Name of Principal Author and all other author(s): John Wood and George Pointon

Principal Author’s Organization and address:
Operations Analysis Division, Marine Corps Combat Development Command
3300 Russell Road
Quantico, VA 22134

Phone: (703) 432-9230
Fax: (703) 784-3547
Email: john.l.wood.ctr@usmc.mil, george.pointon.ctr@usmc.mil

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15. SUBJECT TERMS  
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<table>
<thead>
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<th>b. ABSTRACT</th>
<th>c. THIS PAGE</th>
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**-**

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*Standard Form 298 (Rev. 8-98)*  
*Prepared by ANSI X39-18*
War Reserve Munitions Requirement Model (WRMR)

Verification & Validation

Mr. John Wood
Mr. George Pointon

Operations Analysis Division (OAD)
Marine Corps Combat Development Command (MCCDC)

75th MORSS
WG-19
Agenda

- Purpose
- Background
- WRMR Model Process
- V&V Techniques
- Recommendations
- Lessons Learned
Purpose

First, present our approach, methodology and findings that we used and encountered during our V&V of the USMC WRMR Model.

Second, present and offer some insights, traps, and lessons learned during our V&V effort.
WRMR V&V Objectives

- To improve WRMR model and procedures.
- To comply with CMC order directing that DC, CD&I coordinate VV&A following the Naval Audit Service report in June 2006.
- Complete V&V to support model accreditation for POM-10 analysis.
V&V Related Activities

- Align the Marine Corps munitions requirements process (MCMRP) with DoD instructions and guidance
- Support the MCMRP and the POM-10 submission through WRMR model development
- V&V of the WRMR model
Munitions Requirements Process
DoDI 3000.4

DoDI 3000.4 implements policy, assigns responsibility and prescribes procedures for the MRP. It specifies that the CR, CO/FPR and SRR be determined IAW the USD (AT&L) Implementation Guidance.

“The DoD MRP Implementation guidance shall ensure that the military departments report munitions requirements in a manner that links them to the Defense Strategy through an explicitly defined audit trail.”
WRMR is deterministic model that calculates the unconstrained munitions requirements for the USMC.
Employed V&V Techniques

- **Audit** – an informal V&V technique used to assess how adequately a model or simulation is used with respect to established plans, policies, procedures, standards, and guidelines. Required an in-depth document review and comparison of the model to DoDI 3000.4.

- **Functional testing** – a V&V technique used to assess the accuracy of model’s input-output transformation.

- **Sensitivity analysis** – a V&V technique where selected model inputs are systematically changed over a range of interest while observing the effect upon model outputs.

- **Face validation** – the review of model output by the model development team, users and subject matter experts for reasonableness.

- **Code Walkthrough** – an examination of the model source code to detect and document errors. Conducted with the model developer.

- **Regression Testing** – a testing technique used to ensure that corrections and modifications to the model do not create other errors or adverse side effects. Requires that the modified model be tested with data sets used by the previous version of the model. Completed by the model developer.

**Combat Requirement Audit**

**WRMR Model Implementation**

**MCO req:** For each WD and SD, compute combat consumption plus one combat load. Select the WD and largest of two SD MCO expenditures for each DODIC.

**SSC req:** Calculated using combat planning factors, **30 day assault** plus 1 day combat load for each of 3 MEB sized forces.
# Combat Requirement Audit

**POM-08 Process**

<table>
<thead>
<tr>
<th>Requirement Source</th>
<th>155 HE</th>
<th>81mm HE</th>
<th>Requirement Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoDI 3000.4</td>
<td>9,725</td>
<td>104,362</td>
<td>DoDI 3000.4</td>
</tr>
<tr>
<td>MCO (SD)</td>
<td>78,720</td>
<td>168,678</td>
<td>DoDI 3000.4</td>
</tr>
<tr>
<td>MCO (WD)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MPS (SSC)** - 30 day assault rate plus 1 combat load for a MEB

<table>
<thead>
<tr>
<th></th>
<th>155 HE</th>
<th>81mm HE</th>
<th>Requirement Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (1)</td>
<td>48,510</td>
<td>38,940</td>
<td>AO memo dtd 2 May 06</td>
</tr>
<tr>
<td>B (2)</td>
<td>48,510</td>
<td>38,940</td>
<td>AO memo dtd 2 May 06</td>
</tr>
<tr>
<td>C (3)</td>
<td>48,510</td>
<td>38,940</td>
<td>AO memo dtd 2 May 06</td>
</tr>
</tbody>
</table>

**Combat Load** – based on number of weapons in the force

<table>
<thead>
<tr>
<th>Requirement Source</th>
<th>155 HE</th>
<th>81mm HE</th>
<th>Requirement Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoDI 3000.4</td>
<td>1,345</td>
<td>8,147</td>
<td>DoDI 3000.4</td>
</tr>
<tr>
<td>MCO (SD)</td>
<td>13,433</td>
<td>12,001</td>
<td>DoDI 3000.4</td>
</tr>
</tbody>
</table>

**Total**

|       | 248,753 | 410,008 |

**Recommend policy review of combat requirement**
Model Component Verification Example

Functional Testing of MCO Target Allocations and Kills example

• Procedure
  – Examined Inputs/outputs to verify MCO allocations/kills/expenditures for a particular weapon/munitions

• Target Data
  – Total Targets = 1038 (DIA TR)
  – USMC Allocation = 6.2% = 64.4 (COCOM PTD)

• Shooter Input Data
  – Rounds per kill = 1.11
  – Shooter Allocation = 24.2% = 15.6 Targets to Kill
  – Expected number of rounds expended = 17.3

😊 Shooter/Model Output Data
  😊 Targets killed = 15.6
  😊 Rounds expended = 17.3
  😊 Total Targets killed (all shooters) = 64.4

😊 Verification
  😊 Expected Targets to Kill (Shooter)= Targets killed (Shooter) – VERIFIED
  😊 Expected rounds expended (Shooter) = Rounds/kill * Targets to kill (Shooter) – VERIFIED
  😊 USMC Target Allocation = Total Targets killed (All shooter types) - VERIFIED

19 of 25 model components examined and verified.
### Face Validation Example

**Total Munitions Breakout**

<table>
<thead>
<tr>
<th></th>
<th>A059 (5.56MM)</th>
<th>C871 (81MM Illum)</th>
<th>C868 (81MM HE)</th>
<th>D505 (155MM Illum)</th>
<th>D529 (155MM HE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training/Testing</td>
<td>140,160,325</td>
<td>25,331</td>
<td>170,035</td>
<td>11,677</td>
<td>89,449</td>
</tr>
<tr>
<td>GWOT</td>
<td>166,479</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Homeland Def</td>
<td>603,795</td>
<td>2,601</td>
<td>4,023</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MCPP-N</td>
<td>16,413,580</td>
<td>10,168</td>
<td>33,632</td>
<td>7,937</td>
<td>29,106</td>
</tr>
<tr>
<td>UDP</td>
<td>426,000</td>
<td>96</td>
<td>708</td>
<td>120</td>
<td>1,368</td>
</tr>
<tr>
<td>ACMs</td>
<td>877,356</td>
<td>2,346</td>
<td>8,328</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LFORMs</td>
<td>5,446,590</td>
<td>8,595</td>
<td>29,225</td>
<td>6,715</td>
<td>25,395</td>
</tr>
<tr>
<td>SSC</td>
<td>22,621,581</td>
<td>35,641</td>
<td>116,820</td>
<td>39,684</td>
<td>145,531</td>
</tr>
<tr>
<td>WD</td>
<td>25,549,437</td>
<td>157,430</td>
<td>180,679</td>
<td>44,476</td>
<td>92,153</td>
</tr>
<tr>
<td>SD</td>
<td>14,324,222</td>
<td>77,758</td>
<td>112,509</td>
<td>10,239</td>
<td>9,127</td>
</tr>
</tbody>
</table>

**Face Validation Example**

- **Total Munitions Breakout**
  - **A059 (5.56MM)**: 226,589,365
  - **C871 (81MM Illum)**: 319,966
  - **C868 (81MM HE)**: 655,959
  - **D505 (155MM Illum)**: 120,848
  - **D529 (155MM HE)**: 394,071
# Face Validation Example

## Ammunition Breakout (WD)

### Table Breakdown:

<table>
<thead>
<tr>
<th>Category</th>
<th>A059 (5.56 MM)</th>
<th>C871 (81MM Illum)</th>
<th>C868 (81MM HE)</th>
<th>D505 (155MM Illum)</th>
<th>D529 (155MM HE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Losses</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>262</td>
</tr>
<tr>
<td>C2</td>
<td>0</td>
<td>1,164</td>
<td>0</td>
<td>8,112</td>
<td>0</td>
</tr>
<tr>
<td>Registration</td>
<td>4,335,660</td>
<td></td>
<td></td>
<td>96,598</td>
<td>0</td>
</tr>
<tr>
<td>Rear Area Sec</td>
<td>146,069</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Illum</td>
<td>2,439,860</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Zero</td>
<td>670,903</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
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<tr>
<td>OpCheck</td>
<td>1,058,234</td>
<td></td>
<td></td>
<td>33,924</td>
<td>0</td>
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<tr>
<td>Replace</td>
<td>8,834</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tgt Oriented</td>
<td>112,389</td>
<td></td>
<td></td>
<td>62,527</td>
<td>76,165</td>
</tr>
<tr>
<td>Combat Load</td>
<td>16,932,384</td>
<td></td>
<td></td>
<td>12,001</td>
<td>13,433</td>
</tr>
</tbody>
</table>

### Observations:
- **Big?**
  - A059 (5.56 MM): 4,335,660
  - C871 (81MM Illum): 146,069
  - C868 (81MM HE): 96,598
- **Non-target oriented**
  - A059 (5.56 MM): 4,335,660
  - C871 (81MM Illum): 146,069
  - C868 (81MM HE): 96,598
- **Seems small**
  - A059 (5.56 MM): 112,389
  - C871 (81MM Illum): 62,527
  - C868 (81MM HE): 76,165
Recommendations

- Conduct a detailed ammunition study
  - Focus on the non-target oriented Munitions
  - Implement updated methodologies in WRMR model

- Scrub authoritative data (TPFDD, OPLAN, etc.)
  - Apply military judgment to non-target oriented (NTO) munitions
  - Review selected SME data
  - Examine use of non-targeted munitions CPFs

- Review policy issues with AWG
  - Compliance with 3000.4 and others
  - What makes up CR, CO/FPR, & SRR
  - Implement policy changes within WRMR model

- Review computation of those policy issues
  - Application of CPFs (assault vs. sustain)

Valid for requirements determination & CPF use

Valid for requirements determination

Not valid for requirements determination
Lessons Learned

- Legacy model V&V is challenging – following website proved to be very helpful: http://vva.dmsod.mil/default.htm
- Our review of the WRMR conceptual model was important; however, we learned a great deal more about the model by running it.
- The WRMR model depends upon a large amount of data – not all owned by the USMC.
- Determining your basis of comparison is not always straightforward! In defining our basis of comparison for the WRMR model, we looked at the other services models.
- Documentation, documentation, documentation!
- Establish contact, build a rapport with the developer and user – smooth relations promotes better overall support.
- Walking through the WRMR code with the developer was extremely helpful.
- The WRMR V&V benefited from the interdisciplinary makeup of the team – computer science, operations research, subject matter expertise, and Marine Corps expertise.
Backup
WRMR V&V Timeline

Verification and Validation (V&V) / Model Development

November

- Implementation Guidance & Updated DODI (Dec 06)
- Validate Munitions Input Data (Dec 06 – Mar 07)

December

- WRMR FAM
- WRMR Model 2.x V&V (Feb-Jun 07)
- WRMR Model 2.x V&V (Feb-Jun 07)

January

- DIA TR (1 Mar)
- Near-Year PTD (1 May)

February

- Conceptual Model Ver 2.2 Validation (Dec-Jan 07)
- V&V IPR Ver 2.2 (Feb)
- Out-Year PTD (1 Jul)
- VV&A WRMR Ver 2.2 (Jun 07)

March

- Run WRMR (Oct 07)

April

- Validate TMR (Nov 07)

May

- Submit POM 10 TMR to OSD (1 Jan)

USMC Munitions Requirements Process
**Document Review**

- In-depth review of appropriate documents was accomplished to gain an understanding of the munitions requirements process and to confirm M&S requirements in order to perform conceptual model validation.
  - DoDI 3000.4, MCO 8000.7, MCO 8000.8 (draft)
  - POM 08 TMR
  - CMC Itr 19 Jun 06 (Response to Naval Audit)
  - MCMRP Brief dtd Nov 06
  - DoD MRP POM-10 Conference Brief, dtd 26 Sep 06

- Model documentation was reviewed to gain understanding of model processes.
  - Computational model well documented
  - Model input and output documentation updated to include file descriptions.
Target-Oriented Expenditures

By DoD INST 3000.4, total targets to be defeated are obtained from the DIA Threat Report (TR) and COCOM Phased Threat Distribution (PTD):

\[
\text{Tgts to be Defeated (by phase)} = \text{Tot Tgts (TR)} \times \text{Service Allocation (PTD)}
\]

The WRMR computational engine determines daily expenditures based on the number of targets killed over the course of a particular phase in order to support the calculation of combat planning factors (CPF).
Non-target Expenditures

- Registration
- Zeroing
- Operational check
- Illumination
- Mine
- Screening
- Explosive ordnance disposal
- Demolition
- Command and control
- Rear-area security
- Self-defense
- Obscuration

Non-target expenditures account for munitions requirements not directly related to target destruction.
**Non-target Expenditures**  
*Illumination Example*

**Situation:** MAGTF consisting of 9 Inf Co’s employed to date in the defense, 2/3 of which are engaged.

**Problem:** Calculate the daily requirement for illumination in this situation.

**Equation:**

\[
\text{Daily Expenditure} = (\text{Num Inf Co}) \times (\text{Frac Engaged}) \times \left( \frac{\text{Required illum (min)}}{\text{Illum provided by rnd (min)}} \right)
\]

**Variables:**
- Num Inf Co = 9
- Frac Engaged = 2/3
- Required Illum (min) = 32 (min)
- Illum provided by rnd (min) = 1 (min) (DODIC C871)

**Answer:**

\[
C871 = 9 \times \frac{2}{3} \times \left( \frac{32}{1} \right) = 192 \text{ Rnds per day}
\]

Source: Class V(W) Requirements Methodology (POM-08)
Combat Planning Factors

- Determine average daily expenditure per shooter type for all scenarios.
- Sort average daily expenditure from high to low.
- Identify and group high-intensity days and low-intensity days.
- Calculate CPFs
  - Assault rate = Average expenditure rate of high-intensity days
  - Sustain rate = Average expenditure rate of low-intensity days

Combat planning factors are a key element of munitions requirements determination.
Current Operations/Forward Presence (CO/FPR)

WRMR Model Implementation:
- **LFORM requirement** is 15 day assault plus 1 combat load for 5 MEU-sized forces.
- **ACM** requirement is 5 day assault plus 1 combat load for 3 infantry battalions.

**ACM** – air contingency MAGTF

**LFORM** – landing force operational reserve materiel
**Strategic Readiness Requirement**

- **WRMR Model Implementation: UDP** is 1 combat load for 1 infantry battalion, 1 arty battalion, 1 AAV company and 1 LAR company.

- **WRMR Model Implementation: MCPP-N** is 30 day assault rate plus 1 combat load for force identified in MCBul 3502.

- **WRMR Model Implementation: GWOT** is 3 days assault plus 15 days sustain plus 1 combat load for 3 AT teams.

- **Combat Requirement (CR)**

- **Current Operations/Forward Presence Requirement (CO/FPR)**

- **Strategic Readiness Requirement (SRR)**

**AT** – anti-terrorist

**LFORM** – landing force operational reserve materiel

**UDP** – unit deployment program

**MCPP-N** – Marine Corps pre-positioned - Norway
## Model Component Verification Summary

<table>
<thead>
<tr>
<th>Model Components</th>
<th>Verified</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine Expenditures per Target</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Push Targets to Underutilized Shooters</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Scale Target Allocation</td>
<td>Yes</td>
<td>Code Walkthrough</td>
</tr>
<tr>
<td>Assess USMC Losses</td>
<td>Yes</td>
<td>Functional Test, Code Walkthrough</td>
</tr>
<tr>
<td>Determine Combat Losses of Munitions</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determined Replacement and/or Repairs</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determine Registration Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determine Zeroing Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determine Operational Check Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determine Illumination Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
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<tr>
<td>Determine Obscuration Expenditures</td>
<td>Not tested</td>
<td>Doc. &amp; Input Data Review</td>
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<tr>
<td>Determine Screening Expenditures</td>
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<td>Doc. &amp; Input Data Review</td>
</tr>
<tr>
<td>Determine Demolition Expenditures</td>
<td>Not tested</td>
<td>Doc &amp; Input Data Review</td>
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<tr>
<td>Determine Explosives Ordnance Disposal (EOD) Expenditures</td>
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<td>Doc &amp; Input Data Review</td>
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## Model Component Verification Summary (Cont)

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<th>Model Components</th>
<th>Verified</th>
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<tr>
<td>Determine Mine Expenditures</td>
<td>Not tested</td>
<td>Doc. &amp; Input Data Review</td>
</tr>
<tr>
<td>Determine Command &amp; Control Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determine Rear Area Security Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determine Self Defense Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Determine Ancillary Expenditures</td>
<td>Yes</td>
<td>Functional Test</td>
</tr>
<tr>
<td>Compute Win Decisively (WD) and Swiftly Defeat the Effort (SDTE) Requirements</td>
<td>Yes</td>
<td>Functional Test, Audit, Face Validation, Sensitivity Analysis</td>
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<tr>
<td>Compute Combat Planning Factors (CPF)</td>
<td>Yes</td>
<td>Functional Test, Audit, Face Validation, Code walkthrough</td>
</tr>
<tr>
<td>Compute Small-Scale Contingency Requirements (SSCR)</td>
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<td>Functional Test, Audit, Face Validation, Sensitivity Analysis</td>
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<tr>
<td>Compute Current Operations/ Forward Presence Requirements (CO/FPR)</td>
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<td>Functional Test, Audit, Face Validation, Sensitivity Analysis</td>
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<tr>
<td>Compute Strategic Readiness Requirement (SRR)</td>
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## Model Component Validation Summary (1 of 3)

<table>
<thead>
<tr>
<th>Model Components</th>
<th>Valid?</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine Expenditures per Target</td>
<td>V</td>
<td>Uses JMEMS methodology;</td>
</tr>
<tr>
<td>Push Targets to Underutilized Shooters</td>
<td>V</td>
<td>Allows allocation of targets from over-taxed shooters to under-utilized shooters</td>
</tr>
<tr>
<td>Scale Target Allocation</td>
<td>V</td>
<td>Scales down target allocations so that busiest shooter types do not exceed daily limit and weapon-tgt preferences remain consistent</td>
</tr>
<tr>
<td>Assess USMC Losses</td>
<td>NV</td>
<td>Review ’04 SME data; review proportionality assumption</td>
</tr>
<tr>
<td>Determine Combat Losses of Munitions</td>
<td>NV</td>
<td>Method may double count ammo lost When weapon system is lost</td>
</tr>
<tr>
<td>Determined Replacement and/or Repairs</td>
<td>V</td>
<td>Determines fraction of killed tgts expected to return</td>
</tr>
<tr>
<td>Determine Registration Expenditures</td>
<td>NV</td>
<td>Review data and methodology</td>
</tr>
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</table>

### Preliminary Assessment

<table>
<thead>
<tr>
<th>Model component</th>
<th>Status</th>
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<tbody>
<tr>
<td>Model component not valid for POM-10</td>
<td></td>
</tr>
<tr>
<td>Time permitting, review for POM-10</td>
<td></td>
</tr>
<tr>
<td>Sufficient for POM-10</td>
<td></td>
</tr>
<tr>
<td>Corrected during V&amp;V</td>
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</tbody>
</table>

V: Valid, NV: Not valid
## Model Component Validation Summary (2 of 3)

<table>
<thead>
<tr>
<th>Model Components</th>
<th>Valid?</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine Zeroing Expenditures</td>
<td>V</td>
<td>Review '04 SME data only</td>
</tr>
<tr>
<td>Determine Operational Check Expenditures</td>
<td>V</td>
<td>Review '04 SME data only</td>
</tr>
<tr>
<td>Determine Illumination Expenditures</td>
<td>NV</td>
<td>Face validation indicates high expenditures; methodology may be too complex; review with SME, align model phases with OPLANS</td>
</tr>
<tr>
<td>Determine Obscuration Expenditures</td>
<td>NV</td>
<td>Face validation</td>
</tr>
<tr>
<td>Determine Screening Expenditures</td>
<td>V</td>
<td>Review '04 SME data only</td>
</tr>
<tr>
<td>Determine Demolition Expenditures</td>
<td>NV</td>
<td>Align OPLANS/model</td>
</tr>
<tr>
<td>Determine EOD Expenditures</td>
<td>NV</td>
<td>Align OPLANS/model</td>
</tr>
<tr>
<td>Determine Mine Expenditures</td>
<td>NV</td>
<td>Align OPLANS/model</td>
</tr>
<tr>
<td>Determine Command &amp; Control Expenditures</td>
<td>NV</td>
<td>Align OPLANS/model</td>
</tr>
<tr>
<td>Determine Rear Area Security Expenditures</td>
<td>V</td>
<td>Review '04 SME data only</td>
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</table>

### Preliminary Assessment

- **V**: Valid
- **NV**: Not valid

- **V**: Valid, **NV**: Not valid

- **Red**: Model component not valid for POM-10
- **Yellow**: Time permitting, review for POM-10
- **Green**: Sufficient for POM-10
- **Blue**: Corrected during V&V
### Model Component Validation Summary (3 of 3)

<table>
<thead>
<tr>
<th>Model Components</th>
<th>Valid ?</th>
<th>Discussion</th>
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</thead>
<tbody>
<tr>
<td>Determine Self Defense Expenditures</td>
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<td>Review ’04 SME data only</td>
</tr>
<tr>
<td>Determine Ancillary Expenditures</td>
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<td>Review ’04 SME data only</td>
</tr>
<tr>
<td>Compute Win Decisively (WD) and Swiftly Defeat the Effort (SDTE) Requirements</td>
<td>V</td>
<td>Align OPLANS/model</td>
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<tr>
<td>Compute Combat Planning Factors (CPF)</td>
<td>V</td>
<td>Review non-target oriented munitions results</td>
</tr>
<tr>
<td>Compute Small-Scale Contingency Requirements (SSCR)</td>
<td>NV</td>
<td>Requirements under revision</td>
</tr>
<tr>
<td>Compute Current Operations/ Forward Presence Requirements (CO/FPR)</td>
<td>V</td>
<td>Requirements under revision</td>
</tr>
<tr>
<td>Compute Strategic Readiness Requirement (SRR)</td>
<td>NV</td>
<td>Must comply with DoDI 3000.4 Requirements under revision</td>
</tr>
</tbody>
</table>

**Preliminary Assessment**

**V**: Valid, **NV**: Not valid

<table>
<thead>
<tr>
<th>Color Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Red</td>
<td>Model component not valid for POM-10</td>
</tr>
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<td>Yellow</td>
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