

JTLS

Version Description Document

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U.S. Joint Forces Command
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**JOINT THEATER LEVEL SIMULATION
(JTLS 3.4.0.0)**

ABSTRACT

This *JTLS Version Description Document* (VDD) describes Version 3.4.0.0 of the configured software suite identified as the Joint Theater Level Simulation (JTLS).

JTLS 3.4.0.0 is a Major release that includes a modified and enhanced Standard Database, as well as the extensive model functionality changes implemented as Enhancement Change Proposals (ECPs), which are described in Chapter 2. Chapter 3 of this document describes the code modifications that represent corrections to Software Trouble Reports (STRs). The remaining outstanding STRs are described in Chapter 4.

This publication is updated and revised as required for each Major or Maintenance version release of the JTLS model. Corrections, additions, or recommendations for improvement must reference specific sections, pages, and paragraphs with appropriate justification and be forwarded to:

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1.0 INTRODUCTION

1.1 SCOPE

This JTLS Version Description Document (VDD) describes Version 3.4.0.0 of the configuration managed Joint Theater Level Simulation (JTLS) software suite. JTLS 3.4.0.0 represents the follow-on modeling capability to the JTLS 3.3 series of releases.

JTLS 3.4.0.0 is a Major release that includes the Web Hosted Interface Program (WHIP), as well as an updated *sdboif34* Standard Database that includes a realistic scenario based on Operation Iraqi Freedom. Database modifications that were accomplished to upgrade the previous JTLS Standard Database to this current version are summarized in this chapter. Detailed descriptions of Enhancement Change Proposals (ECPs) implemented for this release are provided in Chapter 2. The code maintenance modifications that represent corrections to Software Trouble Reports (STRs) are described in Chapter 3 of this document. The remaining outstanding STRs are described in Chapter 4.

The JTLS 3.4.0.0 release executes on the Red Hat Enterprise Linux Version 5 operating system. JTLS support for all versions of the Sun Microsystems Inc. Solaris™ operating system and SPARC™ hardware platform has been discontinued.

1.2 INVENTORY OF MATERIALS

This section lists documents and software relevant to JTLS. JTLS documents can be obtained by contacting the Configuration Management Agent (CMA) at the address listed in the Abstract on Page *iii* of this document. DoD Military Standards can be obtained through the appropriate military channels.

1.2.1 Obsolete/Outdated Documents

No documents have been removed from the JTLS documentation suite for this release.

1.2.2 Unchanged Documents

The model enhancements implemented for the JTLS 3.3+ version series are included in JTLS 3.4.0.0 and are incorporated within the documentation provided for this release:

- a. *JTLS Analyst Guide* (JTLS Document 01, Version 3.3.5.0)
- b. *JTLS ATOG User Guide* (JTLS Document 02, Version 3.2.0.0)
- c. *JTLS ATOT User Guide* (JTLS Document 03, Version 3.3.5.0)
- d. *JTLS Director Guide* (JTLS Document 07, Version 3.3.5.0)
- e. *JTLS Executive Overview* (JTLS Document 08, Version 3.2.1.0)
- f. *JTLS PPS User Guide* (JTLS Document 13, Version 3.2.0.0)
- g. *JTLS Software Maintenance Manual* (JTLS Document 15, Version 3.3.4.0)
- h. *JTLS Entity Level Server User Guide* (JTLS Document 19, Version 3.3.0.0)

1.2.3 Updated Documents

These documents listed have been updated for JTLS 3.4.0.0 to reflect functional requirements or enhancements to the JTLS system.

- a. *JTLS Controller Guide* (JTLS Document 04, Version 3.4.0.0)
- b. *JTLS Data Requirements Manual* (JTLS Document 05, Version 3.4.0.0)
- c. *JTLS DDS User Guide* (JTLS Document 06, Version 3.4.0.0)
- d. *JTLS Installation Manual* (JTLS Document 09, Version 3.4.0.0)
- e. *JTLS Player Guide* (JTLS Document 12, Version 3.4.0.0)
- f. *JTLS WHIP Training Manual* (JTLS Document 10, Version 3.4.0.0)
- g. *JTLS Standard Database Description* (JTLS Document 14, Version 3.4.0.0)
- h. *JTLS Technical Coordinator Guide* (JTLS Document 16, Version 3.4.0.0)
- i. *JTLS Version Description Document* (JTLS Document 17, Version 3.4.0.0)

1.2.4 New Documents

The *JTLS CAI Interface Manual* (JTLS Document 21, Version 3.4.0.0) describes the functional capabilities and user procedures implemented for the JTLS Operational Interface (JOI) and Keyhole Markup Language (KML) Operational Interface (KOI) data servers delivered with this release. The JOI is an external program that feeds JTLS game data to real-world Command, Control, Communications, Computers, and Intelligence (C4I) systems during exercises. The KOI feeds formatted KML data to Google Earth™, a commercially available terrain imaging viewer.

The *JMRM User Guide* (JTLS Document 20, Version 3.4.0.0) describes JTLS technical control procedures, database building requirements, model algorithms, and exercise decision issues from the perspective of the Joint Multi-Resolution Model (JMRM) federation. This volume is intended to serve analysts, interface operators, database developers, and other technical personnel as a supplement to the JTLS suite of documents and their federate equivalents.

The *JTLS Design Plan* (JTLS Document 18, Version 3.4.0.0) has been added to the documentation suite to provide detailed technical information about model enhancements delivered with this JTLS release.

1.2.5 Delivered Software Components

The JTLS Version 3.4.0.0 may be delivered either on a CD, or as a set of compressed tar files to be downloaded. Either method includes the complete suite of software executable code and command procedures. The following software components are included in this release:

- a. Combat Events Program (CEP)
- b. Information Management Tool (IMT)
- c. Scenario Initialization Program (SIP)
- d. Interface Configuration Program (ICP)
- e. Interface Configuration Program Login (IPCLogin)

- f. Order Preprocessor Program (OPP)
- g. Reformat Spreadsheet Program (RSP)
- h. Database Development System (DDS)
- i. Terrain Modification Utility (TMU)
- j. Lanchester Development Tool (LDT)
- k. ATO Generator Program (ATOG)
- l. ATO Translator Program (ATOT)
- m. ATO Retrieval Program (ATORET)
- n. Convert Location Program (XCONVERT)
- o. Count Critical Order Program (CCO)
- p. Graphical Database Program (GDP)
- q. HLA Interface Program (HIP)
- r. After Action Review Client (AARC)
- s. Scenario Data Client (SDC)
- t. Order Entry Client (OEC)
- u. Order Verification Tool (OVT)
- v. JTLS Object Distribution Authority (JODA)
- w. Web-Hosted Interface Program (WHIP) and its component programs:
 - 1. Apache Server (APACHE)
 - 2. JTLS XML Serial Repository (JXSR)
 - 3. Order Management Authority (OMA)
 - 4. Synchronized Authentication and Preferences Service (SYNAPSE)
 - 5. Web Services Manager (WSM)
 - 6. XML Message Service (XMS)
 - 7. Total Recall Interactive Playback Program (TRIPP)
- x. Entity Level Server (ELS)
- y. JTLS Operational Interface (JOI)
- z. KML Operational Interface (KOI)

Instructions for installing JTLS 3.4.0.0 are provided in the *JTLS Installation Manual*. Installing any previous version of JTLS prior to installing JTLS 3.4.0.0 is not necessary. No other upgrade beyond installation of the compressed tar files (or CD) is required. The software provided with this delivery is a complete release that includes all files and code required to execute JTLS.

1.2.6 Released Databases

This release includes three sample unclassified databases.

The scenario developed as *Standard Database Operation Iraqi Freedom* and named *sdboif* is a large-scale, seven-sided scenario database reflecting the approximate starting positions of units involved in the March 2003 invasion of Iraq. This example scenario was developed using unclassified data sources and is consequently not completely accurate. Discrepancies among actual units and their locations are not detrimental to the intended purpose of this database, which is to provide a

recognizable and realistic scenario that demonstrates the simulation capabilities and supports JTLS training.

The scenario *demsdboif* is a reduced version of *sdboif* that requires fewer resources, loads faster, and is intended for use in demonstration, training, and testing environments that do not require the complete Standard Database.

The scenario *blank34* is the *sdboif* database with all force structure data removed, which can be used as a framework for building your customized database.

1.3 INTERFACE COMPATIBILITY

1.3.1 Support Software

JTLS 3.4.0.0 requires the following versions of support software, including operating systems, compilers, scripting utilities, database tools, transfer protocols, and display managers.

- a. Operating system for the model: Red Hat Linux Enterprise Edition Version 5 (ES), 32-bit or 64-bit architecture.

Some JTLS components will not execute under Red Hat Linux Version 4.0. Therefore, model support for this OS version has been discontinued. However, Red Hat Linux 4.0 may be used on client workstations to execute the WHIP.

- b. Operating system for client workstations (one of the following):
 1. Red Hat Linux Enterprise Edition Version 3,
 2. Red Hat Linux Enterprise Edition Version 4,
 3. Red Hat Linux Enterprise Edition Version 5,
 4. CentOS Linux Version 4 or 5,
 5. Windows 2000, XP Professional, or Vista.
- c. Java Version 1.6.0 is required (with build 14 recommended) for all platforms and must be used to support all workstations.
- d. JTLS database tools require the use of an Oracle database server and the Oracle Form/Reports Developer 6i client/server runtime (with Patchset 18 or later). Refer to [Section 1.6.2, Oracle Compatibility and Installation](#) of this chapter for additional installation details.
- e. Windows software, X11R5 server, Motif 1.2 Library, Motif Window Manager: These items are included as part of Linux 5.0.
- f. TCP/IP is required for inter-process communication between the JODA data server and all user interface programs. The version of TCP/IP included with Red Hat Linux ES 5 is sufficient.

- g. The Perl script language is used by the JTLS system and game setup scripts. The version of Perl included with Red Hat Linux ES 5 is sufficient. The Perl program is typically located in the `/usr/bin` directory. If Perl is installed in a another location, a link should be created from the `/usr/bin` directory to this program.
- h. KDE Desktop support has been added to JTLS Version 3.4.0.0. Support of the GNOME desktop is continuing, and use of the KDE environment is optional. Details regarding the installation and use of KDE are provided in Section 4.4.3.2 of the *JTLS Installation Manual*.
- i. SIMSCRIPT II.5 (SIMSCRIPT to C) translator/compiler: SIMSCRIPT is required for recompiling JTLS code. It is not necessary to have a SIMSCRIPT compiler to execute JTLS, because all JTLS software executables are statically linked with the SIMSCRIPT libraries. The compiler is needed only if you are a U.S. Government organization that can obtain source code and plan to re-compile JTLS SIMSCRIPT code. To obtain a SIMSCRIPT compiler, contact CACI Inc. The following SIMSCRIPT II.5 versions are recommended for each platform:
 - 1. 32-bit Red Hat Linux: version 3.4
 - 2. 64-bit Red Hat Linux: version 3.5
- j. ANSI C Compiler: It is not necessary to use a C compiler to execute JTLS. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS component programs. The C Compiler version delivered with Red Hat Linux ES 4.0 is sufficient.
- k. C++ Compiler: It is not necessary to use a C++ compiler to execute JTLS. This compiler is used only by U.S. Government organizations that can obtain source code and intend to re-compile any of the JTLS HLA component programs. The C++ Compiler version delivered with Red Hat Linux ES 4.0 is sufficient

1.3.2 HLA Compliance

The JTLS 3.4.0.0 release is fully High Level Architecture (HLA) compliant, and includes all the programs required to run JTLS in an HLA mode on any operating system listed in Item *c* of [Section 1.3.1, Support Software](#).

The HLA RTI (Run Time Infrastructure) executive program (`rtiexec`) is recommended for use with this release is RTI-NG-Pro-v4.0 or higher. However, this program is not included in the JTLS 3.4.0.0 delivery. Users may obtain a full installation package of this RTI software from the vendor, Raytheon Virtual Technology Corporation, by contacting their Web site at <http://www.virtc.com>. For information about executing the HLA RTI Executive and other HLA-related software, refer to the appropriate HLA documentation and user guides.

1.3.3 JTLS Operational Interface (JOI)

JTLS exercises conducted by the United States Government have required data feeds to real-world Control, Communications, Computers, and Intelligence (C4I) systems. The JOI is designed to

provide a configuration-managed capability to convey current JTLS force status information to these systems. This capability allows all JTLS Units and Air Missions to be passed via OTH-Gold message format to the US Global Command Control System (GCCS) or to any other system that accepts OTH-Gold messages by means of a TCP/IP socket connection.

The JOI is a JTLS Object Distribution Authority (JODA) client that has the capability to easily start and stop the feed of these OTH-Gold messages according to the status of the JTLS game and is able to alter the naming data passed to the real-world systems. Consequently, any database object naming errors can be corrected independently of the model to allow the exercise audience to view correct names while monitoring the real-world system that is populated by the JOI. The JOI has a complete checkpointing capability and can be restarted from any of its checkpoint files without losing information.

Chapter 2 of the *JTLS C4I Interface Manual* describes procedures for using the JOI and how this interface obtains information required to properly fill the OTH-Gold messages. Information about operating the Global Command and Control System (GCCS) is not included. The content and format specifications of each message file that the JOI accesses are described in Chapter 34 of the *JTLS Software Maintenance Manual*.

1.3.4 KML Operational Interface (KOI)

The Keyhole Markup Language (KML) Operational Interface (KOI) server utility implemented for JTLS 3.3.6.0 enables the model to feed operational simulation data to Google Earth™. The display capabilities and data transfer features of this terrain viewer are sufficiently robust to be used as a base-level operational interface. Operational Players who may be restricted from using the COP, C2PC, or other C4I systems may be able to install and use Google Earth and configure the KOI to provide a capability that resembles C4I for observing perception Force Side data.

Chapter 3 of the *JTLS C4I Interface Manual* describes requirements and procedures for using the KOI capabilities.

1.3.5 JTLS Air Tasking Order Translator (ATO-T)

The ATO-T executes in two modes, named basic and advanced for the purpose of this description. The ATO-T requires libraries from Simscript and Oracle to run in either mode. The basic mode of the ATO-T reads and processes Air Tasking Orders in USMTF format, as well as Air Mission data prepared using an Excel spreadsheet and delivered in comma-delimited format. The output from the the ATO-T at the basic level consists of ASCII order files that may be read into the CEP using the READ ORDER FILE order.

The advanced ATO-T mode reads Air Tasking Orders and Air Mission data in the same formats as the basic mode. However, this mode writes the orders directly to Oracle tables for error checking and for input directly to the CEP using the Order Entry Client (OEC). Each order written into the Oracle tables specifies a time the order is scheduled for submission to the CEP. The OEC continuously

monitors the Oracle tables and performs a final error verification at this specified time before submitting the order.

The Simscript and Oracle library support required by both ATO-T modes are obtained separately. The Simscript support is now provided with each JTLS release. The necessary Simscript libraries are released in the `bin_support` directory for 32 bit Linux. To run the basic mode, users must obtain, install, and configure the most current Oracle Runtime client from Rolands & Associates Corporation. To run the advanced mode, users must have access to an Oracle server configured for iAS.

1.4 INSTALLATION CONSIDERATIONS

The procedures for installing JTLS 3.4.0.0 depend on the hardware configuration provided at the installation site. All installation issues are addressed in the *JTLS Installation Manual*.

1.5 DATABASE MODIFICATIONS

This release includes a completely new demonstration database, named *sdboif33*, that provides enhanced, realistic support of real-world operations. Significant database parameter changes were implemented in conjunction with the upgrade from JTLS Version 3.2.0.0 to Version 3.3.0.0; The *JTLS 3.3.0.0 Version Description Document* Section 1.5 provides a detailed summary of these changes.

1.5.1 Graphic Symbols Update

Updating the graphic symbol definitions for your JTLS scenario is required before the database is upgraded to Version 3.2. To upgrade the symbol file for a scenario, use this procedure to run the JSyms application and resave the symbols:

1. Run JSyms for the scenario by typing this command: `jsyms <scenario_name>`.
2. Before JSyms starts, this dialog message appears: "Your symbol files need to be upgraded. Select File Save to upgrade." At this point, you will not need to make any modifications to the symbol file. JSyms will perform the upgrade when the symbols are saved. You can bypass the upgrade process by exiting JSyms without saving.
3. Select File > Save and exit JSyms.

Note: JTLS 3.2 graphic symbols have an Organization Type field that is not present in Version 3.1. After this required upgrade process is complete, each symbol will be assigned a default Organization Type of UNK.

1.5.2 Database Upgrade

The generic JTLS database upgrade feature of the Database Development System (DDS), known as the JTLS Database Modify process, is accessed by a series of *JTLS Menu* options: *1. Prepare or Alter a Scenario Database > 1. Access the Database Development System Menu > 2. Access an Existing Database*. This upgrade feature must be used to upgrade the JTLS Standard Database from Version 3.3 to Version 3.4.0.0

Oracle Database Server version 10gR2 or later must be used to execute the Database Modify process while upgrading the JTLS Standard Database from any previous version to Version 3.4.0.0. The modification process will fail if performed using earlier Oracle DB versions. Using Oracle Database Server compatible (same version) Oracle Client installation is required. Using Forms 6i client/server runtime as Oracle Client environment is no longer supported.

When the user selects and accesses a database that does not conform to the Standard Database 3.2 format, a Warning dialog box (Figure 1.1) queries the JTLS user to begin the upgrade process.

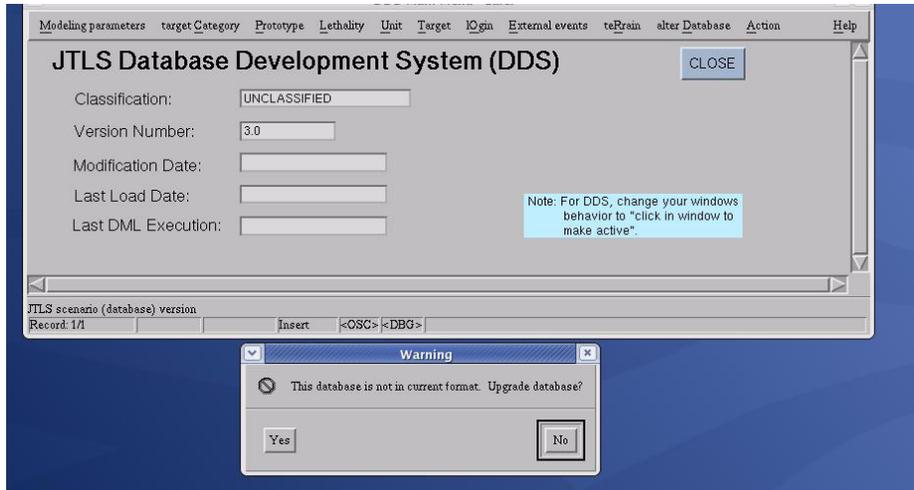


Figure 1.1 Starting the Database Upgrade

Selecting the *Yes* option executes a separate process, identified as *Modifying Your JTLS Database*, that determines the existing format of the selected database, begins the upgrade, and displays its progress

The database upgrade is successfully completed when the message shown in Figure 1.2 is displayed. The terminal window should then be closed.

```

*****
RECREATING THE REQUIRED TABLES AND TRIGGERS...
*****

*****
*
*          YOUR DATABASE IS IN 3.1 FORMAT NOW.
* Do not forget to review the related log file under the scenario directory.
* (Please close the modify xterm window to continue)
*
*****

Disconnected from Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - Production
With the Partitioning, OLAP and Data Mining options
*****
VERSION 3.1 UPGRADE COMPLETE
*****

```

Figure 1.2 Database Upgrade Completed

The JTLS Database Modify process for the JTLS 3.1 series of releases includes an interactive feature that requires user input while the upgrade process executes. *This interactive upgrade process **must** be used to modify your scenario database from JTLS version 3.0 or earlier to JTLS Version 3.4.0.0.* Ensure that you review the corresponding database modification section of Chapter 1 of the *JTLS*

Version Description Document for JTLS versions 3.1.0.0, 3.1.1.0, or 3.1.2.0, which describes the interactive modification process for the upgrade from Version 3.0 to 3.1. This process requires specific user input, which is described and illustrated in detail.

After your database has been modified from Version 3.0 or earlier to Version 3.4.0.0 and downloaded to ASCII files, *a successive scenario load is **required*** to properly create the check constraints in the database to include the new illegal character set (*space, ", #, &, @, /, {, }, <, >, '*). Unit names, Target names, or other object names that contain any of these characters will be automatically removed from your database. These symbols are incompatible with the JTLS 3.4.0.0 WHIP.

1.5.3 JTLS 3.3.X Scenario Modification

An interim SQL script was created for the JTLS 3.3.2.0 release to verify and populate the Command Level fields for the existing TUP, SUP, and HUP records if any record in existing databases contains the NULL Command Level. Database developers must run this script for JTLS 3.4.0.0 and subsequent releases ***only if*** JTLS 3.3.0 or JTLS 3.3.1 is currently used. *Otherwise, allowing NULL (empty) values for the DDS, TUP, SUP, or HUP Command Level fields will cause a CEP crash.*

Use of this interim script is ***not*** necessary if JTLS 3.2 or earlier scenarios are modified to JTLS 3.3 format.

Current JTLS 3.3.X users should run this interim SQL script to verify and populate the NULL Command Level fields of existing TUP, SUP, and HUP records. For any NULL Command Level value found, this script will insert COMPANY for TUPs, SHIP for SUPs, and SQUAD for HUPs. The related field database definitions will be set to NOT NULL.

From the \$JTLSHOME/script/dds/version3.3/scripts directory, use this command to execute the script against your current JTLS 3.3 database scenario. Include single spaces as indicated:

```
sqlplus sdboif33/jtlsdev @jtls332modifyScript.sql
```

Use your Version 3.3 scenario and associated password as needed.

1.5.4 Standard Database Changes

The new JTLS 3.4 Standard Database based on Operation Iraqi Freedom (*sdboif34*) includes extensive data modifications implemented since the Standard Database (SDB) Version 3.3 (*sdbv33*) release. If you have used *sdboif33* or an earlier version as a basis for your existing scenarios, evaluating the modifications included in *sdboif34* is advised. A total of 99 Combat Systems are

represented in *sdboif34*. Reviewing your existing SDB-derived databases and upgrading them to the new data standard is recommended.

The cut down version of *sdboif34* which is used for testing and demonstration, *demsdboif34*, has been recreated from *sdboif34* as opposed to *demsdboif33* being updated. This means that units and systems in *demsdboif34* may be different from *demsdboif33*, as we did not try to perfectly match units and systems that were removed.

Model enhancements implemented for the JTLS 3.4 series required the addition, deletion, or modification of various data parameters in the JTLS Standard Database. A summary description of these variables that support the functional model changes is provided in [Section B.1, Standard Database Parameters](#). Detailed descriptions of their use in the model are also provided in Appendix B of the *JTLS Data Requirements Manual* delivered with this release.

Additional Standard Database changes implemented for JTLS 3.4.0.0 are described in [Appendix B VERSION 3.4.0.0 STANDARD DATABASE CHANGES](#) of this document.

1.6 INSTALLATION NOTES

1.6.1 Installation Instructions

The *JTLS Installation Manual* (included in the *documents* compressed tar file that is part of this JTLS release) provides detailed instructions for installing a new version of JTLS.

1.6.2 Oracle Compatibility and Installation

This release of JTLS requires installation of Oracle Forms/Reports Developer 6i client/server runtime for DDS Forms and Oracle Client (has to match your database server version) installation for scenario modification, loading, unloading scenarios from the database server and for executing the JTLS SDR clients (AARC, SDC, and OEC).

Developer 6i is the final version of the client/server development and deployment of Oracle Forms, Reports, and Graphics. Oracle Corporation provided only limited support for this Developer version until January 2008, and Oracle10gR1 has become the final certified database server compatible with Developer 6i. Beginning with the release of JTLS 3.1.0.0, Oracle 10g iAS EE (Internet Application Server Enterprise Edition) has been implemented to deploy JTLS database applications, such as DDS Forms. The compatible database server version is Oracle 10gR2 Standard Edition One or newer (Oracle XE is supported). Database server requirements that are updated prior to a future JTLS release will be described in the appropriate *JTLS Version Description Document*.

Utilizing the framework of iAS EE, which includes Forms Services, Reports Services, Portal, Single Sign-On, Java, and other components, will enable the delivery of JTLS-specific data from a central location. This also allows the development of more scalable JTLS database applications, such as the SDR and AAR.

Currently, the following combinations of Forms 6i runtime and the Oracle Server are approved for use with JTLS:

- a. Oracle Database Server 10gR2 or later (10gR2 Standard Edition One or 11g Standard Edition One is recommended). Oracle XE is also supported. For Oracle 11g database server and JTLS database applications compatibility notes, please review Section 6.9 (Item y) of the JTLS Installation Manual.
- b. Forms 6i client/server runtime (with Patchset 18 or later) for Linux (can be downloaded from www.rolands.com ftp site)
- c. Oracle Client (compatible with your database server version) environment. The Oracle Client version needs to match the database server version up to the patchset level.
- d. iAS EE 10.1.2.0.2 full stack (optional)

Refer to Chapter 5 of the *JTLS Installation Manual* for additional details pertaining to the Oracle Forms/Reports Developer 6i client/server custom runtime installation.

2.0 ENHANCEMENT CHANGE PROPOSALS

2.1 INTRODUCTION

JTLS 3.4.0.0 is a Major JTLS release that includes the implementation of several of Enhancement Change Proposals (ECPs). This chapter provides an overview of the functionality provided by these model enhancements. For additional information, refer to the *JTLS Design Plan* delivered with this release.

2.2 JTLS-0126 Naval Mine Warfare

This design improves on the capabilities of Naval Mines for use in simulating amphibious operations. It improves the ability to lay mines, detect mines, and clear mines in a more realistic manner. Several specific issues are addressed in this improvement. Specifically, the time to clear naval mines now depends on the Minefield Type. This improvement also provides a representation of minefield types that are emplaced on the ocean floor, as well as other minefield types that utilize a maximum and minimum depth. A complete review of Joint Publication 3-15 (JP 3-15) Barriers, Obstacles and Mine Warfare for Joint Operations was conducted to ensure that the model properly reflects tactics and missions that are familiar to military personnel.

2.3 JTLS-0314 Display Routes and Polygons

Various geometric objects represented within the Combat Events Program (CEP) include, but are not limited to Air, Naval, or Convoy Routes, Operation Areas, Patrol Areas, Polygons, Orbit Points, and Directed Search Areas. This enhancement allows WHIP users a capability to display and filter this geometric information on the WHIP Map window.

The filter panels and capabilities of the WHIP Map component are redesigned to enable JTLS users to access and use geometric information present in the model. The Filters Control panel organizes and displays the major filter categories as icons, which open the respective WHIP filters panels. when selected. For example, the Filters icon replaces the Filter Control manager with the Map Filters panel that allows users to hide, display, highlight, and blink Units, Targets, and Air Missions on the map.

.The On Demand task activation uses the WHIP context menu system and functions in a similar manner as the On-demand Range Rings. Users can select a unit or air mission on the Map Component, IMT, SitRep, Command Tree, or Log Tree and select a menu item under the Show Geometry menu. When the Show Task menu item is selected, the unit/air mission is added to the list of entities for which task geometries are displayed. The task geometry list is saved as part of the saved filters and saved views and is loaded when filters or views are loaded into a WHIP map window.

2.4 JTLS-0342 SALUTE Message Format

This model enhancement implements the SALUTE format for reports issued for specific circumstances within JTLS. This format includes Size, Activity, Location, Unit, Time, and Equipment as a structure for spot intelligence reports intended to provide the observer a means to rapidly report time-critical tactical data when the current value of the information is more important than the details of the reporting format. Intelligence collection that is subject to Player control, such as Air Reconnaissance missions and the use of Surface Search Radars. HRU intelligence-gathering patrols are examples of this category of intelligence updates. Certain reports issued by HRUs on patrol are suitable for conversion to SALUTE-formatted messages within JTLS.

Selected messages defined in the configuration managed english.msg data file were reformatted to more appropriately represent voice or other quick response messages sent in immediate-attention tactical situations. Each of these modified messages is structured as a SALUTE formatted SPOT REPORT and is displayed on a WHIP Message Browser when the english.msg file is selected:

Unit Terminated report, Ground Unit Contact Report, Unit Contact Report, Covert Unit Detection Report, Unit Convoy Under Attack, SSM Launch Preparations, Missile Launch Report, Foreign Unit Destroyed Report, HRU Urgent Report, Unit ADA Engagement Report, and Near Miss Report.

This example illustrates a SALUTE report message generated by an HRU that has visually detected an SSM launch.

Message Browser Subject: SPOT Report, SSM Launch Detected

- Message:

```
280015ZDEC08
JTLS Exercise sdboif34
*** UNCLASSIFIED ***
SPOT REPORT
FROM: 61SEALTM
TO: SEAL.TM6
Missile launch observed visually
29-53-42.6N 048-16-47.9E
Firing unit unknown
280015ZDEC08
Probable SSN2A-STYX
Launched on a bearing of 265 degrees True
*** UNCLASSIFIED ***
```

No JTLS database parameter, data structure, order, or JDS Protocol changes are implemented to support this enhancement.

2.5 JTLS-0573 Missile Warning Message

This enhancement represents the real-world Link-16 missile warning messages generated upon the detection of the launch of a Theater Ballistic Missile (TBM) or a Strategic Ballistic Missile (SBM). These message types are required to properly represent this capability:

- Initial Missile Launch Message (Link-16 3.0) includes information such as the launch point and expected impact ellipse.
- Continued Tracking Message (Link-16 3.6) provides a three-dimensional (latitude, longitude, and altitude) location of the missile.

JTLS represents Cruise Missiles and Ballistic Missiles as separate missile types. Like aircraft, Cruise Missiles can be detected by any air search detection asset and interdicted by any air defense asset that covers its flight path. Detection and interdiction are probabilistic events based on the database values held for the air search detection asset and the air defense asset. If detected, Cruise Missiles are displayed on both the Web-Hosted Interface Program (WHIP) and the Common Operational Picture (COP). The representation of Cruise Missiles remains unchanged. JTLS does not represent differences between TBMs and SBMs; therefore, this enhancement is applicable to any ballistic flight profile missile.

To fully represent missile warning messages within JTLS, the TBM launch detection capability within JTLS is expanded to include:

- Representation of permanent satellite detection coverage of the theater.
- The appropriate Link-16 launch message is generated automatically by JTLS. This task is typically assigned to the JTLS Operational Interface (JOI), and the model represents the missile as part of the Link-16 detection and reporting algorithms.

The TBM launch detection capability represents permanent satellite coverage in the same manner that the current ELINT capability is represented. The Assign National ELINT Controller order is expanded and renamed as Assign National Assets. The current launch detection capabilities, airborne sensors, HRU detections, and ARU detections, remain active within the model. An additional detection capability is the entire theater coverage capability established by the Assign National Assets order. If the SSM DETECTABILITY MODE of the launching site matches an active theater-wide established mode, the detection of the launch is automatic. Unlike the existing detection capabilities, this launch detection method is not a probabilistic event.

If an SSM launch is detected by any detection method, a broadcast SSM Launch Report message is sent to the Side or Sides that detect the launch. A message sent by the JOI to C4I systems notifies the exercise audience about the detected launch in a realistic manner. Missile interdiction is allowed during the Boost Phase or on the upward movement of the TBM. A TBM that has reached its apogee is subject to interdiction by Surface-to-air Missile sites with an appropriate kill capability. The existing terminal interdiction logic, in which all eligible sites that have range within the lowest Altitude Zone over the impact area, remains unchanged.

2.6 JTLS-2007-1995 Display Symbol Icons In OPM

The Online Player Manual (OPM) is a set of Hypertext Markup Language (HTML) files that provide JTLS users a convenient method to review all authorized scenario data. This enhancement enables OPM users or database developers to view these symbols on OPM pages for purposes of verifying the database and easy reference during game play.

When the creation of OPMs is requested using JTLSMenu Option 4: Generate Online Player Manuals, the PNG images for the graphics symbols are automatically created by the JTLS Symbol Icon Generator (JSIG) program. The JSIG was developed to support the KOI using existing code for producing icons for the WHIP. The creation of PNG images for the OPM is integrated into the execution of Option 4 of the JTLSMenu. The PNG portion of this operation is transparent to the user who requests OPMs.

2.7 JTLS-2007-2047 Represent Blue Force Tracker

Blue Force Tracker (BFT) denotes a Global Positioning System (GPS)-enabled system that provides location information about friendly forces for military commanders. Although the term BFT originated in the United States, the capability to automatically obtain real-time or near real-time GPS location information is available to military commanders from any country or organization. This design refers to BFT, but the logic implemented for the JTLS model does not represent specific BFT capabilities. This enhancement may be considered to represent any GPS location capability within JTLS, such as a common GPS-equipped cell phone. The implementation of this design represents an improvement to JTLS which provides tracking information for friendly forces.

2.8 JTLS-2007-2146 Improve BE Number Representation

The intelligence community uses the Basic Encyclopedia Number (BEN), a unique ten-character alpha-numeric value, to identify important installations and physical areas of potential significance as objectives for attack. An intelligence staff must maintain an accurate assessment of the current status of these objects or areas to enable the operations staff to properly allocate needed resources to interdict the objectives as ordered by command personnel. The implementation of this design provides a significant enhancement to the representation of BEN for intelligence gathering purposes. It includes a capability to assign a single BEN to an important installation, such as an airbase or a naval port. It also allows for intelligence with BEN identifiers to be collected over physical areas.

2.9 JTLS-2008-10002 Enhancements to Support C2PC

The C2PC system is an integral part of the simulation process. These enhancements are implemented for the JTLS and C2PC graphical displays:

- Air Control Order graphics currently created for the Web Hosted interface Program (WHIP) are replicated in a format that can be read by C2PC.
- WHIP-readable slides can be generated from images created on a C2PC terminal.
- C2PC-readable slides can be generated from images created on a WHIP station.

When the Air Tasking Order Translator (ATO-T) processes a Air Control Order (ACO), the program creates a set of slides for each control point a user plots on a WHIP station. The WHIP and C2PC allow users to draw specified User Lines to display or highlight other items of interest, such as minefields, operations areas, or battle lines. Map images generated by the processes can be converted between C2PC- and WHIP-readable formats.

The ATO-T is modified to output WHIP-readable and C2PC-readable slides containing ACO control point information.

2.10 JTLS-2008-10026 Link Amphibious Operations

Currently, multiple units can participate either in an amphibious assault or an amphibious pickup. A Formation proceeds to an operation location and is allowed to send several units ashore or pick up several units at the same location. JTLS users must expand this capability to create an amphibious operation plan, for which two units are moved ashore at a single location and the Formation moves to another location and moves a third unit ashore. This enhancement implements the capability to link amphibious operations.

The JTLS-0126 Naval Mine Warfare design requires that the CEP be allowed to link orders into a working plan. Previous JTLS versions allowed directing a ship or Formation to sweep a path, which functioned properly when the object implicitly knew the mines were absent. The Mine Warfare design does not allow this information to be known implicitly by the naval commander. Instead, it the responsibility of The user and/or the exercise audience are responsible for determining the duration of the sweep and the search for mines. Since the design team chose to retain the path sweep capability, developing a linking strategy for mining orders was necessary.

Once the linking structure was established for the Mine Sweeping order, consistency dictated including this capability for other order types. For that reason, this enhancement was selected for implementation with JTLS 3.4.

This design differs from JTLS-0033 Amphibious Operations In Multiple Hexes, which requests that a single Formation be allowed to simultaneously move units ashore at two separate locations. This capability is not included in this design and will not be implemented for JTLS 3.4.

2.11 JTLS-2008-10035 Place Combat Systems Into Maintenance

JTLS Combat Systems can enter a maintenance state as a result of normal use or damage due to combat. The systems are repaired and removed from maintenance according to the repair times specified in the scenario database. This enhancement implements a Controller capability to force Combat Systems to enter maintenance, which provides more robust access to the maintenance characteristics of the systems. Afterward, repair events are scheduled using customary parameters and algorithms.

This enhancement provides Technical Controllers the capability to support an exercise objective that requires a select number of Combat Systems to be removed from availability for a specified duration. For example, a Controller may designate several aircraft to be grounded for a period of time to complete special repairs.

Combat Systems placed into maintenance will be repaired according to customary methods used by the model. The number of systems entering maintenance and the time the systems begin returning to availability will be specified on the order. All systems involved in this action are recoverable; using this order will not allow or cause Catastrophic Kills.

2.12 JTLS-2008-10085 Certify JTLS For Red Hat Linux 5.0

This enhancement addresses the migration of JTLS to the Red Hat Enterprise Linux 5 (RHEL5) 64-bit operating system. JTLS was previously supported on RHEL4 32-bit and 64-bit and Sun Microsystems Solaris platforms. The upgrade of JTLS to RHEL5 will remove all legacy library and software dependencies.

The design identifies a specific set of required Red Hat Linux packages for JTLS execution. These packages include libraries and utility programs. Some of these packages are installed by default when a basic installation of Linux is performed. However, some system administrators may exercise greater control over the load set installed on their systems with the potential that required packages could be missing.

A basic installation of Red Hat 5 can be used to run JTLS. During installation, the RHEL installer may add Multimedia, Office, or Software Development software, which are optional. The install will include all necessary packages, excepting the `openmotif-2.3.1` and `libXp-1.0.0` packages that must be installed after the RHEL installation is complete.

The JTLS RPM dependency list represented in [Table 2.1](#) indicates the packages JTLS requires to execute. When installing RHEL 5 for use as a developer workstation, the Software Development option must be selected. The Multimedia and Office installations are optional.

TABLE 2.1. JTLS RPM Dependencies

JTLS RPM DEPENDENCIES			
apr-1.2.7	apr-util-1.2.7	bash-3.2	bzip2-1.0.3
e2fsprogs-1.39	expat-1.95.8	fontconfig-2.4.1	freetype-2.2.1
gawk-3.1.5	glibc-2.5	krb5-libs-1.6.1-31.	ksh-20080202
libICE-1.0.1	libSM-1.0.1	libX11-1.0.3	libXau-1.0.1
libXdmcp-1.0.1	libXext-1.0.1	libXft-2.1.10	libXi-1.0.1
libXmu-1.0.2	libXp-1.0.0	libXrender-0.9.1	libXt-1.0.2
libgcc-4.1.2	libjpeg-6b	libpng-1.2.10	libseltlinux-1.33.4
libsepol-1.15.2	libstdc++-4.1.2	libxml2-2.6.26	libxslt-1.1.17
mesa-libGL-6.5.1	openmotif-2.3.1	openssl-0.9.8e	perl-5.8.8
sed-4.1.5	sendmail-8.13.8	tar-1.15.1	tcsh-6.14
unzip-5.52	xterm-215	zip-2.31	zlib-1.2.3

This install includes all necessary packages for execution and development, excepting the openmotif-2.3, openmotif-devel-2.3.1, libXp-1.0.0, and libXp-devel-1.0.0 packages that must be installed after the RHEL installation is complete:

Several support software packages were upgraded as a result of migrating to RHEL 5. These packages exhibited compilation issues under RHEL5, legacy dependencies, or a more recent version was available that included bug fixes.

Apache was upgraded to version 2.2.11 (previous version was 2.0.55). Apache was upgraded because the 2.0.55 version required legacy libraries.

Ant was upgraded to version 1.7.1 (previous version was 1.6.5). The Ant build tool was upgraded to take advantage of various bug fixes since version 1.6.5.

Fontforge was upgraded to 20090408 (previous version was 20050502). Fontforge was upgraded because version 20050502 required legacy libraries.

Two support applications were removed from JTLS. Firefox 1.5.0.7. Firefox 3.0 is delivered with RHEL 5. Acrobat Reader 7.0. The license for Acrobat Reader prohibits third-party distribution.

2.13 JTLS-2008-10090 GDP Terrain Modification Capabilities

This enhancement integrates the graphically-based terrain modification capabilities of the JTLS Terrain Modification Utility (TMU) into the Graphical Database Program (GDP). This integration is desired for these reasons:

- The GDP is intended to be the dedicated JTLS program designed to effect all graphical modifications to the Oracle-based scenario data files.
- The TMU functionality is limited. Combining all related capabilities into one program will improve usability and maintenance.
- As described in [Table 2.2](#), the GDP is able to show four of the available JTLS terrain layers, but the TMU displays only two of these layers. Thus, the TMU does not convey complete terrain information, which impedes database developers who refine and validate the terrain database.

TABLE 2.2. Terrain Layer Comparison

TERRAIN LAYER	TMU	GDP
JTLS Hexagon Terrain Representation	Yes	Yes
World Map	No	Yes
JTLS Outline Map shows rivers as blue vectors, shorelines as green vectors, and National Boundaries as red vectors	Yes	Yes
Digitized Maps	No	Yes
Satellite Imagery	No	No

Two methods for altering a JTLS terrain database are currently available to database developers:

- The TMU external application can be used to modify and update the hex terrain. The TMU reads and writes the American Standard Code for Information Interchange (ASCII) terrain file and has no direct access to the Oracle database. The revised JTLS scenario must load to the Oracle database to display the updated hex terrain in the GDP.
- The terrain-specific hex tables in the Oracle database can be accessed through the Database Development System (DDS) and altered hex-by-hex. This method is not feasible because the DDS is not graphically based and is suitable only for limited single-hex changes.

The GDP is designed as the graphical interface to the DDS and allows the user to graphically place units on the game board, create National Boundaries, and create Integrated Air Defense System (IADS) networks. This program downloads terrain-specific hex data from the Oracle database to be displayed on the WHIP-like Map; however, these hex terrain data are view-only and cannot be modified.

Since the GDP provides functionality for the graphical manipulation of the JTLS scenario database, this enhancement provides GDP extended modification capabilities.

2.14 JTLS-2009-10107 Improved Menus for Naval Operations

Modifications of the WHIP Naval menus were requested to facilitate canceling Naval orders and to improve the organization of the menus.

This enhancement modifies Naval menu files used by the WHIP. The Player, JCATS Player, and Naval menu structures are expanded to include a new Cancel Operations sub-menu to be accessed from the Orders > Naval menu selection.

The Cancel Operations menu includes all of the orders associated with canceling current operations. These orders were removed from the Operations sub-menu to eliminate duplication.

2.15 JTLS-2009-10146 Link CSP to TUP/SUP

This model enhancement moves the Combat System Prototype (CSP) attribute from the Faction entity to the Tactical Unit Prototype (TUP) and Ship Unit Prototype (SUP) entities. This modification prevents a Controller from inadvertently using a TUP or SUP to create a new unit from a Faction that has a CSP that is incompatible with the prototype's Combat Systems.

Disassociating the CSP from the Faction prevents the potential confusion inherent in using the same unit prototypes for units in different Factions. For example, prior to the change if a TUP intended for a civilian Airbase unit was used to create a military Airbase unit for the US Faction, this Faction's CSP supply attributes would most likely not support the TOE assets of the civilian Airbase. The mismatch between Combat Systems and the supplies available to support them could cause the created Airbase to quickly lose strength. On the other hand, if the supply attributes were greater than the amount necessary to issue all the Combat Systems, the Airbase unit would have immediate replacements that would not otherwise be available, which is also an undesirable situation.

Attaching the CSP to the TUP/SUP instead of the Faction required changes to orders, messages, OPM pages, checkpoint structures, and also to SVP Warnings and Errors.

2.16 JTLS-2009-10156 Self-Reporting Cruise Missiles

Cruise Missiles are visible to users in a JTLS game when detected by an appropriate sensor. New technology allows some Cruise Missiles to report telemetry data via satellite link while in flight. This design provided for model enhancements that simulate the capability of modern Cruise Missiles to self-report their location information to the firing Force Side.

To implement this requirement, the existing TW ADV CAPABILITY FLAG data parameter has been redefined. Prior to this ECP, this parameter indicated whether the missile was capable of being redirected during flight. A YES value indicated that the missile could be redirected; a NO value indicated that redirection was not possible. This data parameter has been modified to hold one of four values.

NONE

The Cruise Missile cannot be redirected during flight nor report its location while approaching its designated target area. This value is equivalent to NO, as previously defined for this attribute.

UPLINK

The Cruise Missile can be redirected during flight. Thus, the designated target can be altered, but the missile cannot report its current location. To allow WHIP operators and the exercise audience to observe the progress of the Cruise Missile, surface or airborne air detection sensor assets must be allocated to detect and report the location of the missile. This value is equivalent to YES, as previously defined for this attribute.

DOWNLINK

The Cruise Missile cannot be redirected during flight but is able to report its current location throughout the flight profile. Although we are not certain that some United States missile assets have this capability, it is provided for completeness and as a contingency to support specific exercise needs.

BOTH

The Cruise Missile can be redirected and can report its current location.

2.17 JTLS-2009-10231 Improve Google Earth Viewer

The recently implemented Keyhole Markup Language (KML) Operational Interface (KOI) server utility enables JTLS to feed operational simulation data to Google Earth TM, a commercially available terrain imaging viewer. The display capabilities and data transfer features of this viewer became sufficiently robust for it to be used as a base-level operational interface. Operational Players who may be restricted from using the COP, C2PC, or other C4I systems may be able to install and use Google Earth and configure the KOI to provide a capability that resembles C4I for observing perception Force Side data.

The KOI was developed for an initial delivery designed to demonstrate to the Government the capability of displaying JTLS game data. This initial delivery required significant manual configuration, setup, and frequent monitoring. The user community has adopted the use of the KOI, and this ECP has provided improvements to support the integration of the KOI into the complete

JTLS system design. Improvements have been made to accommodate the following original user requirements:

Integration into the Interface Configuration Program (ICP)

Integration into the Web Services Manager (WSM)

Creation of a unified filtering capability to be shared with the JTLS Operational Interface (JOI), which is the JTLS feed to real-world C4I systems.

The new KOI filter GUI provides the following capabilities:

- filtering by object type and Side
- filtering by unit, ship and HRU prototype
- filtering by target category
- filtering by aircraft type
- filter blocking by target, unit or mission name

It also provides following configuration capabilities:

- object renaming
- Online Player Manual (OPM) link toggling

2.18 JTLS-2009-10234 Expand Unit Short Name Length

A JTLS aggregate unit is assigned two names, a Long Name (UT LONG NAME) and a Short Name used to uniquely identify the unit (UT SHORT NAME). The Long Name allows a maximum of 40 characters. However, prior to this change, the Short Name allowed only a maximum of 9 characters. This caused problems when creating meaningful unit names. This ECP provided for increasing the maximum UT SHORT NAME length to 20 characters.

To provide consistency and also to allow for more realistic naming, two other maximum name length restrictions were increased. Aircraft Load Names (AL.NAME) currently allow a maximum of 40 characters and High Resolution Unit Names (HRU.NAME) allow a maximum of 20 characters.

This change required a number of modifications to Player/Controller messages to ensure that their formats allowed the new maximum name lengths. It also required changes to some order panels, such as CREATE UNIT, CREATE HRU, MANAGE AIRCRAFT LOADS, and some SET orders. Finally, the format of several SVP WARNINGS and ERROR messages was adjusted.

3.0 SOFTWARE TROUBLE REPORTS

3.1 INTRODUCTION

This chapter describes the software error corrections implemented for this release.

ERRORS CORRECTED FOR THIS RELEASE

Software Trouble Reports (STRs) describe discovered and corrected program code errors. No STRs have been identified for this JTLS Major release. Code corrections implemented for the previous JTLS 3.3 series of releases have been tested with the model enhancements delivered with JTLS 3.4.0.0 and are included.

STRs that remain outstanding from previous JTLS versions are listed and described in Chapter 4 of this document. Errors that are identified for JTLS 3.4.0.0 and corrected for future Maintenance releases in the JTLS 3.4 series will be documented in this chapter.

4.0 REMAINING ERRORS

4.1 INTRODUCTION

Every effort has been made to correct known model errors. All reproducible errors that resulted in a CEP catastrophic software failure (crash) have been corrected. Other corrections were prioritized and completed according to their resource cost-to-benefit relationship.

Correction of the remaining STRs, however, must be postponed to a later version due to time and resource constraints. These problems may be corrected prior to the next release of JTLS. If an immediate need arises for code corrections to remedy any of these outstanding STRs (i.e., for an exercise planned to occur before the next release), contact the JTLS Configuration Management Agent. Refer to the Abstract of this document for the current address.

4.2 REMAINING ERRORS

Code errors described in this section should be noted specifically because they affect the basic functionality of JTLS. Information is provided regarding the extent of the error, as well as suggestions to avoid or minimize the effects of the problem.

4.2.1 JTLS-0942 Air Transport Cannot Combine Wet And Dry Supplies

When both wet and dry supply categories are included in the same Transport Instructions List for an Air Transport mission, they will not be transported at the same time. The first supply category shipment type will be loaded, but the second will not. If both are included in the same Supply List, the wet category is preferred. The aircraft go through the motions as if loading and delivering the denied category, including MISREP confirmation. No pickup or delivery is made, although an empty storage area may be created. There is no documentation to support this situation, and the user is not notified of the problem.

4.2.2 JTLS-0949 Destroyed Target SITREP Strength Incorrect

When a target is destroyed, such as a bridge or pumper station, the GIAC SITREP still has the strength of the target as 100. GENIS also displays strength as 100. Apparently, the percent capable is being updated in GENIS from JTLS, but not the strength which is used to fill the GIAC SITREP. This is a problem in both 1.85B and the 2.0 versions

4.2.3 JTLS-0956 MPP Messages For Canceled Missions In Error

If an airbase is magic moved with several squadrons on active missions that need to be canceled or with squadrons in the middle of a self lift, the subsequent message generated for the situation has several errors. The changes required are too risky during the exercise. The problem will not cause a

crash, but will cause the MPP to incorrectly display the message contents.

4.2.4 JTLS-0961 Group Ground Move Delayed To Lead Unit

There is a problem when a group ground move is sent. The directive is delayed to the lead unit. When the lead unit learns about the move, it immediately tells the units in the follow-on group. This could lead to directives being received out of order. Assume the user sends a directive at 0100 and the CEP determines the lead unit should receive the message at 0200. The lead unit cannot receive any other directives until after 0200. The CEP ensures that directive receipt is in the same order as the user sent the directives. This is not true for the follow-on units. If the user sent an order at 0115 directly to one of the follow-on units, the follow-on unit could receive the 0115 directive prior to the order sent at 0100. If this error is causing problems for upcoming exercises, the Configuration Manager should be contacted for a code fix to solve this problem.

4.2.5 JTLS-0968 Inconsistency Between Regular Run And Pusher

There is a major inconsistency between a regular run and a run created using pusher. When an order with ASAP is sent, the READ KEYWORD routine sets the data parameter to TIME.V. When pusher reads in the order, TIME.V is much earlier than it was when the order arrived in the first place. For orbiting missions and alert missions, this alters when they will go off alert by a great deal. This must be fixed and made consistent. It appears that both TIME.V and order receipt time must be saved to the ci1 file to accomplish this task.

4.2.6 JTLS-0971 Ship Continuous Tracking Not Working

The new unidentified object design indicates that ships which are continuously tracked will not have unidentified objects created. A continuously tracked Naval unit and all of its targets are creating unidentified objects. They should not be doing this.

4.2.7 JTLS-0973 Periodic Report Air Supplies And Fuel Not Correct

The arrays which hold air supply usage are not being maintained correctly given the new MISSION RESOURCE ALLOCATION event.

4.2.8 JTLS-0974 Submarine Detection By Ground Sensors

A moving submarine does not get full credit for coverage time by sonars on board other ships or submarines. It gets full coverage time for airborne sensors but not ground based sensors.

4.2.9 JTLS-0981 Formation With No Posture

The model crashed when a formation reached a Destination Two hex and the formation no longer had a posture. Therefore it did not know what to do. A Destination Two hex indicates that the Formation should conduct its assigned Amphibious Operation, drop off its Sealifted supplies or clear mines from

a minefield. The posture of the formation is used to tell the formation which of these three tasks should be accomplished.

When the formation reached its Destination Two hex, the posture of the formation was zero; therefore, the formation did not know which of the three tasks should be accomplished.

4.2.10 JTLS-1384 Area, Target, And Unit Report Documentation

Some users have indicated that the documentation of Area Report, Unit Report, and Target Report similarities and differences are incomplete or inaccurate. A review of this documentation is needed.

4.2.11 JTLS-2005-1457 Target Auto Assign Errors In Orbiting OAS

An Orbiting OAS mission was created with Auto Assigned allowed and search target category as SSM. An SSM was magic moved to the area of the orbit. Perception of the SSM was given to the mission's side using the controller Target Report order. The mission saw the target and immediately attacked it. When the OAS mission returned, the Mission Report said it was assigned to attack target UI011816U but the target could not be found. It appears that mission was previously holding the target as unidentified and it was not found after it was assigned a specific target number.

4.2.12 JTLS-2009-10242 Drawing Rectangular/Polygonal Areas From Order Fields

An anomalous behavior occurs when a rectangular or polygonal area is drawn or edited on the WHIP display. This behavior is revealed when two or more orders containing a rectangular or polygonal area drawing field are open and a user attempts to consecutively enter the drawing or editing mode on several other order fields without completing and exiting the drawing or editing mode for the initial field. The order fields currently allow users to enter the drawing or editing mode while another order is currently in the same mode.

No other order fields should be allowed to enter the drawing or editing mode until previous fields have been completed. When a user continues to draw or edit polygon objects for multiple fields, this action affects the first order field that entered the drawing or editing mode. Any order fields that subsequently entered this mode must be reset to allow the current mode to be continued and exited. The reset causes any previously drawn or edited polygon object to be lost. This behavior does not prevent a user from completing the drawing or editing of a polygonal area. Users must be aware that only one polygon object at a time can be created or edited from order fields.

APPENDIX A. ABBREVIATIONS AND ACRONYMS

AAA	Anti-Aircraft Artillery
AADC	Area Air Defense Commander
AAL	Air-to-Air Lethality
A/C	Aircraft
ACP	Air Control Prototype
ADA	Air Defense Artillery
AEW	Airborne Early Warning
AFB	Air Force Base
AG	Air Ground (Air-to-Ground)
AI	Air Interdiction
AIM	Air Intercept Missile
AIREF	Air Refueling
AKL	Area Kill Lethality
AMMO	Ammunition
AO	Area of Operations
AOC	Air Operations Center
Apache	Open-source Web server used by Web Enabled JTLS.
APC	Armored Personnel Carrier
ARECCE	Armed Reconnaissance
ARTE	Air Route
ARTY	Artillery
ASCII	American Standard Code for Information Interchange
ASW	Anti-Submarine Warfare
ATC	Aircraft Target Category
ATGM	Antitank Guided Missile
ATK	Attack
ATO	Air Tasking Order
ATOG	Air Tasking Order Generator

ATORET	Air Tasking Order Retrieve Program
ATOT	Air Tasking Order Translator
Attribute	Data item belonging to an entity, such as name, size, or number of subentities.
AWACS	Airborne Warning and Control System
AZ	Altitude Zone
BADGE	Bilateral Air Defense Ground Environment (Used by JDA)
BAI	Battlefield Air Interdiction
BDA	Battle Damage Assessment
BDE	Brigade
BN	Battalion
C3	Command, Control, & Communications
C3I	Command, Control, Communications, & Intelligence
C4I	Command, Control, Communications, Computers, & Intelligence
CA	Civil Affairs
CADRG	Compressed ARC Digitized Raster Graphics
CAP	Combat Air Patrol
CAS	Close Air Support
CAT	Category
CCF	Central Control Facility
CCP	Command Control Prototype
CCU	Controller Change Unit
CEP	Combat Events Program. The combat model in JTLS that simulates execution of ground, naval, air, logistics, and intelligence activities.
Checkpoint	A temporary halt in the game initiated either manually by the Controller or automatically by the CEP.
CMDR	Commander
COP	Common Operational Picture
CP	Combat Power
CS	Combat System
CSP	Combat System Prototype
CTAPS	Contingency Tactical Air Planning System

CTG	Commander Task Group
CTRL	Control. A keystroke as in “CTRL-C”.
DCA	Defense Counter Air
DCL	Digital Command Language. The standard operating system user interface for DEC computer systems.
DDS	Database Development System
DEC	Digital Equipment Corporation. The manufacturer of VAX/VMS computers.
DEMSDB	Demonstration Standard Database. A 5-sided database delivered with the current JTLS release.
DISA	Defense Information Systems Agency
DIV	Division
DMA	Defense Mapping Agency
DoD	Department of Defense
DOS	Days of Supply
DPICM	Dual Purpose Improved Conventional Munitions
DS	Direct Support
DSA	Directed Search Area
DTG	Date Time Group
EC	Electronic Combat
ECM	Electronic Counter Measures
ECP	Engineering Change Proposal
ELINT	Electronic Intelligence
ELS	Entity Level Server
EODA	Entity Level JTLS Object Data Authority server. Distributes data to ELS clients.
ETA	Estimated Time of Arrival
FARP	Forward Arming and Refueling Point
FLP	Fire Lethality Prototype
FOL	Forward Operating Location
FWL	Initials of Frederick W. Lanchester, generally credited with origination of the differential equation model of attrition, hence Lanchestrian attrition.
GAL	Gallon

GCCS	Global Command and Control System
GDP	Graphical Database Program
GRTE	Ground Route
GS	General Support
GSR	General Support Reinforcing
GUI	Graphical User Interface
HARM	High-speed Anti-Radiation Missile
HE	High Explosive
Hectare	10,000 square meters
HELO	Helicopter
Hex	Hexagon
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HQ	Headquarters
HRU	High Resolution Unit
HTML	Hypertext Markup Language
HTT	HUP Target Type
HUP	High Resolution Unit Prototype
ICM	Improved Conventional Munitions
ICP	Interface Configuration Program. An interactive program that allows the user to define the specifications for each game process that can be started for a particular scenario.
ICPLogin	Interface Login Program
ID	Identifier
IFF	Identification Friend or Foe
IIP	Intel/Information Prototype
IMT	Information Management Tool. The JTLS program that provides real-time tabular scenario information.
INFO	Information
Initialization	Phase of game during which data sets are read and the game is configured for Players.
INTEL	Intelligence
JDA	Japan Defense Agency
JEDI	JODA Entity Data Identifier

JDS	JTLS Data System
JDSP	JTLS Data System Protocol
JRSG	Joint Rapid Scenario Generation (formerly JIDPS: Joint Integrated Database Preparation System)
JMCIS	Joint Maritime Combat Information System
JMEM	Joint Munitions Effectiveness Manuals
JODA	JTLS Object Distribution Authority server. Distributes data to JTLS Data System clients.
JOI	JTLS Operational Interface. Provides JTLS communication capability with C4I systems.
JPL	Jet Propulsion Laboratory
JSDF	Japanese Self-Defense Force
JTLS	Joint Theater Level Simulation
JWFC	Joint Warfighting Center
JXSR	JTLS XML Serial Repository. A Web service which obtains data from a JODA and provides it as XML to the Web Hosted Interface Program through the Apache Web Server.
KIA	Killed in Action (aka “Remains”)
KM	Kilometer
KNOTS	Nautical miles per hour
LA	Lethal Area
LAN	Local Area Network
LAT	Latitude
LB	Login Build. A JTLS order type.
LDT	Lanchester Coefficient Development Tool. This program assists in the development of Lanchester coefficients, which are used to assess the results of force-on-force land combat in JTLS.
LOG	Logistics
LOGIN	Logistics Input. Arrival of supplies in the theater.
LOGREP	Logistics Report
LONG	Longitude
LOTS	Logistics Over The Shore

LR	Long Range
M&S	Modeling and Simulation
MAPP	Modern Aids to Planning Program
MB	Megabyte
MCP	Mobility Counter; Mobility Prototype
MCR	Model Change Request. A form submitted by users and developers to report problems or desired enhancements to the JTLS model.
MG	Machine Gun
MHE	Materiel Handling Equipment
MIP	Model Interface Program. A generic term for MPP, IMT, etc.
MOGAS	Motor gasoline
MOPP	Mission-Oriented Protective Posture
MOSAIC	NCSA user interface software
MOTIF	An X-Window System graphical interface
MP	Maneuver Prototype
MPP	Message Processor Program. This message processing and display utility has been replaced by the XML Message Service and the WHIP Message Browser.
MSC	Major Subordinate Command
MSG	Message
MTF	Message Text Formats
MUREP	Munitions Report
NCSA	National Center for Supercomputing Applications (University of Illinois)
NEO	Noncombatant Evacuation Operations
NFS	Network File Server
NM	Nautical Mile
NTSC	Naval Telecommunications System Center
OAS	Offensive Air Support
OBS	Order of Battle Service (formerly UGU: Unit Generation Utility)
OCA	Offensive Counter-Air
OJCS	Organization of the Joint Chiefs of Staff

OMA	Order Management Authority. Provides an order verification and forwarding service to the WHIP.
ONC	Operational Navigation Chart
OPM	Online Players Manual
OPP	Order Preprocessing Program
Oracle	A relational database management system and name of the company.
OTH	Over the Horizon
OTH Gold	OTH Message Specification
OTH-T	Over the Horizon-Targeting
pD	Probability of Detection
pE	Probability of Engage
pH	Probability of Hit
pK	Probability of Kill
PKL	Point Kill Lethality
POL	Petroleum, Oil, and Lubricants
POSIX	International operating system standard based on System V and BSD.
PP	Postprocessor Program (a JTLS component)
PSYOPS	Psychological Operations
QRA	Quick Reaction Alert
QRA.DCA	Quick Reaction Alert, Defensive Counter Air
QRA.OAS	Quick Reaction Alert, Offensive Air Support
RAM	Random Access Memory
RDMS	Relational Database Management System
RECCE	Reconnaissance. Usually refers to Air Missions.
RECON	Reconnaissance. Usually refers to Ground Missions.
REGT	Regiment
RNS	Random Number Seed
ROE	Rules of Engagement
RPT	Report
RSP	Reformat Spreadsheet Program

SAL	Surface-to-Air Lethality
SAM	Surface-to-Air Missile
SAM/AAA	Surface-to-Air Missile/Anti-Air Artillery
SC	Supply Category
SCP	Simulation Control Plan
SDB	Standard Database
SEAD	Suppression of Enemy Air Defense
SIMSCRIPT	Computer programming language (product of CACI, Inc.). A multiple-pass compiler.
SIP	Scenario Initialization Program
SITREP	Situation Report
SLP	Sustainment Log Prototype
SOF	Special Operations Forces
Solaris	Sun Microsystems' proprietary operating system.
SP	Survivability Prototype
SQL	Structured Query Language
SR	Short Range
SRP	Start/Restart Program (a JTLS component)
SRTE	Sea Route
SSM	Surface-to-Surface Missile
STR	Software Trouble Report
SUN	Sun Microsystems, Inc.
SUP	Ship Unit Prototype
SVP	Scenario Verification Program. Verifies consistency of data entered for a given scenario.
SYNAPSE	Synchronized Authentication and Preferences Service. Provides a user data sharing service in a central location and allows a WHIP configuration to be independent of the local machine.
TADIL	Tactical Digital Interface Link
TCP/IP	Transmission Control Protocol/Internet Protocol. A set of computer networking standards that specify the protocol for two or more computers to communicate with each other. TCP/IP was developed by the Department of Defense to support its Defense Data Network.

TEL	Transporter Erector Launcher
TG	Prefix for Target entity attributes.
TGT	Target
TMU	Terrain Modification Utility. A utility program used to modify JTLS hex-based terrain files.
TOE	Table of Organization and Equipment
TOT	Time on Target
TOW	Tube-launched Optically-tracked Wire-guided missile
TPFDD	Time-Phased Force Deployment Data
TGS	Terrain Generation Service (formerly TPS:Terrain Preparation System)
TTG	Target Type Group
TTL	Target Types List
TUP	Tactical Unit Prototype
TW	Targetable Weapon
UBL	Unit Basic Load
UIM/X	GUI Builder Tool
UNIX	A computer operating system.
UNK	Unknown
UOM	Unit of Measure
USA	United States Army
USAF	United States Air Force
USCG	United States Coast Guard
USMC	United States Marine Corps
USMTF	U.S. Message Text Format
USN	United States Navy
UT	Prefix for Unit Attributes
UTM	Universal Transverse Mercator
VAX	A family of minicomputers developed by Digital Equipment Corporation.
VIFRED	Visual Forms Editor
VMS	Virtual Memory System

VTOL	Vertical Takeoff and Landing aircraft
WAN	Wide Area Network
WDRAW	Withdraw
WEJ	Web Enabled JTLS. Composed of several Web services which interface with the WHIP through an HTTP Web server.
WHIP	Web Hosted Interface Program. An integrated Web interface to JTLS.
WIA	Wounded in Action
WPC	Warrior Preparation Center
WPN	Weapon
WT	Weight
WW	Wild Weasel
XMS	XML Message Service. Provides a JTLS message indexing service.

APPENDIX B. VERSION 3.4.0.0 STANDARD DATABASE CHANGES

This Appendix describes changes to the sdboif34 Standard Database implemented since the previous JTLS 3.3 Major release. If you are using a Standard Database clone, you should consider implementing these changes for your database. Changes can be accomplished by merging the sdboif34 files with your database files, using the DDS, or a combination of these methods. Not every data field changed is explicitly listed.

Major changes include:

- Updated French SUP set to include adding new SUPs
- Updated Ship Unit Prototype (SUP) data for all SUPs
- Updated hit and kill lethality values against all SUPs
- Added 20 new Surface to Surface Missile subcategories
- Added 28 new High Resolution Prototypes for SSMs
- New Target Type Groups and adjusted content of groups
- Added 21 new Supply Categories
- Updated Supply Category Density Values
- New Area Kill Lethality sets and data
- Added 24 New Aircraft Classes
- New Aircraft Loads and Load Assignment Arrays for 45 Aircraft Classes
- Added 242 New Targetable Weapons
- Updated Targetable Weapon data for all TWs but AIR_TO_AIR & SURFACE_TO_AIR

B.1 Standard Database Parameters

The ECPs implemented for JTLS 3.4.0.0 have required the addition, deletion, or modification of various data parameters in the JTLS Standard Database SDBOIF34. The descriptions and uses of these variables to support the model enhancements described in Chapter 2 of this document are summarized in [Table B-1](#). Detailed descriptions of these new or modified data parameters are provided in Appendix B of the *JTLS Data Requirements Manual*.

Table B-1. Summary of Standard Database OIF Data Elements

VARIABLE NAME	CHANGE	DESCRIPTION
<i>JTLS-0573 Missile Warning Message</i>		
TW SPEED	Modified	The definition of this data parameter was modified to specify the effective speed for a missile, which represents the speed that a non-accelerating object would have at the time of launch. For these purposes, it is equivalent to the speed a missile reaches at the end of its boost phase.
MISSILE UPDATE INTERVAL	Added	The time between location and altitude updates for in-flight Theater Ballistic Missiles.
TW CIRCULAR ERROR PROBABLE	Added	This parameter determines the probable elliptical impact area for a ballistic missile and represents the distance from the desired impact area the weapon will land 50% of the time.
<i>JTLS-2007-2047 Represent Blue Force Tracker</i>		
AC BFT EQUIPPED	Added	This attribute of the AIRCRAFT CLASS permanent entity indicates whether an aircraft is equipped with a Blue Force Tracker (BFT) or other similar Global Positioning System (GPS) transponder. Air Missions using this aircraft class will continually report their location during flight.
TUP NUMBER LOCATION TRANSPONDERS	Added	This attribute of the Tactical Unit Prototype entity represents the number of Blue Force Tracker (BFT) or other Global Positioning System (GPS) transponders that are able to automatically and continually report the location of the entity that carries the device. High Resolution Units and Truck Convoys dispatched from the unit are able to acquire and use these devices.
SUP NUMBER LOCATION TRANSPONDERS	Added	This attribute of the Ship Unit Prototype entity represents the number of Blue Force Tracker (BFT) or other Global Positioning System (GPS) transponders that are able to automatically and continually report the location of the entity that carries the device. High Resolution Units dispatched from the unit are able to acquire and use the devices.
HUP NUMBER LOCATION TRANSPONDERS	Added	This attribute of the High Resolution Unit Prototype entity represents the number of Blue Force Tracker (BFT) or other Global Positioning System (GPS) transponders that should be assigned to a newly created HRU that uses this HUP. An HRU that receives a transponder will automatically report its location to the Common Operational Picture (COP) as the unit moves.

Table B-1. Summary of Standard Database OIF Data Elements (Continued)

VARIABLE NAME	CHANGE	DESCRIPTION
SMA LOCATION REPORTING FLAG	Added	This attribute of the Supply Movement Asset entity is used to define the number and types of railcars and barges available to a specific Faction and indicates whether the railcar or barge assets are able to self-report their location while moving supplies or a transported unit.
<i>JTLS-2007-2146 Improve BE Number Representation</i>		
TG O SUFFIX	Deleted	This alphanumeric text string was used to identify a specific target.
BE NUMBER	Added	This attribute of the Basic Encyclopedia (BE) Facility entity represents the unique identifier for a BE Facility. The representation of a BE Facility is expanded to include JTLS Units as well as Targets.
BE NAME	Added	This attribute of the Basic Encyclopedia (BE) Facility entity represents the descriptive name for a BE Facility.
BE DESCRIPTION	Added	This attribute of the Basic Encyclopedia (BE) Facility entity represents a narrative that describes the BE Facility. This narrative will be used within generated intelligence reports.
BE FORCE SIDE	Added	This attribute of the Basic Encyclopedia (BE) Facility entity represents the Force Side that uses the BE Facility to identify intelligence collection areas.
BEO BEN	Added	This attribute of the Basic Encyclopedia Object (BEO) holds the unique identifier for the BE Facility (BE) in which this BEO should be placed.
BEO TYPE	Added	This attribute of the Basic Encyclopedia Object (BEO) entity represents the type of object that is being placed in the BE Facility. Only JTLS units and targets can be placed in a BE Facility.
BEO NAME	Added	This attribute of the Basic Encyclopedia Object (BEO) entity represents the unique identifier for the JTLS Unit or Target that should be placed in the BE Facility.
BEO SUB FACILITY ID	Added	This attribute of the Basic Encyclopedia Object (BEO) entity represents the unique sub-facility identifier for the object within the BE Facility.
<i>JTLS-2008-10026 Link Amphibious Operations</i>		
SUP CRUISE SPEED	Added	This attribute of the SHIP UNIT PROTOTYPE entity specifies the speed that a ship using this SUP will use when it is neither proceeding at its full speed capability, nor assigned a specific Player-ordered speed to maintain.
<i>JTLS-2009-10146 Link CSP to TUP/SUP</i>		
TUP COMBAT SYSTEM PROTOTYPE	Added	These parameters were added to the respective TUP and SUP data structures in the JTLS database and are populated with the appropriate CSP names. The CEP translates each name to a sequential index value used to access the TUP or SUP CSP.
SUP COMBAT SYSTEM PROTOTYPE		

Table B-1. Summary of Standard Database OIF Data Elements (Continued)

VARIABLE NAME	CHANGE	DESCRIPTION
FC COMBAT SYSTEM PROTOTYPE	Deleted	This parameter was removed from the FACTION COUNTRY data structure.
<i>JTLS-2009-10156 Self-Reporting Cruise Missiles</i>		
TW ADV CAPABILITY FLAG	Modified	The value of this attribute specifies whether a Targetable Weapon is capable of sending and/or receiving data and is intended for use to model communications to and from Cruise Missiles. The range of values was expanded accordingly.
<i>JTLS-2009-10234 Expand Unit Short Name Length</i>		
UIC CODE	Modified	The characters #, &, \$, @, /, {, }, <, >, ' and embedded spaces are prohibited. Maximum of 9 characters.
UT SHORT NAME	Modified	The characters #, &, \$, @, /, {, }, <, >, ' and embedded spaces are prohibited. Maximum of 20 characters.
UT UIC	Modified	The characters #, &, \$, @, /, {, }, <, >, ' and embedded spaces are prohibited. Maximum of 9 characters.
HRU NAME	Modified	The characters #, &, \$, @, /, {, }, <, >, ' and embedded spaces are prohibited. Maximum of 20 characters.
AL NAME	Modified	The characters #, &, \$, @, /, {, }, <, >, ' and embedded spaces are prohibited. Maximum of 40 characters.

B.2 Tactical Unit Prototypes

TUPs deleted:

- MECHBN.MAR_US

TUPs changed:

- Some Airbase and missile unit TUPs supplies changed by ASC

B.3 Ship Unit Prototypes

SUPs added:

- Rename LITTORAL.CS_US to FREEDOM.LCS_U
- Cascade Duplicate FREEDOM.LCS_US to INDEPEND.LCS_US
- New French SUP set

SUPs changed:

- Data for all SUPs was updated

B.4 High Resolution Prototypes

HUPs added:

- Cascade Duplicate CDM.1C801(2) to CDM.1HSGFNG2(2)
- Cascade Duplicate CDM.1C802_03(3) to CDM.1HSGFNG1(3)
- Cascade Duplicate CDM.1SSN-2A(1) to CDM.1SILKWORM(1)
- Cascade Duplicate CDM.1HARPN1B to CDM.1HARPN1C
- Cascade Duplicate CDM.1HARPN1B to CDM.1HARPN1G
- Cascade Duplicate TEL1.SS-21 to TEL.1ABABEEL100
- Cascade Duplicate TEL1.SS-21 to TEL.1AGNI1
- Cascade Duplicate TEL1.SS-21 to TEL.1AGNI2
- Cascade Duplicate TEL1.SS-21 to TEL.1AL-SAMOUD
- Cascade Duplicate TEL1.SS-21 to TEL.1CF2000
- Cascade Duplicate TEL1.SS-21 to TEL.1DF11
- Cascade Duplicate TEL1.SS-21 to TEL.1DF15
- Cascade Duplicate TEL1.SS-21 to TEL.1DF15A
- Cascade Duplicate TEL1.SS-21 to TEL.1DF21
- Cascade Duplicate TEL1.SS-21 to TEL.1DF21A
- Cascade Duplicate TEL1.SS-21 to TEL.1HATF1
- Cascade Duplicate TEL1.SS-21 to TEL.1HATF2
- Cascade Duplicate TEL1.SS-21 to TEL.1HATF3
- Cascade Duplicate TEL1.SS-21 to TEL.1HATF4
- Cascade Duplicate TEL1.SS-21 to TEL.1HATF5
- Cascade Duplicate TEL1.SS-21 to TEL.1HATF6
- Cascade Duplicate TEL1.SS-21 to TEL.1M7
- Cascade Duplicate TEL1.SS-21 to TEL.1PRITHVI
- Cascade Duplicate TEL1.SS-21 to TEL.1SHAHAB3
- Cascade Duplicate TEL1.SS-21 to TEL.1SSX26
- Cascade Duplicate TEL1.SS-21 to TEL.1SSX26E
- Cascade Duplicate TEL1.SS-21 to TEL.1TP.DONG1

- Cascade Duplicate TEL1.SS-21 to TEL.1TP.DONG2

HUPs changed:

- Rename CDM.1C-801(1) to CDM.1C801(2)
- Rename CDM.1C-802(2) TO CDM.1C802_03(3)
- Rename CDM.1EXOCET(2) to CDM.1EXOC38(2)
- Rename CDM.1EXOCET(4) to CDM.1EXOC40(4)
- Rename CDM.1HARPN(4) to CDM.1HARPN1B(4)
- Rename TEL.1ABABEEL to TEL.1ABABEEL262
- Update data for all CDM. and TEL. type HUPs

B.5 Targets

Targets changed:

- Change Minefield target MINE00019 location to 29-51-08.6N 048-30-32.8E
- Change Minefield target MINE00020 location to 29-55-45.0N 048-20-06.7E
- Change Minefield target MINE00021 Depth to 328 feet
- Change Minefield target MINE00022 Depth to 328 feet
- Change Minefield target MINE00023 Depth to 328 feet
- Change Minefield target MINE00024 Depth to 328 feet
- Change Minefield target MINE00025 Depth to 105 feet
- Change Minefield target MINE00026 Depth to 328 feet

B.6 Supply Categories

Supply Category added:

- Cascade Duplicate CL.V.SS-LR to CL.V.SS-BSRBM
- Cascade Duplicate CL.V.SS-LR to CL.V.SS-SRBM
- Cascade Duplicate CL.V.SS-LR to CL.V.SS-MRBM
- Cascade Duplicate CL.V.SS-LR to CL.V.SS-IRBM
- Cascade Duplicate CL.V.SS-LR to CL.V.SS-FAE
- Cascade Duplicate CL.V.SS-LR to CL.V.SS-ARM
- Cascade Duplicate CL.V.AS-AGM158A to CL.V.AS-AGM158B
- Cascade Duplicate CL.V.AS-GBU29 to CL.V.AS-SGB-SR

- Cascade Duplicate CL.V.AS-GBU31 to CL.V.AS-SGB-MR
- Cascade Duplicate CL.V.AS-GBU43 to CL.V.AS-MOP
- Cascade Duplicate CL.V.AS-GBU15 to CL.V.AS-GBU15TB
- Cascade Duplicate CL.V.AS-GBU12 to CL.V.AS-EGBU12
- Cascade Duplicate CL.V.AS-GBU16 to CL.V.AS-EGBU16
- Cascade Duplicate CL.V.AS-GBU24 to CL.V.AS-EGBU24
- Cascade Duplicate CL.V.AS-GBU24P to CL.V.AS-EGBU24P
- Cascade Duplicate CL.V.AS-GBU27A to CL.V.AS-EGBU27A
- Cascade Duplicate CL.V.AS-GBU28 to CL.V.AS-EGBU28
- Cascade Duplicate CL.V.AS-LG500F to CL.V.AS-LG500P
- Cascade Duplicate CL.V.AGMRGM84H to CL.V.AGMRGM84K
- Cascade Duplicate CL.V.AS-250HE to CL.V.AS-100HE
- Cascade Duplicate CL.V.AS-500HE to CL.V.AS-750HE

Supply Category Changed:

- Rename CL.V.AS-AGM158 to CL.V.AS-AGM158A

B.7 Target Type Groups (TTG)

Target Type Groups added:

- Cascade Duplicate TANK_TTG to HEAVY_TANK_TTG
- Rename TANK_TTG to MEDIUM_TANK_TTG
- Cascade Duplicate ARMORED_VEH_TTG to HVY_ARM_VEH_TTG
- Rename ARMORED_VEH_TTG to LT_ARM_VEH_TTG
- Cascade Duplicate ARTILLERY_TTG to ART_NON_ARM_TTG
- Rename ARTILLERY_TTG to ARTY_ARMOR_TTG
- Cascade Duplicate SOFT_CBT_ARMS to PERSONNEL_TTG
- Cascade Duplicate VSMALL.SHIP_TTG to XSMALL.SHIP_TTG
- Cascade Duplicate SAM_AAA_NON_RDR to SAM_AAA_MANPADS

Target Type Groups changed:

- Updated SUP assignments to TTGs
- Adjusted TTG assignment of armored vehicles, artillery and personnel

B.8 Minefield Type:

Minefield Types changed:

- Change MFT ANTI-INVASION Radius to .25 km
- Change MFT ANTI-INVASION Number of Mines to 200
- Change MFT ANTI-INVASION Max Depth to 9999 feet
- Change MFT ANTI-INVASION Time Per Round to .001041667 days

B.9 Small Boats

Small Boats changed:

- Change 2-MAN.LIFERAFT Deploy Time to .0006944 days
- Change 4-MAN.LIFERAFT Deploy Time to .0013889 days
- Change 10-MAN.LIFERAFT Deploy Time to .0017361 days
- Change 15-MAN.LIFERAFT Deploy Time to .0020833 days

B.10 Aircraft Classes

Aircraft Classes added:

- Cascade Duplicate C5A.GALAXY to AN124.CONDOR
- Cascade Duplicate CH46D.SEAKNIGHT to UH46.SEA.KNIGHT
- Cascade Duplicate EF2000.TYPH_FR to EF2000.TYPH_GM
- Cascade Duplicate EF2000.TYPH_FR to EF2000.TYPH_UK
- Cascade Duplicate EF2000.TYPH_FR to EF2000.TYPH_SP
- Cascade Duplicate EF2000.TYPH_FR to EF2000.TYPH_IT
- Cascade Duplicate EF2000.TYPH_FR to EF2000.TYPH_AU
- Cascade Duplicate EF2000.TYPH_FR to EF2000.TYPH_SA
- Cascade Duplicate FA18F.SPRHORNET to EA18G.GROWLER
- Cascade Duplicate HMA.MK3.LYNX to UH14A.LYNX
- Cascade Duplicate MQ1A.PREDATOR to MQ9.REAPER
- Cascade Duplicate M2000E.MIRAGE to J10.CHENGDU
- Cascade Duplicate RAFALE-M to RAFALE-C
- Cascade Duplicate RQ1A.PREDATOR to HARFANG
- Cascade Duplicate SU25.FROGFOOT-B to SU39.FROGFOOT

- Cascade Duplicate SU27.FLNKR-B(G) to SU35.FLANKER-E
- Cascade Duplicate SU27.FLNKR-B(A) to J11B.FLANKER-B
- Cascade Duplicate SU27.FLNKR-B(F) to J11.FLANKER-B
- Cascade Duplicate SU30.FLNKR-C(A) to SU34.FULLBACK
- Cascade Duplicate SU30.FLNKR-C(A) to SU30MKI.FLNKR-H
- Cascade Duplicate SU30.FLNKR-C(A) to SU30MKK.FLNKR-G
- Cascade Duplicate SU30.FLNKR-C(A) to SU30MK2.FLNKR-G
- Cascade Duplicate SU30.FLNKR-C(G) to SU30MKM.FLANKER

Aircraft Classes changed:

- Rename EF2000.TYPHOON to EF2000.TYPH_FR
- Change U2S Cruise Altitude to 65000 feet
- Change U2S Efficient Altitude to 65000 feet
- Change U2S Range to 11280 km
- Change U2S Max Altitude Range to 11000 km
- Change U2S NAP Range to 8000 km
- Change AH64A.APACHE Dry Weight to 1.8 tons
- Change AH64D.LONGBOW Dry Weight to 1.9 tons
- Change F16A.FTING.FALC Dry Weight to 8 tons
- Change F16A.FTG.FAL_TH Dry Weight to 8 tons
- Change GRMK7.HARRIER Dry Weight to 6.617 tons
- Change KC130R.HERCULES Dry Weight to 36.21 tons
- Change KC130T.HERCULES Dry Weight to 36.21 tons

Aircraft Classes deleted:

- FA18E_F.SPRHORN

B.11 Aircraft Loads

Aircraft Loads added:

- New aircraft loads for the aircraft listed in B.10 - too many to enter here

Aircraft Loads deleted:

- Have started to delete loads that are
 - Not in the Load Assignment Array
 - Not an assigned Aircraft Class Default Load
 - Not in the US Air Force Standard Conventional Load List
 - Not a Sensor only Load
 - Not an Extra Fuel Load for long transfers

B.12 Aircraft Load Assignments

Aircraft Load Assignments Changed:

- New Load Assignments for A10.THUNDERBOLT
- New Load Assignments for B1B.LANCER
- New Load Assignments for B2A.SPIRIT
- New Load Assignments for B52H.STRATOFORT
- New Load Assignments for F15E.STRIK.EAGL
- New Load Assignments for F16A.FTING.FALC
- New Load Assignments for F16C.FTING.FALC
- New Load Assignments for F16CG.FTNG.FALC
- New Load Assignments for F16CJ.FTNG.FALC
- New Load Assignments for FA18A_B.HORNET
- New Load Assignments for FA18C.HORNT_NAV
- New Load Assignments for FA18CN.HORN_NAV
- New Load Assignments for FA18D.HORN_MAR
- New Load Assignments for FA18E.SPRHORNET
- New Load Assignments for FA18F.SPRHORNET
- New Load Assignments for FA22.RAPTOR
- New Load Assignments for AN124.CONDOR
- New Load Assignments for ATLANTIC
- New Load Assignments for EA18G.GROWLER
- New Load Assignments for EA6B.PROWLER
- New Load Assignments for EF2000.TYPH_GM
- New Load Assignments for EF2000.TYPH_UK
- New Load Assignments for HARFANG

- New Load Assignments for MI24.HIND
- New Load Assignments for RAFALE-C
- New Load Assignments for RAFALE-M
- New Load Assignments for SU20.FITTER-C
- New Load Assignments for SU34.FULLBACK
- New Load Assignments for SU35.FLANKER-E
- New Load Assignments for SU39.FROGFOOT
- New Load Assignments for UH-14A.LYNX
- New Load Assignments for UH46.SEA.KNIGHT
- New Load Assignments for F15C.EAGLE
- New Load Assignments for MQ1A.PREDATOR
- New Load Assignments for MQ9.REAPER
- New Load Assignments for AH64D.LONGBOW
- New Load Assignments for AH58.WARRIOR
- New Load Assignments for AH1W.SUPERCOBRA
- New Load Assignments for AV8B.HARRIER
- New Load Assignments for AV8B.PL.HARRIER
- New Load Assignments for AC130H.SPECTRE
- New Load Assignments for AC130U.SPECTRE
- New Load Assignments for P3C.ORION
- New Load Assignments for S3B.VIKING
- New Load Assignments for OA10.THUNDERBOL

B.13 Jammer Types

Jammers added:

- Cascade Duplicate ALQ119.RDR.JAM to ALQ117.RDR.JAM
- Change ALQ117.RDR.JAM Range to 34 km
- Change ALQ117.RDR.JAM Power to 33
- Cascade Duplicate ALQ184.RDR.JAM to ALQ196.RDR.JAM
- Change ALQ196.RDR.JAM Range to 43 km
- Change ALQ196.RDR.JAM Power to 37

- Cascade Duplicate ALQ164.RDR.JAM to ALQ87.RDR.JAM
- Change ALQ87.RDR.JAM Power to 35
- Cascade Duplicate ALQ87.RDR.JAM to ALQ76.RDR.JAM
- Cascade Duplicate ALR94.RDR.JAM to ALQ94.RDR.JAM
- Cascade Duplicate ALQ155.RDR.JAM to JALQ8.RDR.JAM
- Change JALQ8.RDR.JAM Power to 43
- Cascade Duplicate ALQ87.RDR.JAM to FS-X.RDR.JAM
- Change FS-X.RDR.JAM Range to 55 km
- Cascade Duplicate ALQ196.RDR.JAM to ZEUS.RDR.JAM
- Change ZEUS.RDR.JAM Power to 35
- Cascade Duplicate SKY.SHADOW.RJ to CEREBERUS.RJ
- Cascade Duplicate SELF.PROTECT.RJ to ICMS.MK2.RJ
- Cascade Duplicate ALQ184.RDR.JAM to BARRACUDA.RJ
- Change BARRACUDA.RJ Range to 42 km
- Cascade Duplicate ALQ164.RDR.JAM to ALQ101.RDR.JAM
- Cascade Duplicate ALQ161.RDR.JAM to ALQ162.RDR.JAM
- Cascade Duplicate ALQ184.RDR.JAM to ALQ70.RDR.JAM
- Change ALQ70.RDR.JAM Range to 38 km
- Cascade Duplicate BARRACUDA.RJ to PHIMAT.RDR.JAM
- Change PHIMAT.RDR.JAM Power to 37
- Cascade Duplicate BARRACUDA.RJ to BARAX.RDR.JAM
- Change BARAX.RDR.JAM Range to 40 km
- Cascade Duplicate BARAX.RDR.JAM to BAREM.RDR.JAM
- Change BAREM.RDR.JAM Range to 41 km
- Cascade Duplicate ALQ196.RDR.JAM to CAMELEON.RJ
- Change CAMELEON.RJ Power to 39
- Cascade Duplicate CAMELEON.RJ to SABRE.RDR.JAM
- Change SABRE.RDR.JAM Range to 42 km
- Cascade Duplicate CAMELEON.RJ to EL8202.RDR.JAM
- Change EL8202.RDR.JAM Range to 44 km
- Cascade Duplicate ALQ196.RDR.JAM to ELT555.RDR.JAM

- Change ELT555.RDR.JAM Power to 38
- Cascade Duplicate CAMELEON.RJ to EWCS39.RDR.JAM
- Cascade Duplicate SELF.PROTECT.RJ to G24.RDR.JAM
- Change G24.RDR.JAM Range to 44 km
- Cascade Duplicate ALQ99.RDR.JAM to MIRFS.MFA.RJ
- Change MIRFS.MFA.RJ Range to 100 km
- Change MIRFS.MFA.RJ Power to 65
- Cascade Duplicate ALQ167.RDR.JAM to ALQ221.RDR.JAM
- Change ALQ221.RDR.JAM Range to 46 km
- Cascade Duplicate FS-X.RDR.JAM to JALQ7.RDR.JAM
- Cascade Duplicate ALQ136.RDR.JAM to LC3.RDR.JAM
- Cascade Duplicate BARAX.RDR.JAM to ALE50.RDR.JAM
- Change ALE50.RDR.JAM Power to 39
- Cascade Duplicate ALQ196.RDR.JAM to ALQ211.RDR.JAM
- Change ALQ211.RDR.JAM Power to 36

B.14 Sensor Types

Sensors added:

- Cascade Duplicate APG77_AAD to APG79_AAD
- Cascade Duplicate APG77_AGK to APG79_AGK
- Cascade Duplicate APG68_AGK to APS130_AGR
- Cascade Duplicate SURFACE.RDR_AGK to IGUANE_AGK
- Change IGUANE_AGK Range to 100 km
- Change IGUANE_AGK Power to 70
- Change IGUANE_AGK Effectiveness to .75
- Cascade Duplicate IGUANE_AGN to APS135_AGN
- Change APS135_AGN Range to 200 km
- Cascade Duplicate APR50_AEE to ARAR13A_AEE
- Cascade Duplicate HILARK4_AAD to B004_AAD
- Change B004_AAD Range to 75 km
- Change B004_AAD Power to 70

- Cascade Duplicate HILARK4_AGK to B004_AGK
- Change B004_AGK Range to 70 km
- Change B004_AGK Power to 70
- Cascade Duplicate APG77_AAD to CAPTOR_AAD
- Cascade Duplicate APG77_AGK to CAPTOR_AGK
- Cascade Duplicate APG77_AAD to RBE2_AAD
- Cascade Duplicate APG77_AGK to RBE2_AGK
- Cascade Duplicate CLDP_AGK to AAR50.FLIR_AGR
- Cascade Duplicate SONAR.MAD_ASU to DHAX3.MAD_ASU
- Cascade Duplicate SONAR.MAD_ASU to ASQ81.MAD_ASU
- Cascade Duplicate A.TO.G.FLIR_AGK to FSO.IRST_AGK
- Cascade Duplicate ARAR13A_AEE to MALE_AEE
- Change MALE_AEE Range to 50 km
- Change MALE_AEE Effectiveness to .7
- Cascade Duplicate MALE_AEE to MALE_AEC
- Change MALE_AEC Range to 45 km
- Cascade Duplicate SLOT_AAD to N011M_AAD
- Change N011M_AAD Power to 76
- Change N011M_AAD Effectiveness to .8
- Cascade Duplicate SLOT_AGK to N011M_AGK
- Change N011M_AGK Range to 100 km
- Change N011M_AGK Power to 76
- Change N011M_AGK Effectiveness to .75
- Cascade Duplicate HIFIX_AAD to N012_AAD
- Change N012_AGK Range to 30 km
- Change N012_AGK Effectiveness to .75
- Cascade Duplicate A.TO.A.FLIR_AAA to OLS27.IRST_AAA
- Change OLS27.IRST_AGK Range to 22 km
- Cascade Duplicate A.TO.G.FLIR_AGK to OSF.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to OSF.IRST_AGK
- Cascade Duplicate A.TO.A.FLIR_AAA to PIRATE.FLIR_AAA

- Cascade Duplicate A.TO.G.FLIR_AGK to PIRATE.FLIR_AGK
- Cascade Duplicate AAR50.FLIR_AGK to PRICHAL.FLR_AGK
- Cascade Duplicate AAR50.FLIR_AGK to AAR51.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to AAQ26.FLIR_AGK
- Cascade Duplicate A.TO.A.FLIR_AAA to AAQ117.FLIR_AAA
- Cascade Duplicate A.TO.A.FLIR_AAA to AAQ11.FLIR_AAA
- Change AAQ11.FLIR_AAA Range to 10 km
- Cascade Duplicate OLS27.IRST_AAA to UOMZ.IRST_AAA
- Cascade Duplicate A.TO.G.FLIR_AGK to ASQ228.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to OR89.FLIR_AGK
- Change OR89.FLIR_AGK Range to 22 km
- Cascade Duplicate AAS38.FLIR_AGK to AAQ11.FLIR_AGK
- Cascade Duplicate AAS38.FLIR_AGK to AAS36.FLIR_AGK
- Cascade Duplicate AAS38.FLIR_AGK to AAS52.FLIR_AGK
- Change AAS52.FLIR_AGK Range to 12 km
- Cascade Duplicate AAS38.FLIR_AGK to AAQ11.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to MTS-B.FLIR_AGK
- Change MTS-B.FLIR_AGK Range to 26 km
- Cascade Duplicate PREDATOR_AGR to ZPQ1_AGR
- Cascade Duplicate AIR_PHOTO_AGR to ARS_AGR
- Change ARS_AGR Effectiveness to .9
- Cascade Duplicate ARS_AGR to ATARS_AGR
- Cascade Duplicate SPINS1_AGK to ASQ170_AGK
- Change ASQ170_AGK Power to 80
- Change ASQ170_AGK Effectiveness to .8
- Cascade Duplicate APG79_AGK to APG180_AGK
- Change APG180_AGK Range to 40 km
- Change APG180_AGK Power to 85
- Cascade Duplicate APG79_AGK to APG78_AGK
- Change APG78_AGK Range to 8 km
- Change APG78_AGK Power to 90

- Cascade Duplicate APG180_AGK to APQ122_AGK
- Change APQ122_AGK Range to 35 km
- Cascade Duplicate APG180_AGK to APQ150_AGK
- Change APQ150_AGK Range to 37 km
- Change APQ150_AGK Effectiveness to .85
- Cascade Duplicate APS135_AGN to APS137_AGN
- Cascade Duplicate NAV.WEA_AAW to APQ122_AAW
- Cascade Duplicate APS124_AGK to APY-8_AGK
- Change APY-8_AGK Range to 30 km
- Change APY-8_AGK Effectiveness to .85
- Cascade Duplicate AAQ11.FLIR_AAA to AAQ16.FLIR_AAA
- Change AAQ16.FLIR_AAA Range to 11 km
- Cascade Duplicate AAQ11.FLIR_AGK to AAQ16.FLIR_AGR
- Change AAQ16.FLIR_AGR Range to 11 km
- Cascade Duplicate AAQ11.FLIR_AAA to AAQ19.FLIR_AAA
- Change AAQ19.FLIR_AAA Range to 16 km
- Cascade Duplicate AAQ11.FLIR_AGK to AAQ19.FLIR_AGR
- Change AAQ19.FLIR_AGR Range to 16 km
- Cascade Duplicate AAR37.FLIR_AGR to AAR50.FLIR_AGR
- Cascade Duplicate AAS38.FLIR_AGK to AVQ26.FLIR_AGK
- Cascade Duplicate AAS38.FLIR_AGK to BAE.SLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to GEC.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to RUBIS.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to ZEISS.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to SEAOWL.FLIR_AGK
- Cascade Duplicate A.TO.G.FLIR_AGK to SANDPI.FLIR_AGK
- Change SANDPI.FLIR_AGK Range to 22 km
- Cascade Duplicate ASQ81.MAD_ASU to MK44.MAD_ASU
- Change MK44.MAD_ASU Power to 110
- Cascade Duplicate MK44.MAD_ASU to ASQ13.SONAR_ASU
- Cascade Duplicate MK44.MAD_ASU to 2069.SONAR_ASU

- Cascade Duplicate MK44.MAD_ASU to SU.SEARCHER_ASU
- Cascade Duplicate ASQ81.MAD_ASU to ASQ504.MAD_ASU
- Cascade Duplicate ASQ81.MAD_ASU to EH101.MAD_ASU
- Cascade Duplicate ASQ81.MAD_ASU to HISOS.SONAR_ASU
- Change HISOS.SONAR_ASU Power to 100
- Cascade Duplicate AIR.PHOTO_AGR to GAFRP_AGR
- Cascade Duplicate AIR.PHOTO_AGR to TIALD_AGK
- Cascade Duplicate AIR.PHOTO_AGR to ZEISS.PHOTO_AGK
- Cascade Duplicate RVT.JOINT-C_ACC to ALR60_ACC
- Change ALR60_ACC Range to 50 km
- Change ALR60_ACC Power to 4
- Cascade Duplicate APR50_AEE to ALQ78_AEE
- Change ALQ78_AEE Range to 50 km
- Change ALQ78_AEE Effectiveness to .8
- Cascade Duplicate APQ122_AGK to APQ128_AGR
- Change APQ128_AGR Range to 36 km
- Cascade Duplicate APQ164_AGK to APQ165_AGK
- Change APQ165_AGK Power to 80
- Cascade Duplicate APS135_AGN to APS115_AGS
- Change APS115_AGS Power to 70
- Cascade Duplicate B004_AAD to BLUE.VIXEN_AAD
- Change BLUE.VIXEN_AAD Range to 44 km
- Change BLUE.VIXEN_AAD Effectiveness to .9
- Change BLUE.VIXEN_AAD Power to 77
- Cascade Duplicate B004_AGK to BLUE.VIXEN_AGK
- Change BLUE.VIXEN_AGK Range to 27 km
- Change BLUE.VIXEN_AGK Effectiveness to .9
- Change BLUE.VIXEN_AGK Power to 77
- Cascade Duplicate APR50_AEE to ELS_AEE
- Change ELS_AEE Range to 45 km
- Cascade Duplicate APG66_AAD to FS-X_AAD

- Cascade Duplicate SPINS1_AAD to JASQ1_AAD
- Change JASQ1_AAD Range to 50 km
- Cascade Duplicate SPINS1_AGK to JASQ1_AGK
- Change JASQ1_AGK Range to 75 km
- Cascade Duplicate JASQ1_AAD to JAWG12_AAD
- Change JAWG12_AAD Range to 45 km
- Change JAWG12_AAD Effectiveness to .65
- Cascade Duplicate JASQ1_AGK to JAWG12_AGK
- Change JAWG12_AGK Range to 45 km
- Change JAWG12_AGK Effectiveness to .65
- Cascade Duplicate CAPTOR_AAD to RDY_AAD
- Change RDY_AAD Range to 160 km
- Change RDY_AAD Effectiveness to .75
- Change RDY_AAD Power to 90
- Cascade Duplicate CAPTOR_AGK to RDY_AGK
- Change RDY_AGK Range to 160 km
- Change RDY_AGK Effectiveness to .75
- Change RDY_AGK Power to 90
- Cascade Duplicate OR89.FLIR_AGK to HORIZO.IRLS_AGK
- Cascade Duplicate OR89.FLIR_AGK to AAS44.IRST_AGK
- Cascade Duplicate APG65_AAD to TORNADO_AAD
- Change TORNADO_AAD Range to 46 km
- Change TORNADO_AAD Effectiveness to .75
- Change TORNADO_AAD Power to 70
- Cascade Duplicate APG65_AGK to TORNADO_AGK
- Change TORNADO_AGK Range to 120 km
- Change TORNADO_AGK Effectiveness to .75
- Change TORNADO_AGK Power to 70
- Cascade Duplicate B52.A-A_AAA to ALQ142_AAA
- Change ALQ142_AAA Range to 50 km
- Change ALQ142_AAA Effectiveness to .8

- Change ALQ142_AAA Power to 60
- Cascade Duplicate B52.A-G_AGK to ALQ142_AGK
- Change ALQ142_AGK Range to 50 km
- Change ALQ142_AGK Effectiveness to .8
- Change ALQ142_AGK Power to 60
- Cascade Duplicate ALQ78_AEE to ALR75_AEE
- Change ALR75_AEE Range to 48 km
- Cascade Duplicate NAV.WEA_AAW to APN29_AAW
- Change APN29_AAW Effectiveness to .6
- Cascade Duplicate NAV.WEA_AAW to APQ174_AAW
- Change APQ174_AAW Range to 120 km
- Change APQ174_AAW Effectiveness to .55
- Cascade Duplicate APQ150_AGK to APQ158_AGR
- Change APQ158_AGR Range to 40 km
- Cascade Duplicate APQ166_AGK to APQ175_AGR
- Change APQ174_AGR Range to 120 km
- Change APQ174_AGR Power to 80
- Cascade Duplicate NAV.WEA_AAW to APS705B_AAW
- Change APS705B_AAW Range to 80 km
- Cascade Duplicate APS135_AGN to APS705B_AGN
- Change APS705B_AGN Range to 80 km
- Change APS705B_AGN Effectiveness to .6
- Change APS705B_AGN Power to 50
- Cascade Duplicate APS137_AGN to APS784_AGN
- Change APS784_AGN Range to 180 km
- Cascade Duplicate APS137_AGN to MARCONI_AGN
- Change MARCONI_AGN Range to 150 km
- Change MARCONI_AGN Power to 65
- Cascade Duplicate MALE_AEE to KESTREL_AEE
- Cascade Duplicate SEASPRAY_AGK to SEASPRAY1_AGK
- Change SEASPRAY1_AGK Range to 70 km

- Change SEASPRAY1_AGK Effectiveness to .7
- Cascade Duplicate SEASPRAY_AGK to SEASPRAY3_AGK
- Change SEASPRAY3_AGK Range to 100 km
- Cascade Duplicate AIR.RADAR1_AAA to SW.AEW.2000_AAA
- Change SW.AEW.2000_AAA Range to 80 km
- Cascade Duplicate APS784_AGN to SW.AEW.2000_AGN
- Change SW.AEW.2000_AGN Range to 100 km
- Cascade Duplicate APQ174_AGR to SU.SEARCHER_AGR
- Change SU.SEARCHER_AGR Range to 110 km
- Change SU.SEARCHER_AGR Power to 75

Sensors changed:

- Change PREDATOR_AGR Reporting Method to RECCEXREP
- Change PREDATOR_AGR Init Report Time to .00001157 days
- Change AIP_AGR Init Report Time to .00001157 days
- Change ASARS-2S_AGR Init Report Time to .00001157 days
- Change PIONEER_AGR Init Report Time to .00001157 days
- Change SYERS_AGR Init Report Time to .00001157 days
- Change ZPQ1_AGR Init Report Time to .00001157 days
- Change AIR.VISUAL_AAA Range to 10 km
- Change AIR.VISUAL_AGR Range to 5 km
- Rename HIFIX_AAD to HIGH.FIX_AAD
- Rename HIFIX_AGK to HIGH.FIX_AGK

B.15 Surface to Surface Missiles:

SSMs added:

- A110(TEL1)
- AGNI1(TEL1)
- AGNI2(TEL1)
- CF2000(TEL1)
- DF11(TEL1)
- DF15(TEL1)

- DF15A(TEL1)
- DF21(TEL1)
- DF21A(TEL1)
- HATF1(TEL1)
- HATF2(TEL1)
- HATF3(TEL1)
- HATF4(TEL1)
- HATF5(TEL1)
- HATF6(TEL1)
- M7(TEL1)
- PRITHVI(TEL1)
- SHAHAB3(TEL1)
- SSX26(TEL2)
- SSX26E(TEL2)

SSMs Changed:

- Added new TWs as appropriate to the above SSM TW arrays
- Change TP.DONG2(TEL1) Setup Time to .166667 days
- Add TW MN.MK60.CAPTOR to SSM TT533SI.NOWIRE
- Add TW MN.MK60.CAPTOR to SSM TT533SI.WIRE
- Add TW MN.MK67.SLMM to SSM TT533SI.NOWIRE
- Add TW MN.SMDM-1 to SSM TT533LI.WIRE
- Add TW MN.SMDM-1 to SSM TT533LI.NOWIRE
- Add TW SMDM-2 to SSM TT650I.NOWIRE
- Add TW OTOMAT.MK2.IT to SSM OTOMAT(1)
- Add TW OTOMAT.MK2.IT to SSM OTOMAT(2)
- Add TW OTOMAT.MK2.IT to SSM OTOMAT(4)
- Add TW OTOMAT.MK2.IT to SSM OTOMAT(TEL2)

B.16 Targetable Weapons

TWs added:

- Cascade Duplicate BLU-82.DAISY.CU to MASS.ORD.PEN

- Cascade Duplicate GBU24.PWY3.B109 to GBU24.PWY3.B116
- Cascade Duplicate GBU15(TV)B109 to EGBU15(TV)B121
- Cascade Duplicate GBU12.PWY2.MK82 to EGBU12PWY2.MK82
- Cascade Duplicate GBU16.PWY2.MK83 to EGBU16PWY2.MK83
- Cascade Duplicate GBU24.PWY3.MK84 to EGBU24PWY3.MK84
- Cascade Duplicate GBU24.PWY3.B109 to EGBU24PWY3.B109
- Cascade Duplicate GBU27.PWY3.B109 to EGBU27PWY3.B109
- Cascade Duplicate GBU28B.BLU113 to EGBU28.BLU122
- Cascade Duplicate GBU22.PWY3.MK82 to PGB.PWY4.MK82
- Cascade Duplicate GBU24.PWY3.B109 to GBU24.BPG2000
- Cascade Duplicate BLU109B.PEN to BPG2000.PEN
- Cascade Duplicate AGM158A.JASSM to AGM158B.JASSMER
- Cascade Duplicate AGM84H.SLAM-ER to AGM84K.SLAM.ATA
- Cascade Duplicate GBU29.JDAM.MK81 to AASM125.BF
- Cascade Duplicate GBU29.JDAM.MK81 to AASM125.BF.IR
- Cascade Duplicate GBU38.JDAM.MK82 to AASM250.BF
- Cascade Duplicate GBU38.JDAM.MK82 to AASM250.BF.IR
- Cascade Duplicate PGM1A.SAL.PEN to AASM250.PEN
- Cascade Duplicate PGM3A.IIR.PEN to AASM250.PEN.IR
- Cascade Duplicate GBU32.JDAM.MK83 to AASM500.BF
- Cascade Duplicate GBU32.JDAM.MK83 to AASM500.BF.IR
- Cascade Duplicate GBU31.JDAM.B109 to AASM1000.PEN
- Cascade Duplicate GBU31.JDAM.B109 to AASM1000.PEN.IR
- Cascade Duplicate OFAB-100KG to BL25A.120KG.F
- Cascade Duplicate OFAB-100KG to BL61.125KG.FRAG
- Cascade Duplicate OFAB-500KG.LD to BL70.400KG.F.LD
- Cascade Duplicate OFAB-500KG.HD to BL70.400KG.F.HD
- Cascade Duplicate RBK150.BETAB to BL108.125KG.PEN
- Cascade Duplicate RBK500.BETAB to BL104.450KG.PEN
- Cascade Duplicate BLU109B.PEN to BL105.900KG.PEN
- Cascade Duplicate BGM71C.ITOW to GBU44B.VIPER.ST

- Cascade Duplicate AGM122A.SIDEARM to TC-2A.ARM
- Cascade Duplicate KAB500KR.BF to KAB500KR.FAE
- Cascade Duplicate KAB500L.LGB to KAB500LG.LGB
- Cascade Duplicate KAB500L.LGB to KAB500SE.SGB
- Cascade Duplicate KAB1500LF.LGB to KAB1500KR.HE
- Cascade Duplicate KAB15000LF.LGB to KAB1500KR.FAE
- Cascade Duplicate KAB1500LF.LGB to KAB1500LG.BF
- Cascade Duplicate KAB1500LPR.LGB to KAB1500LG.PEN
- Cascade Duplicate KAB1500LF.LGB to KAB1500LG.FAE
- Cascade Duplicate MK84LD.2000LB to BLU118.THERMOB
- Cascade Duplicate MK84LD.2000LB to BLU121.THERMOB
- Cascade Duplicate GBU32.JDAM.MK83 to FEI.TENG-1.SGB
- Cascade Duplicate GBU38.JDAM.MK82 to FEI.TENG-3.SGB
- Cascade Duplicate FAB-500KG.M62LD to LS-6.500KG.SGB
- Cascade Duplicate FAB-1000KG.M62 to LS-6.1000KG.SGB
- Cascade Duplicate KAB500LG.LGB to LT-2.500KG.LGB
- Cascade Duplicate KAB500LG.LGB to NORCO500KG.LGB
- Cascade Duplicate RAPTOR1.PEN to RAPTOR1.BF
- Cascade Duplicate RAPTOR1.PEN to RAPTOR2.PEN
- Cascade Duplicate RAPTOR1.BF to RAPTOR2.FRAG
- Cascade Duplicate MK81LD.250LB to BR-50.LD
- Cascade Duplicate MK81LD.250LB to BR-125.LD
- Cascade Duplicate MK82LD.500LB to BR-250.LD
- Cascade Duplicate MK82LD.500LB to BR-375.LD
- Cascade Duplicate MK83LD.1000LB to BR-500.LD
- Cascade Duplicate MK84LD.2000LB to BR-1000.LD
- Cascade Duplicate OFAB-250KG.LD to BRF-50.LD
- Cascade Duplicate OFAB-250KG.LD to BRF-125.LD
- Cascade Duplicate OFAB-250KG.LD to BRF-250.LD
- Cascade Duplicate OFAB-500KG.LD to BRF-375.LD
- Cascade Duplicate OFAB-500KG.LD to BRF-500.LD

- Cascade Duplicate MK84LD.2000LB to BRF-1000.LD
- Cascade Duplicate BR-50.LD to BRP-50.HD
- Cascade Duplicate BR-125.LD to BRP-125.HD
- Cascade Duplicate BR-250.LD to BRP-250.HD
- Cascade Duplicate BR-375.LD to BRP-375.HD
- Cascade Duplicate BR-500.LD to BRP-500.HD
- Cascade Duplicate BRF-50.LD to BRFF-50.HD
- Cascade Duplicate BRF-125.LD to BRFF-125.HD
- Cascade Duplicate BRF-250.LD to BRFF-250.HD
- Cascade Duplicate BRF-375.LD to BRFF-375.HD
- Cascade Duplicate BRF-500.LD to BRFF-500.HD
- Cascade Duplicate GBU15(TV)MK84 to GBU67-9.QADR
- Cascade Duplicate M117.GP.750LB to AGM379-20ZOOBIN
- Cascade Duplicate M117,GP.750LB to YASSER
- Cascade Duplicate CBU59.APAM to TYPE3.250KGAPAM
- Cascade Duplicate CBU87.CEM to CBU94
- Cascade Duplicate RBK250.AO-1SCH to TYPE2.250KG.AP
- Cascade Duplicate RBK250.PTAB-2.5 to TYPE2.250KG.AT
- Cascade Duplicate BLG66(AT) to CH340KG.AT.CB
- Cascade Duplicate RBK500.SPBE to CH340KG.SF.ATCB
- Cascade Duplicate CBU72.FAE to CH310KG.FAE
- Cascade Duplicate CBU87.CEM to PSD-2.CEM
- Cascade Duplicate CBU71.AP.MINE to PSD-1.AP.MINE
- Cascade Duplicate BLG66(AT) to TSD-1.AT
- Cascade Duplicate BLG66(AT) to ABL250
- Cascade Duplicate BLG66(AT) to BME.330.AT
- Cascade Duplicate BLG66(AP) to BME.330.C
- Cascade Duplicate 1000LEAFLET.BOX to PDU5B.LEAFLET
- Cascade Duplicate CBU59.APAM to ZK300.CBU.APAM
- Cascade Duplicate CBU59.APAM to LBK.CBU.APAM
- Cascade Duplicate PSD-1.AP.MINE to KITE.AP.MINE

- Cascade Duplicate RBK500.PTAB-2.5 to KAB500KL.AT
- Cascade Duplicate MK81LD.250LB to AWCMK81.PF.LD
- Cascade Duplicate MK81HD.250LB to AWCMK81.PF.HD
- Cascade Duplicate MK82LD.500LB to AWCMK82.PF.LD
- Cascade Duplicate MK82HD.500LB to AWCMK82.PF.HD
- Cascade Duplicate BLU-82.DAISY.CU to GBU43.MOAB
- Cascade Duplicate AR57X2.S5.AT to AR68X2.FR.AT
- Cascade Duplicate AR70X2.HYD.APAM to AR68X2.FR.GP
- Cascade Duplicate AR100X1.FR.KEAM to AR68X2.FR.AMV
- Cascade Duplicate AR70X2.HYD.ATAM to AR68X2.FR.ATAP
- Cascade Duplicate AR100X1.FR.KEAM to AR68MDX2.FR.AMV
- Cascade Duplicate AR100X1.FR.KEATL to AR68X2.FR.ABL
- Cascade Duplicate 20MM.FW.X75RDS to 12.7MM.FWX75RD
- Cascade Duplicate 20MM.RW.X25RDS to 12.7MM.RWX30RD
- Cascade Duplicate 20MM.FW.X75RDS to 7.62MM.FWX100RD
- Cascade Duplicate 20MM.RW.X25RDS to 7.62MM.RWX40RD
- Cascade Duplicate AS10(KH25ML)SAL to AS10(KH25MR)RC
- Cascade Duplicate MARTE_MK2A to MARTE_MK2S
- Cascade Duplicate AL-SAMOUD.HE to CF2000.HE
- Cascade Duplicate TAEPODONG1.HE to DF21.HE
- Cascade Duplicate TAEPODONG1.HE to DF21.ICM
- Cascade Duplicate TAEPODONG1.CHEM to DF21.CHEM
- Cascade Duplicate DF21.HE to DF21A.HE
- Cascade Duplicate DF21.ICM to DF21A.ICM
- Cascade Duplicate DF21.CHEM to DF21A.CHEM
- Cascade Duplicate AL-HUSSEIN.HE to DF15.HE
- Cascade Duplicate AL-HUSSEIN.HE to DF15.ICM
- Cascade Duplicate AL-HUSSEIN.HE to DF15.CHEM
- Cascade Duplicate DF15.HE to DF15RP.HE
- Cascade Duplicate DF15.ICM to DF15RP.ICM
- Cascade Duplicate DF15.CHEM to DF15RP.CHEM

- Cascade Duplicate DF15.HE to DF15IP.HE
- Cascade Duplicate DF15.ICM to DF15IP.ICM
- Cascade Duplicate DF15.CHEM to DF15IP.CHEM
- Cascade Duplicate DF15.HE to DF15A.HE
- Cascade Duplicate DF15.ICM to DF15A.ICM
- Cascade Duplicate DF15.CHEM to DF15A.CHEM
- Cascade Duplicate DF15A.HE to DF15ARP.HE
- Cascade Duplicate DF15A.ICM to DF15ARP.ICM
- Cascade Duplicate DF15A.CHEM to DF15ARP.CHEM
- Cascade Duplicate DF15A.HE to DF15AIP.HE
- Cascade Duplicate DF15A.ICM to DF15AIP.ICM
- Cascade Duplicate DF15A.CHEM to DF15AIP.CHEM
- Cascade Duplicate SS-1C.SCUD-B to DF11.HE
- Cascade Duplicate SS-1C.SCUD-B to DF11.ICM
- Cascade Duplicate SS-1C.SCUD-B to DF11.FAE
- Cascade Duplicate SS-1C.CHEM to DF11.CHEM
- Cascade Duplicate DF11.HE to DF11IP.HE
- Cascade Duplicate DF11.ICM to DF11IP.ICM
- Cascade Duplicate DF11.FAE to DF11IP.FAE
- Cascade Duplicate DF11.CHEM to DF11IP.CHEM
- Cascade Duplicate DF11.HE to DF11A.HE
- Cascade Duplicate DF11.ICM to DF11A.ICM
- Cascade Duplicate DF11.FAE to DF11A.FAE
- Cascade Duplicate DF11.CHEM to DF11A.CHEM
- Cascade Duplicate DF11A.HE to DF11ARP.HE
- Cascade Duplicate DF11A.ICM to DF11ARP.ICM
- Cascade Duplicate DF11A.FAE to DF11ARP.FAE
- Cascade Duplicate DF11A.CHEM to DF11ARP.CHEM
- Cascade Duplicate AL-SAMOUD.HE to M7.HE
- Cascade Duplicate AL-SAMOUD.HE to M7.ICM
- Cascade Duplicate AL-SAMOUD.CHEM to M7.CHEM

- Cascade Duplicate M7.HE to M7IP.HE
- Cascade Duplicate M7.ICM to M7IP.HE
- Cascade Duplicate M7.CHEM to M7IP.CHEM
- Cascade Duplicate NO.DONG1.HE to AGNI-1.HE
- Cascade Duplicate NO.DONG1.ICM to AGNI-1.CEM
- Cascade Duplicate NO.DONG1.HE to AGNI-1.FAE
- Cascade Duplicate AGNI-1.HE to AGNI-1RP.HE
- Cascade Duplicate AGNI-1.CEM to AGNI-1RP.CEM
- Cascade Duplicate AGNI-1.FAE to AGNI-1RP.FAE
- Cascade Duplicate AGNI-1.HE to AGNI-2.HE
- Cascade Duplicate AGNI-1.CEM to AGNI-2.CEM
- Cascade Duplicate AGNI-1.FAE to AGNI-2.FAE
- Cascade Duplicate AGNI-2.HE to AGNI-2RP.HE
- Cascade Duplicate AGNI-2.CEM to AGNI-2RP.CEM
- Cascade Duplicate AGNI-2.FAE to AGNI-2RP.FAE
- Cascade Duplicate DF11.HE to PRITHVI-1.HE
- Cascade Duplicate DF11.CHEM to PRITHVI-1.CHEM
- Cascade Duplicate DF11.ICM to PRITHVI-1.CEM
- Cascade Duplicate DF11.FAE to PRITHVI-1.FAE
- Cascade Duplicate DF11.HE to PRITHVI-1.PEN
- Cascade Duplicate PRITHVI-1.HE to PRITHVI-2.HE
- Cascade Duplicate PRITHVI-1.CEM to PRITHVI-2.CEM
- Cascade Duplicate PRITHVI-1.HE to PRITHVI-2A.HE
- Cascade Duplicate PRITHVI-1.CEM to PRITHVI-2A.CEM
- Cascade Duplicate PRITHVI-1.CHEM to PRITHVI-2A.CHEM
- Cascade Duplicate PRITHVI-1.FAE to PRITHVI-2A.FAE
- Cascade Duplicate PRITHVI-1.PEN to PRITHVI-2A.PEN
- Cascade Duplicate DF11.HE to FATEH.A110.HE
- Cascade Duplicate DF11.CHEM to FATEH.A110.CHEM
- Cascade Duplicate DF11.ICM to FATEH.A110.ICM
- Cascade Duplicate NO.DONG1.HE to SHAHAB3.HE

- Cascade Duplicate NO.DONG1.CHEM to SHAHAB3.CHEM
- Cascade Duplicate NO.DONG1.ICM to SHAHAB3.ICM
- Cascade Duplicate SHAHAB3.HE to SHAHAB3A.HE
- Cascade Duplicate SHAHAB3.CHEM to SHAHAB3A.CHEM
- Cascade Duplicate SHAHAB3.ICM to SHAHAB3A.ICM
- Cascade Duplicate MGM52.LANCE.HE to HATF-1.HE
- Cascade Duplicate MGM52.LANCE.HE to HATF-1.CEM
- Cascade Duplicate SS-1C.CHEM to HATF-1.CHEM
- Cascade Duplicate HATF-1.HE to HATF-1A.HE
- Cascade Duplicate HATF-1.CEM to HATF-1A.CEM
- Cascade Duplicate HATF-1.CHEM to HATF-1A.CHEM
- Cascade Duplicate HATF-1.HE to HATF-1B.HE
- Cascade Duplicate HATF-1.CEM to HATF-1B.CEM
- Cascade Duplicate HATF-1.CHEM to HATF-1B.CHEM
- Cascade Duplicate AL-SAMOUD.HE to HATF-2.HE
- Cascade Duplicate AL-SAMOUD,HE to HATF-2.CEM
- Cascade Duplicate HATF-2.HE to HATF-2A.HE
- Cascade Duplicate HATF-2.CEM to HATF-2A.CEM
- Cascade Duplicate PRITHVI-2A.HE to HATF-3.HE
- Cascade Duplicate PRITHVI-2A.CEM to HATF-3.CEM
- Cascade Duplicate HATF-3.HE to HATF-3A.HE
- Cascade Duplicate HATF-3.CEM to HATF-3A.CEM
- Cascade Duplicate NO.DONG1.HE to HATF-4.HE
- Cascade Duplicate NO.DONG1.CHEM to HATF-4.CHEM
- Cascade Duplicate NO.DONG1.ICM to HATF-4.CEM
- Cascade Duplicate NO.DONG1.HE to HATF-5.HE
- Cascade Duplicate NO.DONG1.CHEM to HATF-5.CHEM
- Cascade Duplicate NO.DONG1.ICM to HATF-5.CEM
- Cascade Duplicate HATF-5.HE to HATF-5A.HE
- Cascade Duplicate HATF-5.CHEM to HATF-5A.CHEM
- Cascade Duplicate HATF-5.CEM to HATF-5A.CEM

- Cascade Duplicate TAEPODONG1.HE to HATF-6.HE
- Cascade Duplicate TAEPODONG1.CHEM to HATF-6.CHEM
- Cascade Duplicate TAEPODONG1.HE to HATF-6.CEM
- Cascade Duplicate TAEPODONG1.HE to HATF-6.FAE
- Cascade Duplicate DF11.HE to SS-X-26.HE
- Cascade Duplicate DF11.HE to SS-X-26.ARM
- Cascade Duplicate DF11.ICM to SS-X-26.ICM
- Cascade Duplicate DF11.FAE to SS-X-26.FAE
- Cascade Duplicate DF11.HE to SS-X-26.MINE
- Cascade Duplicate DF11.HE to SS-X-26.PEN
- Cascade Duplicate SS-X-26.HE to SS-X-26E.HE
- Cascade Duplicate SS-X-26.ICME to SS-X-26E.ICM
- Cascade Duplicate SS-X-26.MINE to SS-X-26E.MINE
- Cascade Duplicate SS-X-26.PEN to SS-X-26E.PEN

TWs changed:

- Change MK20HD.1000LB Supply Category to CL.V.AS-1000PEN
- Change SMERCH.AT.X1 Supply Category to CL.V.CBU-SF
- Change HATF-5A.HE Supply Category to CL.V.SS-IRBM
- Change all air launched torpedoe TWs to Missile Capable YES
- Change M129LEAFLET.BMB SKL to NON.LETHAL_SKL
- Updated TW data for all TW except AIR_TO_AIR and SURFACE_TO_AIR TW

TWs deleted:

- 12.7MM.ACX100RD

B.17 Unit of Measure

UOMs added:

- Added UOMs for new Targetable Weapons

UOMs changed:

- Updated UOMs for existing Targetable Weapons where weight or name changed

B.18 Depth Zone Sensor Range

- Added AIR.VISUAL_AGR to SURFACE.1FT with range of .5 km
- Added AIR.VISUAL_AGR to SURF.ZONE.10FT with range of .075 km
- Added AIR.VISUAL_AGR to V.SHALLOW.20FT with range of .1 km
- Added AIR.VISUAL_AGR to V.SHALLOW.40FT with range of .125 km
- Added AIR.VISUAL_AGR to SHALLOW.60FT with range of .15 km
- Added AIR.VISUAL_AGR to SHALLOW.80FT with range of .175 km
- Added AIR.VISUAL_AGR to INTERMED.150FT with range of .2 km
- Added AIR.VISUAL_AGR to INTERMED.300FT with range of .2 km
- Added AIR.VISUAL_AGR to INTERMED.600FT with range of .175 km
- Added AIR.VISUAL_AGR to INTERMED.1000FT with range of .15 km
- Added AIR.VISUAL_AGR to DEEP.9999FT with range of .125 km

B.19 Prob Hit Lethality (PHL)

PHL added:

- Added PHL for all new TW listed in section B.16

PHL changed:

- Updated probability values for all PHL sets

B.20 Point Kill Lethality (PKL)

PKL added:

- Added PKL for all new TW listed in section B.16
- Added ALL_ONES_PK for use in testing

PKL changed:

- Updated probability values for all PKL sets
- Rename HRU_DEMO_PKL to HRU_DEMO_PK
- Rename HRU_DEMO2_PKL to HRU_DEMO2_PK

B.21 Area Kill Lethality (AKL)

AKL added:

- All new AKL sets and lethality data for all TW

B.22 Surface Kill Lethality (SKL)

SKL added:

- Added SKL for all new TW listed in section B.16

SKL changed:

- Changed PHL to ALL-1_SHIP-0_PH for all Water Mine SKL sets

SKL deleted:

- LEAFLET_SKL

B.23 Automatic Supply Calculation Data

ASC data added:

- New Supply Categories to asc_required_days_of_supply
- New Targetable Weapons to asc_rounds_per_day

ASC data changed:

- Rename CL.V.AS-AGM158 to CL.V.AS-AGM158A

