the test planning and execution process; however, REQUIRED members include: Project Manager (or delegated Test Manager), Project Engineer, RTO Representatives, and OT&E Representatives.

**3.4. Test Planning.** All test activities will have an approved test plan prior to testing. The WTA/DRG equivalent will ensure CTA review of test plans prior to testing. As a minimum, the test plan shall include the following elements:

3.4.1. Overall test objective (as determined by the ITT).

3.4.2. Specific test objectives. This element includes but is not limited to measures of performance, success criteria, evaluation criteria, data requirements, data products, and test methodology.

3.4.3. Limitations of the Test. This element includes identifying test limitations or constraints and how they are expected to effect the conclusions that will be drawn from testing. Typical limitations are simulation of conditions, lack of control of the test conditions, limited sample of environmental conditions, etc.

3.4.4. Test provisioning. This element includes identifying proper resources such as manpower, funding, instrumentation and data analysis required to conduct a test.

3.4.5. Safety requirements. This element includes safety requirements to include test unique hazards.

3.4.6. Security Requirements. This element includes security requirements involving any security classifications, and sensitive security requirements among contractors, foreign nationals, etc.

3.4.7. Test Environment. This element includes the test environment, and/or what restrictions on when and where the test may be conducted.

3.4.8. Environmental Impact Analysis. This element determines the effect of the testing on the environment.

3.4.9. Test Reporting. This element identifies the reports required during and upon the completion of testing.

3.4.10. Responsibilities. This element defines the responsibilities of each member or organization represented in the TIPT.

**3.5. Test Provisioning.** Each Wing/DRG shall provide the proper resources identified during test planning to conduct a test.

**3.6. Test Plan Approval.** The following steps will be conducted for all test plans.

3.6.1. RTO Review. The RTO will review and sign the test plan IAW processes developed by each RTO.

3.6.2. Engineering Review. The project engineer will review the test plan to ensure the plan covers the engineering test requirements.

3.6.3. Operations Review. This step may or may not be required, as determined during the test planning process. This ensures operator insight into the test plan, prior to its approval. If the MAJCOM desires, MAJCOM representatives will review all test plans.

3.6.4. TRB. An independent TRB chairperson will conduct a TRB to review the technical risks of the test plan and to assign an overall technical risk level.

3.6.5. SRB. An independent SRB chairperson will conduct an SRB to review the safety risks of the test plan and to assign an overall safety risk level.

3.6.6. Lead Project Officer (LPO) Review. The LPO will review all test plans originating within their POG's JTWG per AFI 63-103.

3.6.7. Approval. Each Wing and DRG Commander or designee is the approval authority for all test plans developed by their respective organizations.

**3.8. Test Execution.** Operational Test Organization (OTO), RTO, and Participating Test Organizations (PTO) will execute testing IAW an approved test plan.

### 3.9. Reporting.

3.9.1. All test activities will generate a test report. The Project Manager and the Test Organization will negotiate types, frequency, formatting, and delivery schedule of reports and will document this schedule in the Test Plan. The unit Test manager will coordinate CTA review and approval of test reports.

3.9.2. The RTO will initiate watch items and/or deficiency reports IAW TO 00-5-1, AF Technical Order System and TO 00-35D-54, USAF Deficiency Reporting and Investigation System.

3.9.3. The RTO will provide documentation to the project manager to support certification of readiness for OT&E.

### 3.10. Milestones.

3.10.1. Wing/Direct Report Groups will manage test planning/reporting processes to meet the timeline outlined in Figure 1.

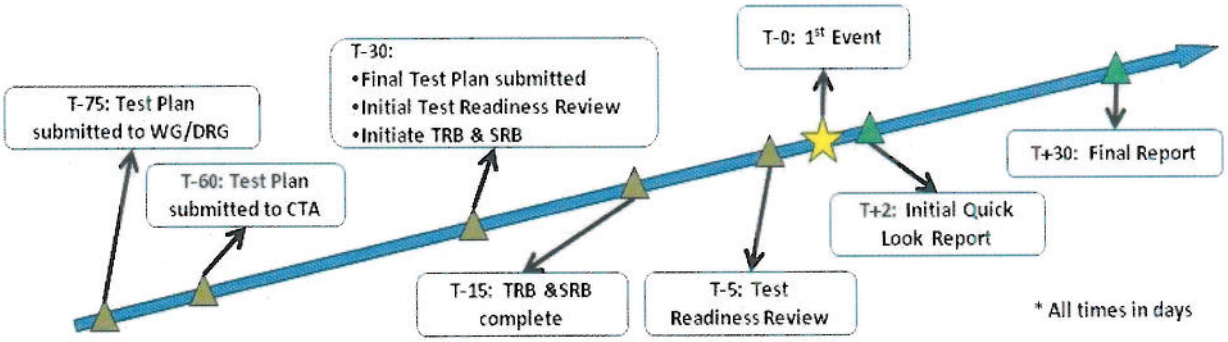


Figure 1.

3.10.2. IAW AFMCI 99-103, AFNWC will conduct tailored reviews to ensure high confidence in a system's readiness for test with an acceptable level of risk. The TRB and SRB may be held electronically with the results to be presented at the T-5 TRR.

3.10.3. An Initial TRR may be held at T-30 to address risk areas prior to final test preparations to include resource deployment and support unit commitments.

3.10.4. The final report is due at last test event plus 30 days. Last test event is defined as the final day that analysis is conducted to support conclusions.

## 4. ITT/JTWG PROCESSES

**4.1. Authority/ Charter.** The ITT/JTWG will develop a formal charter IAW AFI 99-103, Capabilities Based Test and Evaluation, IAW attachment 2.

4.1.1. The group commander will designate a representative from his or her group to co-chair the ITT/JTWG. The roles of TEWG representative and ITT/JTWG chairperson may be assigned to the same person.

4.1.2. The membership will author the charter, and describe team membership, responsibilities, resources, and products for which the ITT/JTWG is responsible. An example ITT/JTWG charter included in attachment 3.

4.1.3. The ITT/JTWG co-chair will submit the charter to the appropriate CTA for review and coordination for approval.

4.1.4. The group commander will approve and sign the ITT/JTWG charter.

4.1.5. The ITT/JTWG will review and update the ITT/JTWG charter as determined by the co-chairs.

**4.2. OT&E Co-chair Designation.**

4.2.1. For each project determined to require testing, the group's ITT/JTWG co-chair is responsible for contacting HQ Air Force Operational Test and Evaluation Center (AFOTEC) to determine if they will serve as the ITT/JTWG's OT&E co-chair.

4.2.2. If AFOTEC does not participate, the ITT/JTWG will keep a Memorandum for Record (MFR) noting the decision. The MFR should include AFOTEC's recommendation of which operational MAJCOM OT&E organization should participate in AFOTEC's place.

4.2.3. The group's ITT/JTWG co-chair is responsible for contacting the operational MAJCOM's test organization to determine if they will serve as the ITT/JTWG co-chair, if applicable.

4.2.4. If neither AFOTEC nor an operational MAJCOM will serve as the ITT/JTWG's OT&E co-chair, the ITT/JTWG will keep a MFR documenting the decision.

**4.3. RTO Designation Process:**

4.3.1. An RTO is designated for every applicable test project unless waived by the AFNWC/CC.

4.3.2. Once the ITT/JTWG identifies a test requirement, the ITT/JTWG and CTA, will work together to identify an appropriate RTO or develop justification to waive the RTO requirement. The CTA will document the recommendation and forward it to the RTO designation/waiver approval authority. An organization may be designated as the RTO for multiple closely related projects. Similarly, the RTO requirement may be waived for multiple closely related projects. A blanket RTO designation or waiver is valid for one year after approval.

4.3.3. The RTO designation/waiver approval authority is the Program Executive Officer (PEO). If the project does not fall under a PEO, the approval authority is the AFNWC/CC or their designee. The RTO designation/waiver request will be endorsed by AFNWC/CTA before going to the approval authority.

4.3.4. The CTA will inform HQ AFMC/A3F of RTO designation/waiver approvals.

EVERETT H. THOMAS
Brigadier General, USAF
Commander, AFNWC

**Attachment 1**

## GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

### A1.1. REFERENCES

#### A1.1.1. T&E Related

1. AFPD 99-1, *Test and Evaluation Process*, 22 July 1993
2. AFI 99-103, *Capabilities Based Test and Evaluation,* May 2008
3. AFI 91-202, *The US Air Force Mishap Prevention Program*, 7 Sept 2001
4. AFI 91-202/AFMC Supplement 1, *The US Air Force Mishap Prevention Program*, 7 Sept 2001
5. AFMCPD 99-1, *Test Management*, 4 Nov 2004
6. AFMCI 99-103, *Test Management,* 22 Nov 2004
7. TO 00-35D-54, *USAF Deficiency Reporting and Investigation System*, 1 Jul 2004
8. AF T&E Guidebook, Dec 2004
9. AFNWC OI 99-01, *Aircraft Monitor and Control (AMAC) Testing, 7 Jun 08*

#### A1.1.2. Nuclear Weapon/Weapon System Related

1. AFI 63-103, *Joint Air Force – National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management*, 24 Sep 2008
2. AFI 63-125, *Nuclear Certification Program*, 15 Mar 2004
3. AFI 91-101, *Air Force Nuclear Weapons Surety Program*, 19 Dec 2005
4. AFI 91-103, *Air Force Nuclear Safety Design Certification Program*, 16 Sep 2005
5. AFMAN 91-118, *Safety Design and Evaluation Criteria for Nuclear Weapon Systems*, 18 Jan 1994
6. AFMAN 91-119, *Safety Design and Evaluation Criteria for Nuclear Weapon Systems Software*, 1 Feb 1999
7. MOU DE-GM04-94AL94738, *Memorandum Of Understanding Between The National Nuclear Security Administration And The Department Of The Air Force Regarding Joint Testing And Assessment Of The Nuclear Weapons Stockpile*, 16 February 2001 [Note: Undergoing revision and renegotiation – contact AFNWC for latest version]

### A1.2. ABBREVIATIONS AND ACRONYMS

**AFB** – Air Force Base
**AFI** – Air Force Instruction
**AFMAN** – Air Force Manual
**AFMC** – Air Force Materiel Command
**AFMCI** – Air Force Materiel Command Instruction
**AFMCPD** – Air Force Materiel Command Policy Directive
**AFNWC** – Air Force Nuclear Weapons Center
**AFNWCI** – Air Force Nuclear Weapons Center Instruction
**AFOTEC** – Air Force Operational Test and Evaluation Center

**AMAC** – Aircraft Monitor and Control
**CC** – Commander
**CTA** – Center Test Authority
**DoD** – Department of Defense
**DOE** – Department Of Energy
**DR** – Deficiency Report
**DRG** – Direct Reporting Group
**DT&E** – Developmental Test and Evaluation
**EN** – Engineering Directorate
**HTA** – Host-Tennant Agreement
**IAW** – In Accordance With
**IPT** – Integrated Product Team
**ITT** – Integrated Test Team
**JTWG** – Joint Test Working Group
**LPO** – Lead Project Officer
**MAJCOMs** – Major Commands
**MFR** – Memorandum for Record
**MOA** – Memorandum of Agreement
**NCIS** – Nuclear Certification Impact Statement
**NNSA** – National Nuclear Security Administration
**NWWSSTP** – Nuclear Weapon Subsystem Test Plan
**OT&E** – Operational Test and Evaluation
**PEO** – Program Executive Officer
**PM** – Program Manager
**POG** – Project Officers Group
**OTO** – Operational Test Organization
**PTO** – Participating Test Organization
**RTO** – Responsible Test Organization
**SE** – Test Safety Office
**SRB** – Safety Review Board
**T&E** – Test and Evaluation
**TEMP** – Test and Evaluation Master Plan
**TESTREP** – Test Representative
**TEWG** – Test and Evaluation Working Group
**THA** – Test Hazard Analysis
**TIPT** – Test Integrated Product Team
**TO** – Technical Order
**TRB** – Technical Review Board
**TRR** – Test Readiness Review
**WTA** – Wing Test Authority

### A1.3. TERMS

**Air Force Nuclear Weapons Center (AFNWC)** – An AFMC Center, with Headquarters on Kirtland Air Force Base, responsible for the safety, security, and reliability of the nuclear

weapons / nuclear weapon systems that support the National Command Structure and the Air Force war-fighter.

**Aircraft Monitor and Control (AMAC) Testing** – AMAC testing demonstrates compliance of the nuclear weapon / nuclear weapon system interface with the specifications of the Aircraft Monitor and Control (AMAC) *Specification Standard No. SYS 1001-01: System 1 Basic Interface Requirements.*

**Center Test Authority (CTA)** – A product or logistics center resident T&E expert(s) providing advice to center leadership on issues of T&E and assistance to center program managers.

**Developmental Testing (DT)** – Testing that focuses on activities to demonstrate the feasibility of conceptual approaches, evaluate design risk, identify design alternatives, compare and analyze trade-offs, and estimate satisfaction of operational requirements. Any testing used to assist in the development and maturation of products, product elements, or manufacturing or support processes.

**Integrated Test Team (ITT)** – A team within each sustainment group responsible for the overarching T&E strategies and policies for that group. The ITT maintains test oversight into all modifications, acquisitions, sustainment efforts and other projects for the sustainment group. The ITT is co-chaired by operational testers and a representative designated by the sustainment group commander. The CTA will be a member of each ITT. The ITT is the focal point for all T&E activities within its sustainment group.

**Joint Test Working Group** – A group established within the weapon / weapon system POG by the POG's LPO as dictated by test requirements. The JTWG is responsible for identifying test requirements, developing and coordinating the test plan, and managing / executing the planned test.

**Lead Project Officer (LPO)** – The member of the Project Officers Group (POG) designated as the POG's lead.

**Operational Testing (OT)** – Testing that evaluates the effectiveness and suitability of systems operating under realistic conditions to determine whether the system meets the minimum acceptable operational performance requirements.

**Program Executive Officer (PEO)** – A military or civilian official who has responsibility for directing several Major Defense Acquisition Programs (MDAPs) and for assigned major system and non-major system acquisition programs. A PEO has no other command or staff responsibilities within the MDAP, and only reports to and receives guidance and direction from the Department of Defense (DoD) Component Acquisition Executive.

**Program Manager (PM)** – The designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM shall be accountable for credible cost, schedule, and performance reporting. Operating as the single manager, the PM has total life cycle system management authority.

**Project Officers Group (POG)** – A POG is a group of DoD/DOE personnel assigned to coordinate the development and compatibility assurance of a designated nuclear weapon system and its associated interfaces.

**Responsible Test Organization (RTO)** – The lead government developmental test organization that is qualified to conduct and/or responsible for overseeing DT&E.

**Safety Review Board (SRB)** – An independent review of the safety risks of the test plan resulting in the assignment of an overall safety risk.

**Sustainment** – Any post-production, non-routine, change to a nuclear weapon and/or its MCs or STS. Studies of sustainment concepts or activities to implement such concepts are collectively defined to be Sustainment Projects / Programs.

**Technical Review Board (TRB)** – An independent review of the technical risks of the test plan, resulting in an assignment of an overall technical risk level.

**Test and Evaluation Working Group (TEWG)** – A team of test experts from each sustainment group who will work center-level issues and priorities regarding T&E. The representative from each group will most likely be that group's ITT co-chair. This team will foster an understanding of T&E issues for the center and for each specific sustainment group across all sustainment groups. The TEWG will report to the AFNWC Engineering Advisor Board (EAB).

**Test Environment** – A description of the location(s), time(s) of day, weather, and other conditions required for the tests.

**Test Execution** – The phase of a test project during which testing (ground, flight, etc.) is accomplished.

**Test Limitations** – Areas and issues identified during test planning, which the testing effort will not address. These allow testers and readers of the test report to understand why certain aspects may not have been addressed by the testing.

**Test Plan** – Governing, overarching document for conducting a specific test.

**Test Planning** – The phase of a test project during which objectives, criteria, and requirements are determined and coordinated/acquired.

**Test Provisioning** – The identification of proper resources such as manpower, funding, instrumentation, and data analysis required to conduct a test.

**Test Reporting** – The phase of a test project during which the results, findings, and recommendations from Test Execution are formally presented to the test requester.

**Test Safety Office** – The 377 ABW Safety Offices is the AFNWC Safety Office

(AFNWC/SE).

**Test Unique Hazards** – A hazard that is not associated with the basic operation of the aircraft, test article, vehicle, system under test, or facility. Typically, the hazard is introduced as a result of the test environment or test method that is outside the normal operation of the system under test.

**Attachment 2**

**TEMPLATE: INTEGRATED TEST TEAM (ITT) CHARTER**

**A2.1. The ITT Charter.** This is a suggested outline of primary subject areas for an ITT charter. The charter should briefly cite information necessary to understand the efforts conducted for its sustainment or maintenance group and how the ITT will support that sustainment or maintenance group. Each ITT participant's roles and responsibilities should be cited. This list is not inclusive and may be expanded to include additional information necessary to understand what the ITT will do. ITT charters should be brief and avoid repeating information readily available in other documents.

**A2.2. Template.**

A2.2.1. Introduction: List the effort(s) the ITT will oversee.

A2.2.2. Authority. Cite the documents directing the formation of the ITT and its responsibilities.

A2.2.2.1. AFMCI 99-103.
A2.2.2.2. AFNWCI 99-103.

**A2.3. ITT Mission, Scope, and Overarching Goals.** The ITT is responsible for the overarching T&E strategies and policies for its sustainment or maintenance group. The ITT maintains test oversight of all modifications, acquisitions, sustainment efforts, and other projects for the sustainment or maintenance group.

**A2.4. ITT Membership.** Describe who the "core" members are.

A2.4.1. Sustainment/Maintenance Group. The group commander will delegate a representative to co-chair the ITT. The designation will occur through a separate letter of appointment, and the representative's name or office symbol does not need to be included in the ITT charter.

A2.4.2. Operational Test Organization. In accordance with AFI 99-103, the operational test organization can be determined using the process outlined in AFI 99-103, para. 4.6. The group commander will create a relationship with an operational test organization through a memorandum of agreement to support the group's ITT. If the operational test organizations decline to participate, they should document their decision in a formal letter to the group commander, which will be filed with the ITT charter.

A2.4.3. Center Test Authority (CTA). The AFNWC CTA will be a member of each ITT. This allows the CTA to maintain insight into all test activities occurring at or for AFNWC. The CTA is the focal point for all test issues at AFNWC.

A2.4.4. Other Members. The group commander or any of the ITT members may request additional membership in the ITT. Permanent members to the ITT should be documented in the charter.

**A2.5. ITT Responsibilities.** Buildings on the list of responsibilities in AFI 99-103, list the responsibilities that are unique to this ITT and program. Some of the responsibilities include:

A2.5.1. Group T&E Activities. Maintain knowledge of all projects within the group which require or may require test and evaluation.

A2.5.2. Identify Test Requirements. Evaluate modifications, acquisitions, sustainment efforts, and other projects to determine if they require test and evaluation. If they require testing, define an overall test objective or purpose, prioritize the testing against other test requirements in the group, and initiate the RTO designation process.

A2.5.3. Responsible Test Organization (RTO) Designation. An RTO is designated for every test project unless waived by the approval authority, defined in AFNWCI 99-103. The ITT will work with the CTA to identify the most appropriate RTO for the test effort.

**A2.6. Frequency and Purpose of Meetings.** Outline the frequency of meetings, required attendance, and the ITT procedures for meeting minutes and action items.

**A2.7. ITT Charter Updates.** The ITT will review and update ITT charters as determined by the co-chairs.

**A2.8. Signatures.** The level of signature should generally be at the division chief or group commander or director level for each of the organizations listed in the ITT membership.

**Attachment 3**

## TEST AND EVALUATION (T&E) WORKING GROUP CHARTER

**A3.1. Purpose:** The Test and Evaluation (T&E) Working Group serves as a forum to discuss a broad range of test issues related to policy, process, training, and infrastructure issues for the programs/projects and workforce at the AFNWC. This forum will address and resolve test issues across the wings and between the staff offices and the wings. The goal is to increase communication, T&E awareness, and provide a forum to work common T&E policy/processes. In addition, this forum will provide a means to highlight requirements for new T&E infrastructure. The T&E Working Group works with and receives guidance directly from the Center Test Authority.

**A3.2. Scope:** The T&E Working Group will apply a center perspective to address and resolve T&E issues and workforce management/development concerns. Topics that will be discussed include, but are not limited to the following:

- Center-wide T&E policies and processes
- Ongoing and new T&E programs
- Force development, training, and T&E awareness
- T&E infrastructure and requirements

**A3.3. Goals:**

- Ensure information flow between wings, direct reporting groups, CTA, and T&E service suppliers
- Establish/Improve T&E policies and processes (update local instructions)
- Increase T&E awareness within the workforce
- Advocate T&E training within the workforce
- Ensure early identification of T&E requirements (infrastructure and program specific)

**A3.4. Membership:**

- Chairman: Chief, CTA (and staff).
- Standing Members (voting): Wing Test Authority and Group Test Managers.

**A3.5. Responsibilities:**

A3.5.1. The Chairman will:

A3.5.1.1. Call and preside over the T&E Working Group meetings.

A3.5.1.2. Record and publish meeting minutes in a timely manner.

A3.5.1.3. Provide status of the T&E Working Group decisions and issues to EN and the Engineering Advisory Board on a regular basis.

A3.5.1.4. Sponsor appropriate decision or information briefs to the EAB and Executive Council.

A.3.5.2. The TEWG members will:

A3.5.2.1. Actively participate as representatives of their organizations in all TEWG meetings.

A3.5.2.1.1. Standing members will provide advice and inputs as desired and vote on all appropriate working group decisions.

A3.5.2.1.2. Ad hoc members may be specifically invited to some meetings to provide subject matter expertise, and are welcome to all meetings.

A3.5.2.2. Ensure their Wing/Group Commander/Director is fully informed and aware of T&E Working Group activities/decisions.

A3.5.2.3. Act as a liaison, bringing information, concerns, ideas, suggestions, etc. to the T&E Working Group from their organization and distributing pertinent information back to their organization.

A3.5.2.4. Accomplish action items, as applicable.