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Test and Evaluation

AFFTC TECHNICAL REPORT PROGRAM



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The purpose of this Instruction is to establish the responsibilities and procedures for the development, review and approval of AFFTC technical reports.

SUMMARY OF REVISION

This updated instruction reflects the changes made to the technical reporting process that were approved in July 2001. All policy statements were consolidated into section 2. Two reporting products, the Test and Evaluation Results Sheet (TERS) and the Technical Letter Report (TLR), were deleted. A References section was added. Responsibilities identified in section 4 were reassigned based on the realignment of processes with organizations that resulted from reengineering. The Procedures and Coordination sections were updated to reflect changes made to the reporting process. The most significant changes were the establishment of a Report IPT for each report and deleting the requirement for Coordination Meetings. The report IPT is now responsible for providing a technical and editorial review of the report before submitting it for coordination and approval. The requirement for transmittal letters for final TRs was deleted. Attachment 2 was updated to reflect the new reporting process.

1. General. Basic requirements for formal reporting on developmental test and evaluation are in AFI 99-101, *Developmental Test and Evaluation*. Also, Scientific and Technical Information Office (STINFO) processing procedures are contained in DoD 5230.25-PH, *Control of Unclassified Technical Data with Military or Space Application*, AFPD 61-2, *Management of Scientific and Technical Information*, AFI 61-201, *The Local Scientific and Technical Information Process* and AFI 61-202, *United States Air Force Technical Publications Program*. Based on this, the Air Force Flight Test Center (AFFTC) and the Program Offices (PO) are responsible for timely submission of all reports. There are several reporting options that may be exercised between the Test Organization and the POs and these options should be clearly defined in Statements of Capabilities or subsequent Test Planning documents. Program Offices

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will not coordinate or approve AFFTC reports. This instruction identifies specific responsibilities and provides direction for the overall reporting process.

2. Policy.

2.1. The overriding policy at AFFTC is to provide the customer (POs, weapon system users and other stakeholders) with correct technical information as soon as practical and as economically as possible. Independent final reporting will be accomplished for all tests the AFFTC conducts or participates in, and for which the customer requests an AFFTC analysis or evaluation, unless specifically exempted by the 412 TW commander.

2.2. The selection of reporting products at AFFTC is specified in this instruction (see [Attachment 1](#)). Each product is designed to deliver a result to the customer for decision making and risk management. In general the more quickly the report is required, the less substantiating information can be included. For quick reaction reporting of preliminary results a Preliminary Report of Results (PRR) should be used. At the conclusion of a test project a Technical Report (TR), which may include the test results presented in previous reports, is submitted to the customer and the Defense Technical Information Center (DTIC). The product that documents the AFFTC's final position, conclusions, and recommendations on a given test item is the TR.

2.2.1. Deficiency Reports (DR): intended to be an action tool to propose enhancements or to correct a specific hardware or software deficiency. Details for Air Force deficiency documentation are contained T.O. 00-35D-54, *USAF Deficiency Reporting and Investigating System*, and amplified by AFFTCI 99-4, *Test Program Deficiency Reporting*.

2.2.2. Progress Reports (PR): intended to be a periodic assessment of the status of the project (e.g., quick looks, daily flight reports, etc.). Accomplished in any format agreed to between the test organization and the customer.

2.2.3. Technical Information Handbooks (TIH) and Technical Information Memorandum (TIM): intended primarily for AFFTC internal use to document processes, provide instruction, or archive important technical information for engineering reference.

2.2.4. Preliminary Report of Results (PRR): intended to be a quick reaction report to transmit principal test and evaluation findings to the customer in management terms from a management perspective. Usually short. Normally does not contain large amounts of substantiating data. Complies with the format and coordination processes specified in this Instruction and AFFTC-TIH-97-01, *Writing AFFTC Technical Reports*.

2.2.5. Certification for Operational Test and Evaluation (OT&E), and Capability Releases: intended to inform the PO of the systems readiness for OT&E or operational capability. Accomplished in accordance with AFI 99-101. May be in PRR or TR format. Normally approved and signed by the 412 TW Commander. The AFFTC does not normally unilaterally certify a test item for OT&E. The AFFTC submits these reports to the customer in support of a certification by higher authority.

2.2.6. Technical Reports (TR): The AFFTC's final report at the end of a test project that formally documents the AFFTC's position on a test item. The TR may also be used as an interim report when more testing and/or analysis is anticipated at a later date but the PO wants a partial answer immediately. May be any length. Usually contains some substantiating data which may be extensive in some cases. Final TRs are submitted to DTIC and therefore potentially available to quali-

fied requesters from government and industry. Complies with the format and coordination processes specified in this Instruction and AFFTC-TIH-97-01.

3. References:

- 3.1. AFFTC-TIH-93-01, *Air Force Flight Test Center Test Plan Preparation Guide*.
- 3.2. AFFTC-TIH-97-01, *Writing AFFTC Technical Reports*.
- 3.3. AFFTCI 99-1, *Test Plans*.
- 3.4. AFFTCI 99-4, *Flight Test Center Deficiency Reporting*.
- 3.5. AFI 99-101, *Developmental Test and Evaluation*.

4. Responsibilities.

- 4.1. The overall process of preparing, approving, and publishing reports requires a team effort. However, the following organizations will be held accountable for their part of the process.
- 4.2. The 412th Test Wing (412 TW) will:
 - 4.2.1. Ensure timely coordination and approval.
 - 4.2.2. Ensure reporting process is included as part of the USAF Test Pilot School curriculum.
 - 4.2.3. Approve reports for publication. The approval authorities are listed in attachment 1. For final TRs the signature page will include a space for the appropriate two-letter and the Test Wing Technical Advisor to sign as reviewers (See AFFTC-TIH-97-01).
- 4.3. The Engineering Directorate (412 TW/EN) will:
 - 4.3.1. Act as the vested authority to manage the overall process and ensure efficient production. This includes standardizing administrative aspects, such as format, and providing the STINFO functions related to technical reporting, including production of TRs and tracking their status.
- 4.4. The 412th Test Wing Engineering Directorate, and Electronic Warfare Test Directorate (412 TW/EN/EW) will:
 - 4.4.1. Work with the Project Management Directorate (DR), the test organization (CTF, Test Squadron, etc.) and the PO to develop schedules and requirements for reports.
 - 4.4.2. Ensure that basic formal reporting requirements are included in test plans and that appropriate attention is placed on formal report preparation during test execution.
 - 4.4.3. Work with the test organization (EN, DR, and OG personnel assigned at the CTF, Test Squadron, etc.) to appoint a primary author and to assign members to the Report IPT.
 - 4.4.4. Ensure timely production, preparation, and approval of reports.
 - 4.4.5. Be responsible for production schedule, and periodically inform Test Wing management of report status (via AFFTC Form 5024, **AFFTC Report Status**).
- 4.5. The 412th Operations Group (412 OG) will:
 - 4.5.1. Support the 412 TW/EN/EW in the implementation of this instruction.
 - 4.5.2. Assign operator/maintainer to Report IPT as appropriate.

- 4.5.3. Provide operational (e.g. pilot, load master, etc.) inputs and ensure timely coordination and approval.
- 4.6. The Project Management Directorate (412 TW/DR) will coordinate overall reporting requirements with the PO and the functional organization managers.
- 4.7. Directorate of Contracting will obtain appropriate contractual support in a timely manner.

5. Procedures.

5.1. Initiating the Reporting Process

5.1.1. Identifying initial reporting requirements. [Attachment 1](#) contains a listing of the types of reports published by AFFTC. The Project Management Directorate will establish the requirement and scope for project reporting in conjunction with the appropriate engineering two-letter and the PO. The details at this point are fairly high level and typically would involve the number, type, and required distribution date for each report. This will be done as early as possible, but no later than initial preparation of detailed test plans.

5.1.2. Establishing the Report IPT. A Report IPT will be assigned for each PRR or TR and membership on the IPT will be determined during the test plan technical review. The IPT Lead will be a functional branch chief or designated technical expert. Other members of the IPT will include the author(s), the author's lead at the test organization, an operator (pilot, load master, etc.) and a technical editor/writer. Other personnel may be assigned to the Report IPT as appropriate.

5.1.3. Finalizing report requirements. The Report IPT in conjunction with the AFFTC Project Manager (PM) will work with the PO to reaffirm the reporting requirements as stated in the SOC. The details at this point are fairly specific and typically would involve decisions on structure and format. Once agreement has been reached with the PO, the Report IPT will present the agreed upon structure and format to the appropriate functional division chief and Chief Engineer for their concurrence. See AFFTC-TIH-97-01 for more details.

5.1.4. Documenting structure and format agreements. Documentation of the approved structure and format are to be included in the report coordination approval package under the Staff Summary Sheet.

5.1.5. Obtaining Guidance and Support. As soon as practical the Report IPT will contact the Technical Publication Department to obtain the following: an AFFTC Form 5024; a report number; a standard distribution list; and information related to report distribution statements. This process will generally be initiated as soon as the test plan has been completed and approved. The Technical Publication Department will provide all report numbers for TIHs and TIMs, PRRs, and TRs. The standard distribution list should be scrutinized for program applicability and modified with PO approval as required.

5.1.6. Establishing Milestones. The Project Manager will establish the due date with the PO. Standard timelines are presented in attachment 1. Shorter timelines may be negotiated between the PO, DR and appropriate two-letter organizations. Reporting efforts must be focused on satisfying the PO requirement for program milestones and, after approval, the report product may be immediately transmitted. Very early in the execution phase of a project the Report IPT should establish reporting milestones to ensure that reports are approved within the contracted date with the PO. Extensions are obtained for technical reporting according to paragraph [5.2.7. Attachment](#)

2 presents the overall report writing process. The key milestone that initiates the process is the test plan technical review. The key milestone used to determine the required delivery date is the cutoff date, which is normally the date of the last test (sometimes the date of receipt of last data). Once milestones have been established, the Report IPT Lead will document them on AFFTC Form 5024 and update progress every other week or as soon as a milestone is completed. The goal for all report products at AFFTC is to meet the customer's requirements as quickly as practical. It is the Report IPT Lead's responsibility to diligently ensure submission of the AFFTC Form 5024 to the Technical Publication Department to allow the AFFTC to measure, and ultimately improve, the timeliness of the reporting process.

5.2. Coordination and Approval. All AFFTC report products will receive a technical and editorial review. The overall process for coordination and review is shown in attachment 2.

5.2.1. Report IPT Coordination. Throughout execution and after cutoff, the Report IPT will assist the author in preparing an initial draft. The Report IPT will meet as required to review the draft report. The Report IPT will not release the final draft for review and approval until they feel it is complete and a quality document.

5.2.2. Technical editing and report production. Technical editing and report production support will be provided by the Technical Publications Department. Technical editing and formatting for final review will occur after the Report IPT completes the initial draft.

5.2.3. Final Coordination and Approval. Once the report has been formatted for final review and the Report IPT has released the final draft, final coordination and approval is accomplished primarily to ensure the report represents a valid, acceptable AFFTC position on the test issues and findings. As a goal, coordination and approval should not exceed 5 days at each major organizational element. Staff functions will maintain approval layers at the essential minimum. See attachment 1 for the appropriate final approval of each type of report.

5.2.4. Printing. The Technical Publication Department will deliver a print quality copy of the report or electronic media copy, along with a DAPS CL-5604/48 (Rev. 9-97), **Automated Printing Request**, to DAPS/RF in sufficient time to complete printing within 10 calendar days. The Technical Publication Department will track printing status.

5.2.5. Distribution. Immediately after approval of a TR, either the author or Technical Publication Department will submit a signed copy to the PO. The Technical Publication Department will make formal distribution of the remaining printed copies in accordance with the distribution list approved by the PO, unless the project manager makes other arrangements.

5.2.6. Tracking Report Status. The Technical Publication Department will serve as the central point for compiling and tracking status of final TRs by using the AFFTC Form 5024. The Report IPT Lead will ensure submission of updated forms to Technical Publication Department every other Friday. In addition, the forms will indicate, in the remarks section, an assessment of the ability to meet the next milestone. The Technical Publication Department will provide periodic summaries of report status as directed by 412 TW/CA.

5.2.7. Extensions to Milestones. All reasonable management efforts will be exhausted to ensure meeting the milestones. In the event of extenuating circumstances, milestones may be changed providing they are coordinated with the PO and the appropriate Test Wing two-letter organization.

6. Training. The 412 TW/EN will be responsible to ensure adequate training of the reporting process is provided to all appropriate personnel. This includes authors, functional and operational supervisors, and the Joint Range Technical Services (J-TECH) contractor.

7. Forms Prescribed.

7.1. AFFTC Form 5024

WILBERT D. PEARSON, JR., Major General, USAF
Commander

Attachment 1

AFFTC REPORTING PROCEDURES

TypeReport	Type Information	Format	Scope/ Procedures	Coordination Review	AFFTC Approval Authority	Approval Deadline
Deficiency Reports (DR)	Deficiency, shortcoming, or proposed enhancement	IAW T.O. 00-35D-54	Intended as action tool for correction of hardware and software problems. Should be included in published reports IAW AFFTCI 99-4.	Author's test organization	IAW T.O. 00-35D-54 and AFFTCI 99-4	IAW T.O. 00-35D-54 and AFFTCI 99-4
Progress Report (PR)	Test progress and/or interim test results	As mutually agreed by PO and project manager.	Intended as a periodic document to apprise PO. Per CTF or squadron procedures.	Per CTF or squadron procedures	CTF director on CTF level programs, squadron commander on squadron level programs.	As mutually agreed by the PO and project manager.
Technical Information Handbook (TIH)	Instructional or guidance	As approved by 412 TW/ EN,EW. Format more relaxed than for TRs to aid in instructional value and facilitate revision.	Covers subjects with broad scope and intended primarily for in-house use.	Author's functional organization flight chief, division chief and appropriate two letter.	Test Wing Senior Technical Advisor	As determined by the Test Wing Senior Technical Advisor
Technical Information Memorandum (TIM)	Formalized or validated studies	As approved by 412 TW/ EN,EW. Format more relaxed than for TRs	Covers subjects of narrow scope and intended primarily for in-house use.	Author's functional organization flight chief, division chief and appropriate two letter.	Test Wing Senior Technical Advisor	As determined by the Test Wing Senior Technical Advisor

Preliminary Report of Results (PRR)	Intended to be a timely distribution of preliminary results in circumstances where a PO needs an immediate answer.	May be tailored to fit needs of PO.	Intended as a timely, concise briefing given to decision makers with principal findings and results pertinent to critical management issues. Technical data can be attached as backup material. Not intended to take the place of a formal technical report.	Report IPT, CTF Chief Engineer, appropriate two letter, OG, Test Wing Senior Technical Advisor. (Usually done in a standup briefing with all reviewers and approver present.)	Test Wing Commander.	As mutually agreed by the PO and project manager.
Recommendation for Dedicated Operational Test and Evaluation (OT&E) and capability releases	Test and evaluation results and recommendation to PO about system readiness for OT&E.	May be tailored to fit needs of PO.	IAW Templates for Certification for Readiness for OT&E and AFI 99-101 and AFM 63-119, <i>Certification of System Readiness for Dedicated OT&E</i> .	Report IPT, CTF Chief Engineer, appropriate two letter, OG, Test Wing Senior Technical Advisor.	Test Wing Commander.	As mutually agreed by the PO and project manager.
Technical Report (TR)	Final test and evaluation results.	IAW MIL-STD-847A and AF-FTC-TIH-97-01.	Intended as final documentation. Will be submitted to DTIC.	Report IPT, CTF Chief Engineer, appropriate two letter, OG, Test Wing Senior Technical Advisor.	Test Wing Commander.	As mutually agreed by the PO and project manager.

Note: The TR will be regularly signed out at the Wing Commander level. However, if during approval it is decided that 'significant' political/technical concerns exist with the system under test, then the Wing CC may forward the TR for AFFTC/CC signature.

AFFTC REPORTING PROCEDURES

NOTES, EXPLANATION, AND CUSTOMARY AND EXPECTED PRACTICES

These notes provide a definition of the customary and expected practices of the AFFTC REPORTING PROCEDURES. They also provide an explanation of the reporting philosophy and some examples of customary and expected practices.

Report Suppliers and Report Customers:

AFI 99-101, *Developmental Test And Evaluation* specifies the reporting requirements for DT&E reports, who are the suppliers, and who are some of the customers. The Single Manager (SM) (or Program Office (PO)) and the Responsible Test Organization (RTO) share reporting responsibilities. Several quotes from AFI 99-101: "The SM and the RTO will establish the frequency and content of reports early in the test planning process." "Normally, the RTO will submit DT&E reports at the end of each test phase. However, when a program has an extended test phase, the RTO will also provide annual interim reports. The SM will send final DT&E reports to the PEM, the OTA (ed. Operational Test Agency), the participating MAJCOM, and DTIC." Paragraph 8.1 of AFI 99-101 states T&E reports will: "Provide test results in support of program management decisions. Assess the capabilities and limitations of weapon systems under development. Provide historical documentation of weapon system development. Document test techniques, procedures and data analysis. Provide information for Air Force Technical Orders. Capture lessons learned."

AFI 99-101 also specifies some of the customers for Final Reports; they are OSD, DAC (Designated Acquisition Commander), HQ USAF, and PEO (Program Executive Officer). It should be carefully noted the SM or PO is not just a customer for reports. The PO, in conjunction with the RTO, is the supplier of reports to the rest of the acquisition community.

The AFFTC's Report Products:

The AFFTC has established a set of standard report products that are defined in this Instruction. The purpose and advantage of a standard set of products is to avoid inventing a new product and new formats with every new project. These products are designed to satisfy immediate needs of decision makers throughout the DT&E project as well provide the final documentation as specified in paragraph 8.1 of AFI 99-101.

Today's management philosophies allow the RTO and PO to mutually establish report schedules. However, the time limits specified below are considered the AFFTC's customary and expected practice. It is every project manager's responsibility to discuss these expected practices with the PO and explain the potential problems of allowing reports to be delayed. It is not just the PO that has an interest in AFFTC reports. Other stakeholders have an interest in receiving timely results from DT&E projects.

There are two major categories of reports: 1) those intended primarily for AFFTC internal use such as handbooks and technical information memorandum, and 2) those intended for external customers such as PRR and TR.

Preliminary Report of Results (PRR) {pronounced “P-R-Squared”}:

- Presented within 21 days of last flight or as coordinated with and agreed to by the customer. Or within 21 days of the end of a critical set of tests within a larger project.
- The key words are “Ödecision makersÖpertinent to critical management issues.” It is presented to decision makers and oriented towards management issues. Engineering details are included in some other report format. Important engineering information may be included in summary form if required for the understanding of the briefing.
- A PRR presents preliminary results and analysis.
- The stimulus for a PRR is the requirement for a critical management decision in a time frame that does not allow for complete analysis or the writing of a report. In such a case only that portion of the analysis that is complete should be presented and limitations on the preliminary results should be clearly stated.
- The words “Preliminary and Results “ are important and intentional. The final report on the subject matter will be published at a later date. New data or more analysis may change the preliminary results and, therefore, the conclusions and recommendations in the final report may be other than was initially expected from the “preliminary results”.
- If there is sufficient time to do a complete analysis and write a report then a PRR is not presented.
- Given the fact that a decision is going to be made based on the PRR, even though it is preliminary, the PRR is reviewed by management up to and including the Wing Commander. This is done for two reasons: 1) Allow an independent review by experienced personnel and an endorsement of both the analysis and the presentation and, 2) to ensure the Wing Commander is not surprised (“blind-sided”) when the PO calls two days later to discuss the results.
- A briefing, such as progress report, or status report may be given to the PO whenever the PO requests it. Those briefings are not a PRR.
- Examples of appropriate use of a PRR (based on actual AFFTC experiences) are:

1) A decision is made to send C-130 Gunships to Bosnia in two weeks. A new electronic counter-measures pod will be installed on the C-130 for the first time. The technical review of the test plan is held in the OG/CC office at 0600 Saturday morning. Sunday two flight tests are conducted. The results are briefed to the user three days later.

2) An Eglin AFB F-4 testing new stores loadings crashes into the Gulf of Mexico. The crew ejects safely. A week into the 30-day accident investigation it is suspected a very asymmetric stores loading resulted in loss of roll control. The accident board asks the AFFTC to duplicate the inertias resulting from the asymmetric loading on our F-4 simulator, and determine the effects on roll control. The pilot involved in the crash comes TDY to Edwards, with members of the accident board, and flies the test maneuver on the simulator. Roll control is lost every time. Three days later the results are presented to the accident board.

Technical Report (TR):

- The final and official position of the AFFTC on the test item.
- May be any length; including very short !!!!
- Approved in less than 65 days from cutoff.
- If by agreement with the PO, or some emergency that prevents completion in 65 days, then some form of interim report will be published.
- Should be used to periodically report “testing to date” when it is known a project is going to last several years. (e.g., a B2 type project where testing covered seven years would be an excellent project to incorporate “testing to date” TRs.)
- Long periods of down time are to be avoided. Authors can resign or get promoted into another organization. Squadrons and organizations move and get reorganized. The longer the time period between last flight and report production the higher the probability something important (e.g., author, project pilot, or data) will disappear.

Attachment 2

AFFTC TECHNICAL REPORTING PROCESS





