

Commander, Operational Test and Evaluation Force



Test Plan Checklists

Program: _____

Date: _____

POCs for Test Plan Checklists *COTF 01C—Test Planning & Analysis*

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OTD Test Plan Checklist

Purpose: This checklist guides the Operational Test Director (OTD) through COTF's six (6) step **Test Planning process**. The Test Planning process should ***begin (at least) seven (7) months prior to the start of test.***

The Test Planning process culminates in a **Test Plan Review Board (TPRB)** to Divisional Leadership. Following successful completion of the process, the OTD receives approval for further routing of the Test Plan, per the OTD Manual.

CAUTION: Using this checklist does not absolve the OTD of the responsibility for ***critical thought***, or the requirement to understand why they are performing these steps and how to apply the results. ***If you don't understand, ask.***

Note: Signature blocks should be signed and dated throughout this checklist with updates made to the IEF database, with Core Team Facilitator (CTF) assistance.

OTD Test Plan Touch Point A Checklist

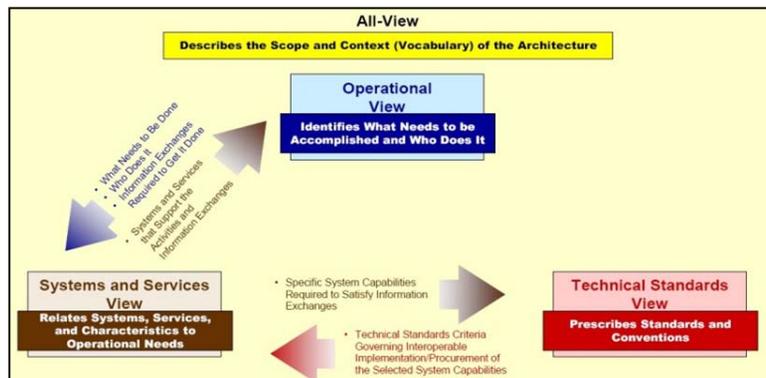
Purpose: To define the **Purpose of Test**, including the System Under Test (SUT) , System of System (SoS), and Critical Operational Issues (COIs) and how the SUT's capability to accomplish the COI critical tasks will be evaluated.

- 1. Determine the Purpose of Test, considering the following:
 - a. Discuss supported PM (or PMs) and PEO.
 - b. Discuss the program decision being supported.
 - c. Discuss the test phase (e.g., EOA, OA, IOTE, FOTE, etc.) and planned test dates.
 - d. Discuss reporting timeline and requirements.
 - e. Discuss status of concept of operations (CONOPS) and Tactics, Techniques, and Procedures (TTP).
 - f. Discuss the current/expected threat context.
 - g. Discuss major test objectives.
 - h. Discuss previous deficiencies.

NOTE: *The below list of documents is not all inclusive. Some programs may not have all of the documents available, or documents may be in draft form. The OTD must communicate with the program office to receive the documents that apply.*

- 2. Review source documents, for changes and updates:
 - a. Capabilities documents.
 - i. Capability Development Document (CDD).
 - ii. Capability Production Document (CPD).
 - b. Test & Evaluation Master Plan (TEMP).

- c. CONOPS.
- d. Information Support Plan (ISP).
- e. Integrated Logistic Support Plan (ILSP).
- f. Life Cycle Support Plan (LCSP) .
- g. Navy Training Support Plan (NTSP).
- h. Maintenance Support Plan (MSP).
- i. Required Operational Capability/Projected Operational Environment (ROC/POE).
 - i. USN ROC/POE.
 - ii. Platform specific ROC/POE.
- j. Functional Requirement Documents (FRDs).
- k. DoD Architecture Framework (DoDAF).
 - i. OV-1 High Level Operational Concept Graphic.
 - ii. OV-5 Operational Activity Model.
 - iii. SV-1 Systems Interface Description.
 - iv. SV-2/SV-2a Systems Resource Flow Description.
 - v. OV-3/SV-6 Information Exchange Requirements (IERs).



NOTE: DODAF architectures can be obtained from the program office or the resource sponsor (OPNAV).

- l. Program Security Classification Guide.
- m. System Threat Assessment Report (STAR).
- 3. Review/update SUT description from the IEF. Consider the following:
 - a. Describe the SUT, down to the sub-component level (including software versions), with enough detail to:
 - i. Define the line between SUT and SoS.
 - ii. Clearly define an issue as a blue sheet or a gold sheet.
 - iii. Establish **regression requirements**.

NOTE: The software configuration planned for the SUT during the test period needs to be understood and presented as part of the SUT description.

- b. Discuss actual test configuration(s) for use in OT.
 - i. Describe specific SUT configuration
 - ii. Describe major hardware/software, and any changes, from DoDAF architecture.
 - iii. Discuss new, enhanced, or upgraded capabilities, and how those capabilities trace back to hardware and software components.
 - iv. Identify any differences between this test, any previous testing, and the expected Fleet configuration for IOC/deployment.
- c. Discuss specific environment(s) to be examined.
- d. Reference the applicable CONOPS and ROC/POE.

- 4. Review/update SoS description from the IEF.
 - a. Review DoDAF Architecture and other publications to characterize SUT and SoS interfaces.
 - b. Highlight any interface / interaction changes from SUT to SoS. Consider:
 - i. What else does the SUT touch?
 - ii. What changes will require regression?
 - iii. How will SUT impact the SoS and 'kill chain'?
 - iv. How will SoS be affected by planned OT?
 - c. Discuss SUT hardware / software requirements to enable SoS interface.

NOTE: *In certain test environments the SUT may not fully interact with its intended SoS (often occurs in OA/EOAs). The OTD must understand how this will affect test design.*

- 5. With the 01C Division Representative and the 01B System Analyst (Ms. Amy Hommell), create the Test Plan database (a child, or subset, of the appropriate IEF database).
- 6. Review the Effectiveness and Suitability COIs and their Critical Tasks/Critical Measures from the IEF.
 - a. Discuss COIs and SUT tasks / functions / capabilities.
 - b. Discuss decomposition of COI – Task – Subtask, and provide context to ‘mission relation’.
 - c. Assess if any updates to the IEF are required.
- 7. Discuss SUT (hardware and software) contribution to each Effectiveness COI and mission Critical Task.
 - a. Discuss how this impact will be assessed in test.

- b. How will the SUT be used while executing the mission?
- c. What hardware and software components are necessary to accomplish the mission?

- 8. Discuss the Maintenance Strategy and support of various Suitability COIs.
 - a. Assess how maintenance strategy will support completion of Critical Tasks.
 - b. Consider evaluation of logistics supportability and related training systems (Best Practice 18).
 - c. Reference the ILSP, LCSP, and NTSP.

NOTE: *Suitability COIs often do not have Critical Tasks associated. In such cases, the Critical Measure may be sufficient, but the OTD should understand and document the strategy for how the thresholds (MTBOMF, MTRR, MTBF, etc.) will be assessed.*

- 9. Evaluate Regression Testing requirements.

NOTE: *The IEF process should have determined if significant hardware and software changes have affected legacy Critical Tasks and Measures, and identified critical measures to support regression testing.*

- a. Review DoDAF Architecture System Views (SV) and Interface Control Documents (ICD).
- b. What may have been affected by hardware / software changes?
 - i. Consider potential impacts.
 - ii. How do changes affect Critical Tasks / Measures?

- c. Develop plans for regression testing, stressing the system and these interfaces.
- d. Look for 'unintended consequences'.

NOTE: Non-significant updates and changes may be easily regression tested by testing with operators who have experience with the legacy system. Major issues can often be discovered this way. In all cases the OTD should have a plan for Regression Testing.

- 10. Review limitations to test in the IEF and determine if updates are required.
 - a. What can't we test and why?
 - b. What won't we know?
 - c. Which COI(s) is affected, and what is the impact of the limitation?
 - d. What's the mitigation? If none, so state...

Sign and Date: OTD _____ / SH/OTC _____
 O1C _____

- 11. Prepare Deliverable A.
 - a. Includes the following test plan sections:
 - i. Purpose of Test (1.1)
 - ii. SUT Description (1.3)
 - iii. SoS Description (1.4)
 - iv. Mission Area (COI) Discussion (2.1)
 - v. Regression Testing (2.3)
 - vi. Limitations to Scope of Test (2.5)
 - b. Provide as a 'read-ahead' by e-mail to: 01B CTF, 01C Division Representative, SH/OTC, LTE, Contract Support, and members of test team.

- c. Send Deliverable A two (2) working days prior to the scheduled Touch Point A review.

NOTE: See Y Drive (Y:\OT&E Production Library\Test Plan and DMAP) for the Deliverable A template and Deliverable A examples.

- 12. Test Plan Touch Point A
 - a. Schedule a review with the 01B CTF, 01C Division Representative, SH/OTC, LTE, Contract Support, and the other members of the test team.
 - b. Be prepared to provide the relevant required documentation (e.g., CDD, CPD, SEP, Maintenance Plans, etc.) and previous risks and deficiencies.
 - c. OTD will provide status update to M&S accreditation for all M&S being used for test.
 - d. OTD should provide Deliverable A.

Date Completed: _____

Attendees:

NOTE: If there is disagreement about Purpose, SUT, SoS, or COI discussion that can not be resolved at TP A, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan Development.

OTD Test Plan Touch Point B Checklist

Purpose: To develop the **Test Schedule** and understand what data has been collected and **qualified for OT**, what data still needs to be collected, and when that data will be collected.

NOTE: *The IEF is used to determine data requirements to address measures that are used to inform COI resolution. Data is collected throughout all phases of the SUT life cycle (DT/IT/EOA/OA/IOTE/FOTE). DT and IT data must be qualified for use in OT. All qualified data should be used.*

- 1. Review all previous program test data and reports.
 - a. Developmental Test (DT) data; including: Deficiency Reports (DR); Reports of Test Results (RTR), and DT to OT Transition Reports.
 - b. Integrated Testing (IT) data.
 - c. Any other previous OT results (EOA, OA, IOT&E, FOT&E, VCD, etc.)
- 2. Determine what previously collected data is qualified for use during this phase of OT.
 - a. Evaluate previously collected data to determine whether it meets the following criteria:
 - i. Was SUT configuration the same as intended?

NOTE: *For IOT&E/VCD/FOT&E: Previous SUT configuration(s) must be the same as that intended for use in OT, and for the Fleet. Be prepared to discuss and explain any deltas in configurations.*

- ii. Was data collected under conditions specified in IEF?
 - iii. Was the SUT stressed realistically?

- iv. Was environment operationally representative?
 - v. Were operators operationally representative?
 - vi. Were threats / targets operationally representative?

- b. Be prepared to discuss qualification rationale for every event with previously collected data.

- 3. Based on the data qualified for OT, or expected to be qualified, determine which measures, vignettes, or runs within vignettes, have been satisfied.

- a. For IT events, discuss requirement for a Data management and Analysis Plan (DMAP) or inclusion of IT data collection in this test plan.

- 4. Review available resources and major planned operational events (e.g., underway periods, Large Force Exercises, etc.) that can be leveraged for test.

- a. Review planned resources in the TEMP and IEF.
 - b. Review available ranges and their schedules.
 - c. Consider regression testing requirements identified in Touch Point A.
 - d. Consider major operational events that can be used to fulfill data requirements.

- e. Are additional test-specific resources required?

- f. Any environmental restrictions or constraints?

- g. Consider requirements for data collection tools, instrumentation, personnel, etc.

- 5. Organize testing, and determine which vignette runs and demonstrations should be grouped together, conducted in sequence, and/or conducted concurrently.

NOTE: *Linking and grouping of Vignette Runs, Maintenance Demonstrations, Effectiveness Demonstrations, and Regression Testing into test events can be accomplished by reviewing the IEF test design for commonalities. The goal is to optimize test time and resources. Refer to IEF Table 2-1.*

- 6. Develop the test schedule.

NOTE: *The test schedule should cover a Test Phase. Test Phases are usually determined by a milestone within the development lifecycle of the SUT (e.g., OT-C1, OT-B2, OT-D1, see OTD Manual). Multiple Test Periods comprise the Test Phase. Test Periods are usually driven by real world schedules that allow for the execution of a large portion of testing (i.e., detachment, underway period, deployment, or large force exercise). Multiple Test Evolutions will make up the Test Period. Test Evolutions are highly dependent on the program and allow for the grouping of multiple data collection events or tests due to common conditions (e.g., day, flight, drill, or scenario). Multiple Test Events comprise a Test Evolution, and are focused on collecting data to address measures. Test Events can be a standalone DOE run from a vignette or demonstrations, a group of vignette runs with similar conditions, or an entire vignette. The Test Event is the foundation from which the test schedule is built on.*

- a. Define each Test Phase and Test Period.
- b. Define Test Evolutions within each Test Period.
- c. Describe individual Test Events (the building blocks for each Test Evolution).
 - i. Establish broad and detailed test objectives.

- ii. Determine an order of execution; and number Test Events in sequence (1, 2, 3, etc.).
- d. Establish Test Conditions for each Test Event.
 - i. Discuss the Controlled, Recordable, and Constant Conditions from the Test Event's grouped vignette runs, or determine them if the event is not vignette based.
- e. Determine resources required (e.g., targets, ranges, test articles, support equipment, etc.)

Sign and Date: OTD _____ / SH/OTC _____
01C _____

- 7. Draft Deliverables B-1 and B-2, and email it to the A Code, B Code, Squadron CO, Squadron XO, Squadron COTD, Squadron ACOTD, 01B, 01C, 01B CTF, 01C Division Representative, SH/OTC, LTE, Contract Supporte, and other members of the test team two (2) working days prior to the scheduled Test Plan Touch Point B.
 - a. Deliverable B-1 includes all previous data to be qualified for use in OT.
 - b. Deliverable B-2 includes:
 - i. Test Period description.
 - ii. Test Schedule.

****For Oversight Programs DOT&E should be provided Deliverables B-1 and B-2.****

NOTE: *See Y Drive (Y:\OT&E Production Library)\Test Plan and DMAP for the Deliverable B-1 and B-2 templates and Deliverable B examples.*

□ 8. Test Plan Touch Point B

- a. OTD will schedule a review with the following people:
 - i. Required: A Code, Squadron CO, 01C, 01B (or their designated reps).
 - ii. Recommended: B Code, Squadron XO, COTD, ACOTD, SH/OTC, 01C Division Rep, 01B CTF, Contract Support, and other members of the test team.
 - iii. **For oversight programs, the DOT&E Action Officer must be invited.**
- b. Be prepared to provide the relevant required documentation (e.g., previous test reports, data collected, previous risks and deficiencies, Vignette-to-Subtask-to-Conditions Matrix, etc.).
- c. OTD should provide Deliverables B-1 and B-2.
- d. OTD brief to the A Code/Squadron CO will discuss the following:
 - i. Review TP A results, and “Purpose of Test”.
 - ii. Previously collected data (Deliverable B-1) for which runs, vignettes, and measures.
 - iii. Runs, vignettes, and measures with data requirements that have been fully or partially satisfied.

NOTE: Use the Vignette-to-Subtask-to-Conditions Matrix as the basis for discussions concerning satisfying runs and vignettes.

- iv. IT contributions, including DMAP requirements, and inclusion of IT events in this test plan.

- v. Data left to be collected and for which runs, vignettes, and measures, including regression requirements.
- vi. Schedule of Events (Deliverable B-2) and when remaining data will be collected.

NOTE: Focus on who will be involved, what will be accomplished and with what assets, when and where it will occur, why it is occurring (i.e., high level purpose), and how the Test Team will be involved. Make sure you plan in time for data analysis, training and proficiency, and re-testing requirements.

Date Completed: _____

Attendees:

NOTE: Prepare the Concept of Test Brief to 00 and DOT&E if not already complete.

OTD Test Plan Touch Point C Checklist

Purpose: To develop the **Detailed Method of Test (DMOT)** for executing the test events detailed in the test schedule by determining how the test will be conducted and flow from event to event throughout the test phase.

- 1. Review applicable schedules, TACMANs, NTPs, CONOPS.

NOTE: *The method used to execute each test event should be in line with the tactics and CONOPS used in the fleet. For new systems, engage the Warfare Development Centers (NSAWC, SWDG, etc.)*

- 2. Review the IEF Vignette-to-Data Requirements-to-Test Method Matrix (DRTM) (paying close attention to the Vignette Test methodology) and the Vignette-to-Subtask-to-Conditions Matrix (Table C-1).

NOTE: *The IEF begins the process of developing the test method. OTDs should leverage the IEF by determining how the test will be executed and flow from event to event throughout the day.*

- 3. Based on each day's test event schedule (Deliverable B-2), determine the following:
 - a. What are the *test objectives* for this test event?
 - b. What *test methods* or maneuvers will be used?
 - c. What *test conditions* do we need to establish?
 - i. What are the common requirements ?
 - ii. What are the randomized conditions required?
 - iii. What unique conditions are required?

iv. Are there any **additional** conditions that need to be considered? **If so, update the IEF accordingly.**

d. What is the plan for handling *deviations and limitations* to test? (i.e., When to call home?)

- 4. Determine the conditional requirements for each test event to ensure data collected is valid. Consider the following:
 - a. What are the required (test specific) conditions, status, configurations, or set-ups needed?
 - b. Review DOE for Controlled, Constant, Recordable conditions to determine what tolerances must be met to validate test events.
 - c. What additional conditions are required
 - d. How will you know if data collected is valid?
 - i. Determine tolerances needed to validate data collected.
 - ii. Identify a point of contact (POC) for all data collected.
- 5. Define the start ('COMEX') and stop ('FINEX') of each major test event.
 - a. What pre-test conditions must be met to start the test event?
 - b. What vignettes comprise each test event?
 - c. What test criteria must be met, and what data must be collected, in order to call the test event complete?

6. Determine Go/No Go Criteria for each major test event. Consider the following:
- a. What are GO / NO-GO criteria for each event?
 - b. If any prerequisite for test is not available, Test Team is a 'NO-GO' to execute the test event.

NOTE: *In this step, the Test Team identifies the prerequisites and 'must haves' before testing can commence*
GO: *All preplanned events and requirements to safely proceed have been met*
NO-GO: *Requirements for test have not been met; the Test Team is faced with a missing requirement*

7. Define each test event's DMOT for execution.

NOTE: *The events should line up with the test schedule. Consideration should be given for how the entire test will flow. Maintenance Demonstrations, Effectiveness Demonstrations, and Regression testing should be treated like any other Test Event. Since the events should be sequential and relate to one another by common conditions and objectives, there should be a method for how the events can be efficiently and effectively executed in chronological order and how they will flow. Once complete, the DMOT should be a detailed, executable document, understood by all participants, which flows logically from event to event, while remaining aligned with the Test Schedule.*

- a. Start with the DRTM, expanding on the detail already included in the test method section.
 - i. Describe test objectives.
 - ii. Describe test methods / maneuvers.
 - iii. Discuss CONOPS or TTPs to be used.
 - iv. Discuss any 'build-up' required for critical test events (proficiency).
- b. At a **minimum** the event DMOT should include:

- i. The steps required to set up the test event. Review and expand on the pre-test discussion in the DRTM test method section.
- ii. Actions and responsibilities of the OTD, trusted agents, operators, and test team required to facilitate the test event.
- iii. How the test will be executed (test methodology). Review and expand on the test execution discussion in the DRTM test method section.
- iv. Briefing requirements, both pre- and post-test.
- v. Step-by-step timekeeping and data requirements.
 - Timeline of key events.
 - Describe how to get from end of previous test event to beginning of this one.
 - Describe how you will end this test event to setup for the next one.
- vi. Operational Risk Management (ORM) / safety considerations.
 - Identify any specific range safety / clearance requirements .
 - Review emergency procedures.
 - Discuss 'What if' drills.

Sign and Date: OTD _____ / SH/OTC _____
 O1C _____

8. Draft Deliverable C and email it to the O1C Division Representative, SH/OTC, LTE, Contract Support, and other members of the test team two (2) working days

prior to the scheduled Test Plan Touch Point C.
Deliverable C includes:

- a. Test Objective for each test event.
- b. Daily Pre-Test Brief/Hot Wash requirements.
- c. DMOT for each test event.
- d. Data validity requirements.
- e. Start/Stop definitions; GO/NO GO Criteria.

NOTE: See Y Drive (Y:\OT&E Production Library\Test Plan and DMAP) for the Deliverable C template and Deliverable C examples.

- 9. Test Plan Touch Point C
 - a. Schedule review with 01C Division Representative, SH/OTC, LTE, Contract Support, and other members of the test team. Invite the 01B CTF (may attend, but not required).
 - b. Be prepared to provide the relevant required documentation (e.g., Ship Schedules, Test Schedule, CONOPS, Vignette DRTMs, Vignette-to-Subtask-to Condition Matrix, etc.).
 - c. OTD will provide Deliverable C.

Date Completed: _____

Attendees:

NOTE: If there is disagreement about the DMOT that can not be resolved at TP C, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan Development.

OTD Test Plan Touch Point D Checklist

Purpose: To develop the **Data Collection Plan** to ensure all data requirements are linked to vignettes, test events, and associated measures.

NOTE: The Measures-to-Data Requirements Matrix (MDRM) and the Conditions Directory from the IEF should be used as a resource for the development of the Data Requirements Table. If new Data Elements and Conditions are discovered or discussed or Data Elements and Conditions are determined no longer to apply, the IEF should be updated accordingly.

- 1. Determine all data elements required for each test event, reviewing the IEF and the IEF database, including the MDRM (Table D-1); Vignette DRTM (Appendix C); Vignette-to-Subtask-to-Conditions Matrix (Run Matrix, Appendix C); Conditions-to-Data Requirements Matrix (Table D-2); and Conditions Directory (Table B-1).
- 2. Determine the sources of data, including the required measurement tools and devices. Consider the following:
 - a. What subcomponents will provide the data?
 - b. Are there any calibration requirements?
- 3. Build the Data Requirements table with the following information for each data element and recordable condition:
 - a. Units of Measure, including the precision required (e.g., whole foot, nearest 100 yards, HH:MM:SS.S).

- b. Sources of data (what subcomponent (screen, data recorder, etc.) or measuring device (flow meter, video camera, etc.) is supplying the data).
- c. Associated measure.
- d. Data record (what data sheet or data device, retained by the test team, is storing the information?).

NOTE: Consider the sampling rate for each data requirement. How frequently must the data be collected. Ensure the data sheet or data device supports the requirement.

- e. Person responsible for collecting the data.

NOTE: The purpose of this step is to ensure data sheets are complete, alternate data sources are available for critical measures, and individuals responsible for data collection are not overloaded. The Data Requirements Table is also used as a checklist to ensure all the data and recordable conditions are captured on an appropriate record. Once that is satisfied, the OTD needs to ensure the data records are assigned to an individual so that they can be collected during and after the test event.

Sign and Date: OTD _____ / SH/OTC _____
 O1C _____

- 4. Organize data collection. From the Data Requirements table, sort by test event and by data recording responsibilities. Ensure data collection is executable from a workload / logistics perspective.
- 5. Determine the Data Collection Plan (DCP) for each test event. Consider the following:
 - a. Determine data collection procedures (**who, what, where, when, and how**).

- i. Who will collect the data?
 - ii. What are the data collection procedures?
 - iii. Where will test personnel need to be positioned to observe data?
 - iv. When will data be collected?
 - v. How will data be collected?
 - vi. Is the data classified? Determine how data will be returned to COTF.
- b. Review, and update as necessary, test support equipment in the TEMP / IEF, to produce a comprehensive list for each test event.

NOTE: The OTD should aggregate all the required test support equipment and test support personnel to determine if adequate resources are available before starting test.

NOTE: Test support equipment includes equipment required to capture data, take measurements, or facilitate test (e.g., measuring tape, GPS tracker, targets, DX data recorder, etc.).

- 6. Review requirements for surveys, interviews, and data sheets.
 - a. Create data sheets, interviews, and surveys, as required.
 - b. Refer to Best Practice 14, and DOT&E letter regarding Surveys, of 23 June 2014.

Sign and Date: OTD _____ / SH/OTC _____
 O1C _____

- 7. Draft Deliverable D and email it to the O1C Division Representative, SH/OTC, LTE, Contract Support, and other members of the test team two (2) working days prior to the scheduled Test Plan Touch Point D. Deliverable D includes the following:
 - a. Data Collection Plan.
 - b. MDRM (IEF Table D-1).
 - c. Data Record Responsibilities Tables.
 - d. Test equipment and personnel requirements.
 - e. Surveys, Interview, Data Sheets

NOTE: See Y Drive (Y:\OT&E Production Library\Test Plan and DMAP) for the Deliverable D template and Deliverable D examples.

- 8. Test Plan Touch Point D
 - a. Schedule review with O1C Division Representative, SH/OTC, LTE, Contract Support, and other members of the test team. Invite the O1B CTF (may attend, but not required).
 - b. Be prepared to provide relevant documentation (MDRM, DRTM, Conditions Directory, etc.).
 - c. OTD should provide Deliverable D.

Date Completed: _____

Attendees:

NOTE: If there is disagreement about the Data Collection Plan that can not be resolved at TP D, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan Development.

OTD Test Plan Touch Point E Checklist

Purpose: To develop the **Data Analysis Plan** to ensure the data is analyzed per the IEF and the Post Test Iterative Process.

- 1. Review section 2.3 of the IEF, COI by COI.
- 2. For each COI, describe the *COI resolution methodology*. Discuss COIs, tasks, and measures, and focus on Critical Tasks and subtasks.
- 3. Describe how measures will be analyzed to evaluate associated tasks and resolve COIs.
 - a. Discuss M&S contributions, DT-only measures, and previously qualified data.
 - b. Discuss appropriate units and tolerances.
 - c. Present the data elements required to determine the measure (from Deliverable D).
 - d. Describe the analytical method or formula to be used to calculate the measure.
 - e. If applicable, describe the statistical method to be used for the factor analysis (e.g., ANOVA and confidence interval evaluation).
 - f. Discuss non-standard data analysis methodologies.

NOTE: Detailed discussions of analysis methodologies are not required for 'standard' calculations such as the mean, standard deviation, or the Wilson Score Method. Deviations from standard methodologies must be described.

- 4. For every Critical Task in support of a COI, define scoring criteria and allowable tolerances.

NOTE: Scoring data is a three-part process: (1) qualify the data for OT (Fleet representative operator, Fleet SUT configuration, operationally realistic stress, etc.); (2) data meets run controlled conditions; (3) score the run (hit/miss, pass/fail, OMF/not, abort/not)

Sign and Date: OTD _____ / SH/OTC _____
01C _____ / 01B _____

5. Draft Deliverable E and email it to the 01C Division Representative, 01B CTF, SH/OTC, LTE, Contract Supporte, data analysts, and other members of the test team two (2) working days prior to the scheduled Test Plan Touch Point E. Deliverable E includes the following:
- a. COI resolution methodology
 - b. Critical Measures **with** and **without** Response Variables discussion.
 - c. Measure calculation discussion.
 - d. Scoring criteria and tolerances.
 - e. Plan of Action and Milestones (POA&M) for the Post Test Iterative Process.

NOTE: The Post Test Iterative Process POA&M should include:

- How many COI Analysis Working Groups (CAWG) the team plans to conduct and when they will conduct them
- Data analysis to be conducted by outside entities and the associated timelines
- Timeline(s) associated with reviewing, reducing and analyzing the data
- When the 14-day brief to the B-Code, the AWG, and the SERB/E-SERBs will be scheduled.

NOTE: See Y Drive (Y:\OT&E Production Library\Test Plan and DMAP) for the Deliverable E template and Deliverable E examples. See Y Drive (Y:\OT&E Production Library\Test Reports) for Best

6. Test Plan Touch Point E

- a. Schedule a review with the 01C Division Representative, 01B CTF, SH/OTC, LTE, Contract Support, data analysts, and other members of the test team.
- b. Be prepared to provide the relevant required documentation (e.g., IEF section 2.3, MDRM, Conditions Directory, etc.).
- c. OTD should provide Deliverable E.

Date Completed: _____

Attendees:

NOTE: If there is disagreement about the Data Analysis Plan that can not be resolved at TP E, the B Code (or Squadron COTD/ACOTD) should be briefed and act as the decision authority to move on to the next phase of Test Plan Development.

Test Plan Document Development Checklist

Purpose: To pull the information from the Deliverables, IEF, and other source documents and construct a **Test Plan** document for routing.

NOTE: See Y Drive (Y:\OT&E Production Library\Test Plan and DMAP) for the Test Plan template and Test Plan examples.

- 1. Import into Section 1 and 2 of the template the following paragraphs:
 - a. Purpose of Test (Deliverable A).
 - b. SUT description (Deliverable A).
 - c. SoS description (Deliverable A).
 - d. Mission Area Discussion (Deliverable A).
- 2. Import into Test Execution Appendix (Appendix A):
 - a. Test Schedule, test period by test period (Deliverable B-2).
 - b. Detailed Method of Test, event by event under its associated test period (Deliverable C).
 - c. Data Collection Plan, event by event under its associated Test Method (Deliverable D).

NOTE: The OTD needs to fuse the pieces and parts from Deliverable B, C, and D into a single chronologically based Test Execution Appendix. This Appendix will act as the road map for how to test the SUT and will be taken on site for test.

Date Completed: _____

- 3. Finish Section 1 in the template by discussing the Test Plan Deviation Guidance and Test Configurations.
 - a. For 'Test Plan Deviation Guidance' consider the following:
 - i. Define what constitutes a deviation.
 - ii. Provide guidance for when the OTD can make a real time deviation decision.
 - iii. Provide guidance for when the OTD must seek divisional approval (with 01C/01B guidance) to deviate.

NOTE: Test Plan Deviations are intentional changes to test execution that will affect the quality and completeness of the data being collected. A test limitation is an unplanned deviation that occurred due to uncontrollable circumstances surrounding the test, with the understanding that a repeat of that test event where that limitation is not present is impractical.

- b. For 'Test Configurations' consider the following:
 - i. Hardware configurations of the SUT that are not representative of the Fleet.
 - ii. Software configurations of the SUT that are not representative of the Fleet.
 - iii. Aspects of the test environment that are not representative of Fleet conditions.
 - iv. Aspects of the threat and target that are not representative of Fleet operations.
- 4. Finish Section 2 in the template.
 - a. For 'IT and Previous Testing' consider the following:
 - i. Import the 'Previous Data Qualified for OT' section from Deliverable B-1.

ii. For DT/IT events that have not occurred yet, make sure the date, location, measures, vignettes are discussed and how data will be qualified for OT. To be qualified for OT, DT/IT data must use: 1) operationally realistic operator; 2) operationally realistic environment; 3) operationally realistic threat; 4) operationally realistic target; 5) the OT SUT configuration.

iii. List previous Pending Risks, Risks, or Deficiencies that will be examined.

b. For 'M&S' consider the following:

- i. Review the M&S portion of the IEF.
- ii. Discuss the VV&A plan for models used.
- iii. Discuss models used for DT data being brought forward and their VV&A.

NOTE: COTF M&S VV&A requirements apply to ALL models and simulations being used for OT data analysis. M&S that generate OT data include but are not limited to: Stochastic Probability Models, Physics Based Models, Mass Models, & Test Data Based Models. See M&S best practice.

c. For 'Limitations' consider the following:

- i. Review the limitations identified in the IEF.
- ii. Do you have adequate time and resources?
- iii. Can you test in all environments?
- iv. Are you able to test all aspects of the SUT?
- v. Are you able to test with all aspects of the SoS?
- vi. Do you have test constraints?
- vii. Must you use specific test articles not representative of the Fleet?

viii. Are you using M&S instead of the SUT?

d. For 'Resources' consider the following:

- i. Bring forward the resources from the TEMP.
- ii. Add any additional resources discussed during Deliverables B, C, and D.
- iii. Add cost estimates for the resources.

5. Finish Section 3 in the template.

a. For 'Safety Responsibilities' consider the following:

- i. Assign responsibilities for using ORM principles.
- ii. Discuss Range Safety responsibilities if applicable.
- iii. Discuss Fire Break procedures if not thoroughly documented in an operator publication.
- iv. Discuss who is responsible for the SUT and who will initiate mishap responsibilities.

b. For 'Risk Mitigation Plan' consider the following:

- i. What potential hazards exist to the accomplishment of the test?
- ii. What potential hazards exist to the operators and test observers?
- iii. What potential hazards exist to the SUT?
- iv. What potential hazards exist to the environment/civilian bystanders?
- v. Once those hazards are identified discuss their likelihood/severity, mitigation strategy, and likelihood/severity after implementation of the mitigation strategy.

6. Finish Section 4 in the template.

- a. Discuss Program Administration.
- b. Discuss Program Security.
- c. Discuss Visitor Control.
- d. Discuss policies regarding release of OT data and blue/gold sheets.
- e. Discuss Report Timelines.

NOTE: Typically the Report timeline is 90 days for ACAT I programs and 60 for non-ACAT I programs. If the timeline can not be met, the OTD should seek relief from the timeline from COTF leadership. Include the actual timeline in this section or the OTD Manual timeline if relief has not been granted.

- 7. Include the following Appendices at a minimum:
 - a. Appendix A - Data Execution Appendix. Includes merged Deliverables B-2, C, and D.
 - b. Appendix B - Test Design Appendix. Includes updated:
 - i. Vignette-to-Subtask-to-Conditions Matrix
 - ii. Vignette-to-Data Requirements-to-Test Method Matrix
 - iii. Measures-to-Data Requirements Table
 - c. Appendix C - Event Cards, Data Sheets and Surveys.
 - d. Appendix D - Data Analysis Plan Appendix. From Deliverable E.
 - e. Appendix E - OT Scoring Board Procedures.
 - f. Acronyms and Abbreviations.
 - g. References (should be the last Appendix).

Sign and Date: OTD _____ / SH/OTC _____
 01C _____ / 01B _____

- 8. Construct Test Plan Review Board (TPRB) Brief to discuss the following at a minimum:
 - a. Purpose of Test (Deliverable A).
 - b. SUT Description (Deliverable A).
 - c. SoS Description (Deliverable A).
 - d. Mission Area Discussion (Deliverable A).
 - e. Limitations to test (Deliverable A).
 - f. Previous Deficiencies.
 - g. Test Plan Deviation Guidance.
 - h. Safety Responsibilities.
 - i. Risk Mitigation.
 - j. Test Execution (Appendix A).
 - i. Schedule (Deliverable B-2).
 - ii. Detailed Method of Test (Deliverable C).
 - iii. Data Collection Plan (Deliverable D).
 - k. Data Analysis Plan (Deliverable E).
 - l. Report Timeline.

NOTE: The focus of the TPRB is on Test Execution. The schedule, DMOT and DCP should be discussed in detail.

- 9. Email the Draft Test Plan and the TPRB Brief to the A-Code, B-Code, Squadron CO, Squadron XO, COTD, ACOTD, 01C, 01B, SH/OTC, 01C Division Representative, 01B CTF, LTE, Contract Support, and

other members of the test team two (2) working days prior to the scheduled Brief.

10. TPRB Brief

NOTE: The purpose of the TPRB is for the OTD to demonstrate complete mastery of the proposed test and Test Plan. It is not intended to be a document review.

- a. OTD will schedule the TPRB with the following people:
 - i. Required: A Code, Squadron CO, 01C, 01B (or their designated reps).
 - ii. Recommended: B Code, Squadron XO, COTD, ACOTD, SH/OTC, 01C Division Representative, 01B CTF, Contract Support, and other members of the test team.
- b. Be prepared to provide all documents referenced in the test plan to address questions.
- c. OTD will brief the test plan for review. The objective of the meeting will be to gain approval for routing the draft test plan and feedback for the test plan.

Date Completed: _____

Attendees:

11. Incorporate all changes and updates to the test plan from the brief.

12. Route the test plan for signature per the OTD Manual.

Document Tracking

13. Reviewed by SH/OTC and routed to 01B for comments.

Date Completed: _____

14. Comments incorporated & routed to 01C.

Date Completed: _____

15. Comments incorporated & routed to Division A/B codes.

Date Completed: _____

16. Comments incorporated & routed to Editors.

Date Completed: _____

17. Editors complete and routed to 00TD.

Date Completed: _____

18. Comments incorporated and routed to 00D.

Date Completed: _____

19. Comments incorporated and routed to 00.

Date Completed: _____

Change	Date Incorporated