



**APPROVED**

**Navy Modeling and Simulation  
Standard**

Standard Title:

**Validation Report Format  
for  
Navy Air Defense and Related Threat  
Simulators, Simulations, Models, and Actuals**

Signed

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Processed by the

Navy Modeling and Simulation Standards Steering Group



<u><b>Navy M&amp;S Standard Designator:</b></u>  SND 00028	<u><b>Navy MS3G Standards Process Status:</b></u>  <b>Stage 4</b>  <u><b>NAVMSMO Approval Date:</b></u>
<u><b>Standard Title/Name:</b></u>  Validation Report Format for Navy Air Defense and Related Threat Simulators, Simulations, Models, and Actuals	<u><b>Document Date:</b></u>  6 August 2002
<u><b>Sponsor:</b></u>  Navy Threat Simulator Validation Coordinator  Naval Air Warfare Center Weapons Division  Code 53C000D  China Lake, CA 93555-6001	<u><b>Point of Contact:</b></u>  <b>Title:</b> Navy Threat Simulation Validation Coordinator  <b>Telephone:</b> (760) 939-0307  <b>DSN:</b> 437-0307
<u><b>Applicable Directives, Instructions, Regulations, Manuals, etc.:</b></u>  1. NAWCWPNS TM 7489-3, U. S. Navy Air Defense Threat Simulator Validation Procedures Manual, March 1995  2. Navy Threat Simulation Validation briefing to VV&A TAG on 10 May 2001  3. Navy Threat Simulation Validation Process briefing to VV&A TAG on 16 August 2001  4. List of Approved Navy Air Defense and Related Threat Validation Reports	
<u><b>Purpose:</b></u>  Formal validation reports are prepared using the DOD Threat Simulation Program Plan and the Navy Air Defense Standard "Simulation Validation Criteria" (SVC) format and verified to ensure accurate transcription.  The finished report is reviewed and forwarded for approval to the appropriate program manager or NAVAIR, (PMA) via the Navy Simulation Validation Coordinator, (53COOOD) NAWCWPNS, China Lake, or other cognizant validation activities V&V agent. A formal report signature approval sheet is sent with the report to be signed and forwarded up approval chain of command.  Upon NAVAIR level PMA approval and prior to DOT&E approval the report is then forwarded to OPNAV for final Navy review and approval accompanied by the signature approval sheet. Once final Navy approval is complete the report is forwarded to the DOT&E Threat Systems Office for final DOD subject matter expert (SME) review and approval or comment. If there are DOD SME comments on the report they are generally expected to be answered and resolved with the reviewers via mail or face to face in person meetings with the validation agent and other persons deemed essential in the resolve of the issues and comments concerning the report.  If the DOD SME reviewing team is satisfied with the outcome and appropriate corrective action taken by the service Validation activity then a formal recommendation and final approval letter is prepared and forwarded to DOT&E for signature. This letter summarizes the results of the review and approval of the threat simulation validation report, and any recommendations regarding validity of the subject simulation is included. When the final approval letter is signed by DOT&E it is then forwarded and notification is sent to the appropriate service representatives at OPNAV and NAVAIR as well as the validation activities and agents involved.  The report is then archived in the DOD repository and safeguarded at the NAVY activity, test range or facility. The Validation reports are then used to support T&E accreditation by COMOPTEVFOR and other services Test and Evaluation activities in support of milestone decisions.  The DOD standard validation report format is currently the approved model for validation reports.	

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**Description:** See Steve Wireman's briefing from the 051001 VV&A TAG meeting for additional discussion about the Threat Simulator Validation Report Format. The following information was directly extracted from See NAWCWPNS TM 7489-3: U. S. Navy Air Defense Threat Simulator Validation Procedures Manual.

**Executive Summary.** This section is the last section written and is a condensed version of Sections I through VI. The major elements of the six sections should be covered. No material is provided here that is not provided in the other six sections in greater detail. Much of the detailed discussion is not included here, but is found only in the main body of the report. This section should be two to three pages in length, unless there are a very large number of differences and impacts to address. This should be a stand-alone section.

**Section I, Introduction.** This section should briefly state what threat this simulator is expected to represent, what portion of the threat is included, what is left out, and the relationship of this simulator to others if it is a portion of a larger system, or a modification of a larger system. It also should state whether the simulator is expected to represent multiple variants of the threat, if such variants exist. The purpose or objective of the validation report should be stated. This section should include a statement that the validation report describes the status of the simulator's ability to emulate the threat at that point in time, and that there may have been changes in the threat definition or in the simulator since the validation report was written. The introduction should identify a point of contact for users to gain additional information

**Section II, Validation Procedures.** This section should identify the directives that apply to this report. It should identify the sources of data for both the threat and the simulator, along with the process of determining the impacts of the differences between the threat and the simulator that have been documented.

**Section III, Threat Description.** This section should provide a brief (3-10 pages) narrative description of the threat as it is currently defined. The section should also state that the data has been extracted from DIA documents or should identify the other documents used as source data for the threat information. State if the DIA has approved any or all of the data that was drawn from non-DIA documents. Generally, block diagrams should be placed in this section. Operational doctrine, time to sequence from acquisition to track to launch to intercept, type of system, etc., are appropriate in this section. Discussion that builds on the data provided in Appendix A, or provides additional explanation of the information in Appendix A, should be included.

**Section IV, Simulator Description.** This section should specifically identify all functions of the threat that are included, and any of the functions of the threat system that are not included, as part of the simulation. If some portions are simulated in hardware, for example, target tracker and missile seeker, while other portions are simulated in software, for example, missile fly-out, that too should be stated. It is preferred that a simulator system be fully addressed in one report, rather than breaking it apart into two or more reports, (for example, the target tracker in one report with the missile seeker and fly-out model in a separate report). In many cases the simulator is programmable in a number of areas and could be readily changed as the threat definition changes. Significant programmability should be covered in this section. If programmable features cover the current threat estimate, the report should include this information. If there are any special modes of operation, they should be described here.

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**Description (continued):**

**Section V, Discussion of Differences and Impacts.** This section is the most important of the validation report. With the data in Appendix A, this is the real meat of the report. This section should address all significant impacts on testing or training that may occur due to differences between the current threat and the simulator. These statements of impacts may be based on a significant difference between the threat and the simulator, or they could be based upon a group of differences. If there are differences, which tend to counter-balance the impact each may have individually, they should be discussed together. Do not address each difference of the threat and the simulator, only those which individually or collectively could be expected to impact test or training results. While specific systems that have been designated to be tested against the simulator can be useful in identifying some of the impacts of differences, the validators should consider all types of systems that may undergo testing with the simulator when identifying the impacts of differences.

**Section VI, Conclusions and Recommendations.** This section should address the overall conclusions and recommendations that can be reached on the basis of the impacts of the differences between the current threat and the simulator. Several significant impacts may affect only one type of test, leaving the simulator well suited for other tests; this should be stated. In some cases, the simulator may be so different from the threat in several different areas that a modification is recommended.

**Section VII. References.** This section should list all references used in the report.

#### **APPENDIX A. Standard Validation Criteria Data**

**Section A1.** This section should provide a key to the abbreviations used in the data entries in Section A2. All items, such as NA or N/A, NAp, NSm, should be explained. Whenever threat data has no confidence level associated with it, the report should state how the data in the Confidence Level column has been coded to show that fact.

**Section A2.** This section should contain the SVC from the appropriate Threat Simulator Program Plan Annex I Appendices, with all threat and simulator data. In cases where the simulator has been made programmable, do not simply state programmable. The range of programmability must be stated along with the fact that the function is programmable. If any of the programmable items have been programmed such that they do not match the current threat definition, this also must be stated. Validators' notes and threat analysts' comments should be identified in the Notes/References column and included at the end of the section. All portions of the SVC should be addressed; however for those portions which do not apply, such as Continuous Wave parameters for a pulsed radar system, simply state "\_\_\_\_\_ Applicable" as the header entry for that group of parameters. Delete subordinate parameter numbers and names in the group from the report. The threat analyst should already have done this. Do not leave out a portion of the SVC without some explanation.