

Army Test and Evaluation Command



U.S. Army Test and Evaluation Command Process for the Identification of T&E Program Efficiencies

*Army Proven
Battle Ready*

Mr. Charles Mellina
14MAR12
13920

Background

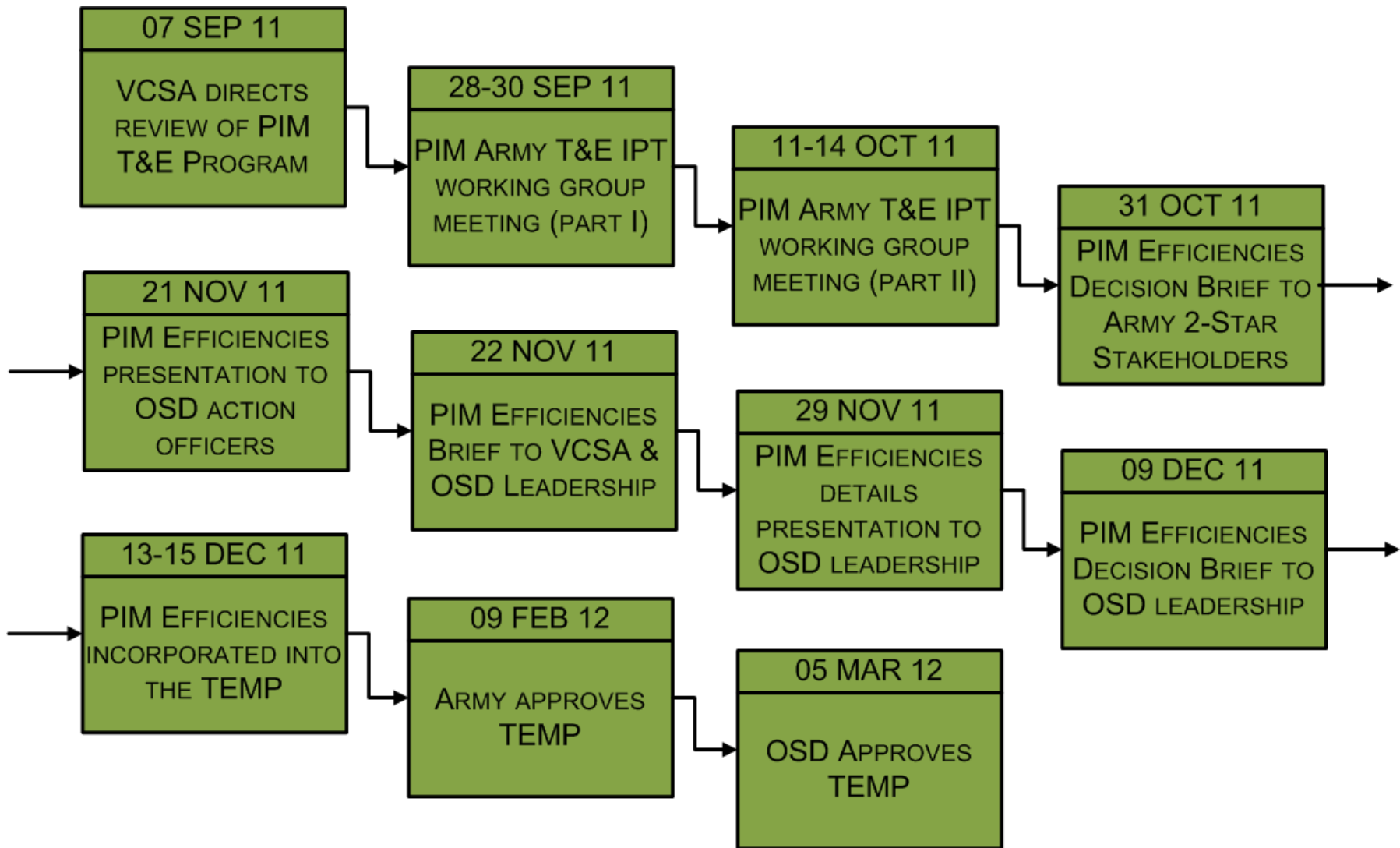
- During the 07SEP11 monthly Paladin Integrated Management (PIM) program update, the Vice Chief of Staff of the Army directed ATEC, the Program Management Office and TRADOC to conduct a review of the test program to identify test efficiencies
 - Perception is testing costs too much and takes too long
 - “Given the current budget reality, Army leaders must...look at things differently and the Army Acquisition Community must challenge its own system.¹”
 - “Army leaders, managing acquisition programs, must question each cost driving requirement throughout the testing and development lifecycle of a system.¹”
- PIM’s test Efficiency process serves as the Army’s model for TEMP reviews.

¹Excerpt from the ECC Meeting Summary for the PIM Update to the VCSA

What is an Efficiency?

- Operational Definition:
 - A process to develop test and evaluation plans for acquisition programs that compiles adequate data to allow senior leaders to make informed decisions at the least possible expense to the taxpayer.
- Examples of efficiencies:
 - Combine test events
 - Use existing data (contractor, theatre, legacy system)
 - Refine requirements
 - Accept prudent risk and/or less confidence
 - Any methodology that reduces time, test assets, and redundancy while collecting adequate, applicable data which results in a net cost savings
- Must have sound technical rationale to make changes to test plans to count as an efficiency.
 - Must balance **Adequate** and **Efficient** testing

PIM Efficiencies Process Timeline



Stakeholders

- Identification of test efficiencies requires input from all program stakeholders:
 - **ATEC**: Responsible for System Evaluation Plan, Developmental and Operational Test plans, Test Range SOPs, TOPs/ITOPs
 - **ASA(ALT)/PEO/PM**: Responsible for contractual requirements, regression testing, testing recommended by RDE Centers
 - **TRADOC**: Responsible for requirements document (CPD) and Operational Mode Summary/Mission Profile (OMS/MP)
 - **Contractor**: Responsible for contractor testing
 - **OSD**: Responsible for oversight of programs, report test results to Congress
 - **Other Government Agencies**: PHC, other PM shops, G6/CIO
- A teaming approach is required in order to make changes in all areas of the program from requirements to test operating procedures.

PIM Efficiency Study Methodology

Team Approach
 PM, ATEC, TCM, ARDEC,
 Contractor

What are the Requirements & what changed on the System?

- What document or organization says we have to test this?
- Capability Production Document (CPD)
- Performance Specification
- Test Plans
- OMS/MP
- TOPs/ITOPs
- Test Range SOPs
- IOT&E

Are the Requirements reasonable?

- Is the requirement operationally and tactically relevant?
- Does documentation support the intended missions & system changes (OMS/MP)?

How do we validate that the system can meet the requirements without additional testing?

- What is good enough?
- Can we leverage existing contractor/government data and/or testing?
- What available historical data can we use instead of testing?
- Can we use Modeling & Simulation in lieu of actual testing, and will it be cost/schedule effective?
- Is this test redundant with either the contractor or government, and how can we eliminate the redundancy?
- Have we ensured adequate and operational testing in a realistic, operational environment as required by law?

Data voids lead to additional test

- Why are we testing this?
- Is the scope of this test appropriate?
- Can we combine this test event with another test event?

- Working group analyzed each efficiency in terms of feasibility, suitability, acceptability, safety, risk and approximate cost & schedule savings
- Working group members voted on recommendation for acceptance or rejection of proposed efficiency

Categories of PIM Efficiencies

- Combining Tests
 - Gain multiple data points from every round fired
- Refine the Scope of the Test
 - Requirements Driven (e.g. Review/update OMS/MP)
 - Accept less confidence in testing
- Leverage Existing Data
 - Eliminates redundant testing
- Change the Test Location
 - Reduce transportation costs
 - Leverage experience of test personnel
- Change the Test Procedure
 - Get Safety Release earlier in testing process

PIM Results

- The Army T&E IPT recommended and gained OSD approval to implement 27 efficiencies
- The program eliminated over 20,000 rounds and 13 months of test range time from the test program
- Reductions in test saves ~\$15.7M

Lessons Learned

- **Leverage All Available Data Sources**
 - Leverage other Army & contractor data to address test requirements
- **Review Operational Requirements**
 - Review operational requirements for validity and impact on test program
 - Standardize OMS/MP scenarios
- **Review Test Requirements**
 - Determine level of program maturity and correlate with testing requirements
 - Use Configuration Steering Board to address test requirements based on system performance
- **Test Program Management**
 - Design in test “off ramps” tied to decision points to allow for reductions in test during the program
 - Consolidate testing at single test site if possible
- **Test Execution Efficiencies**
 - Develop methods that lead to more efficient test procedures
 - Combine test objectives – Piggyback objectives from separate tests into one test
 - Ensure adequate test assets are available
 - Incorporate Soldiers into testing early

Road Ahead

- Continue TEMP reviews for select Army programs
 - Program selection made jointly by ATEC, ASA(ALT) and TRADOC
- Continuing to accelerate cultural change in testing
 - Continuing Improvement/Lean Six Sigma in all aspects of testing
 - Adequate and Efficient testing built into T&E plans
- Working efficiency coordination with OSD





Questions

Contact Information

Charles Mellina

Mechanical Engineer

U.S. Army Evaluation Center

2202 Aberdeen Boulevard

Aberdeen Proving Ground, MD 21005

Phone: 443.861.9597

Email: charles.mellina.civ@mail.mil