

# Quality and Standards Team (QST)

## In-Service Management Gold Standard ATO Acquisition Practices Approach

V & V Summit  
October 13 – 14, 2010  
Atlantic City, NJ

Presented to: V&V Summit

By: Michael Gallagher  
AJW-111 QST Manager

Date: October 14, 2010



Federal Aviation  
Administration



# Background

**1999**

Process Advisory Group was formed to develop a standardized testing process

**2001**

T&E Gold Standard v1.0 mandated by AOS, endorsed by ATS-1 and used by ATB

**2002**

T&E Gold Standard v1.4 with National Keysite Pilot activities included

**2004**

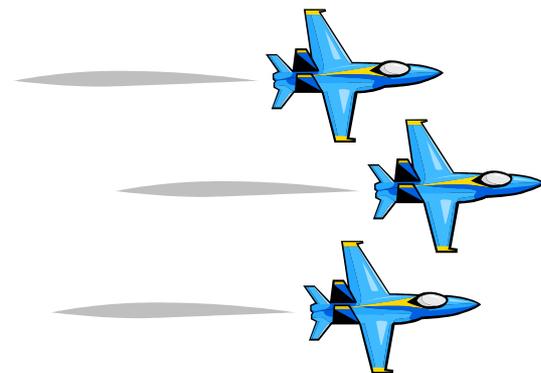
T&E Gold Standard v2.0 includes disposition of 300+ comments, Information Systems Security, Safety Management System Assessment, National Keysite

**2006**

T&E Gold Standard v2.0 incorporated as policy in AMS

**2010**

In 2010, the Quality and Standards Team, conducted a survey and it was determined that modifications to the T&E Gold Standard and how it was implemented were required.



# Survey and Survey Findings

- **The survey was sent to users and developers of the T&E Gold Standard.**
- **The key survey results were as follows:**
  - Inconsistent implementation of the T&E Gold Standard
  - Lack of Quality Assurance/Quality Control
  - Did not capture current system engineering lifecycle activities (including planning, measures and monitoring) and technology for Second-Level Engineering.
  - Needed clarification of Safety Risk Management (SRM) requirements
  - Needed clarification of Information Security systems (ISS) requirements
  - Needed clarification of how the Gold Standard matrix was to be used
  - Simplify the Gold Standard by automating and linking with relevant tools

# Introduction to the ISM-GS

- **The In Service Management Gold Standard (ISM GS) was developed to enhance the original T&E Gold Standard by addressing the findings from the survey.**
  - The Gold Standards name is being changed to In-Service Management Gold Standard (ISM-GS).
  - Quality Assurance/Control
  - Safety Risk Management
  - Information Security Systems (ISS) requirements
  - Added links throughout the Gold Standard
  - Tailoring and mapping
  - Entrance criteria from SI to ISM.

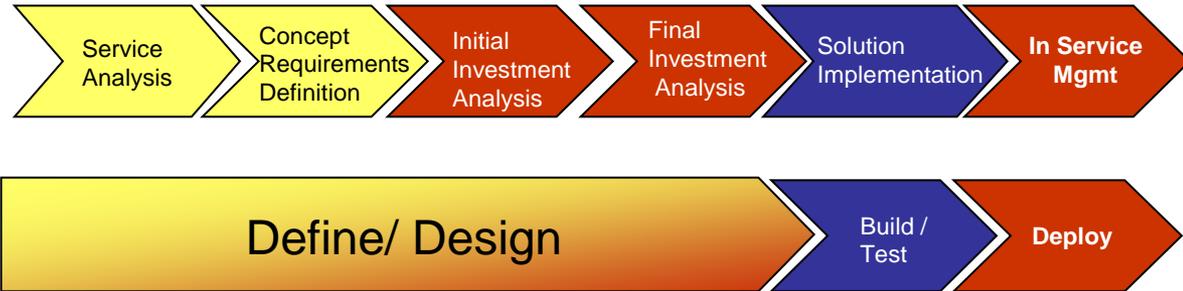
# Relationship Between: AMS, Acquisition Practices, ISM-GS and V&V

## Acquisition Practices:

Program Management  
Quality Assurance  
Risk Management  
Measurement & Analysis  
Verification & Validation  
Requirements Management  
Contractor Management

## AMS Lifecycle

## In Service Mgmt. Gold Standard



# Process for Implementing ISM-GS

- **Map your internal organizational processes to the ISM-GS Matrix.**
- **Review your processes for gaps**
- **Identify deviations and waivers from the ISM-GS based on the processes your organization has implemented successfully**
- **Identify individuals, teams, etc... responsible for performing process**
- **Review and update your processes**



# Matrix Mapping Example for Test Phase

ID	Activity	Description	Expected Outputs	Deviations and Waivers	Gaps	Who Completes and when
<p><i>Instructions: Please review each practice. In the Current Status / Gaps column, document how you are currently implementing that practice. If a gap exists between the defined practice and your current practice, please document the gap in <b>bold</b>. For each gap, identify the steps the program will take to close the gap, the date by which each step will be completed, and the person responsible for performing that step.</i></p>						
22	Coordinate Witness of Test Activities	Performed by team, to include witnesses from the selected Key Site(s).	Test Organization Test Report			
23	New Functionality and Fixes Verified	Validate fixes against the system functionality.	BMOD Testing AMOD Testing			
24	Baseline Performance/Functional Verification <ul style="list-style-type: none"> <li>•Performance Measurements</li> <li>•Computer Human Interface/Command &amp; Control</li> <li>•Testing</li> <li>•Interface Tests</li> <li>•Degraded Operations Testing</li> <li>•System Stability Testing</li> <li>•Support System Regression Testing</li> <li>•Verify Information Systems Security Requirements have been met</li> <li>•Verify Safety Management System Security Requirements have been met.</li> </ul>	Verification that ISS and SMS considerations have been met. Performed by team, independent of developer, to include witnesses from the selected Key Site(s). Validate existing system functionality and verifies new functionality and fixes.	TI Manuals are updated and verified – signed off Stability Testing formally documented Test procedures /plans validated in lab – BMOD and AMODs AMODs are signed by the system lead and test lead Lesson Learned – PTRs opened due to issues found.			

# Matrix Mapping Example for Test Phase

ID	Activity	Description	Expected Outputs	Deviations and Waivers	Gaps	Who Completes and when
<p><i>Instructions: Please review each practice. In the Current Status / Gaps column, document how you are currently implementing that practice. If a gap exists between the defined practice and your current practice, please document the gap in <b>bold</b>. For each gap, identify the steps the program will take to close the gap, the date by which each step will be completed, and the person responsible for performing that step.</i></p>						
25	System/Project Release Documents	Baseline system documentation	Test Documents System Requirement Spec SSM – 1320.58 preparation TI documents when applicable			
26	System/Project Test Discrepancies Identified	T & E limitation defined and possible mitigations identified.	Discrepancies report with test results. Sign off by Test Director			
27	System/Project Test Report		Test report outline New PTRs opened List of Failed Tests Issues found during test			
28	Key site Package	Key site package consist of the Build CD (software release), TI updated if applicable, SSM with installation procedure and uninstall procedures. Test identified to validate site readiness for the fixes installed.	1320.58 SSM and build release			
29	Conduct Pre-Key Site(s) Coordination	De-brief Site of activities to avoid high impact.	Deployment Briefing			
30	Confirm Impact & Implementation	Complete Key Site coordination.	Security Unions			

# Benefits of ISM-GS

- **Management Tool**
  - Provides management a tool to manage, measure and improve process
- **Internal QA/QC Tool**
  - Tailored ISM-GS Matrix is a QA/QC checklist
- **QA of QA Tool**
  - FAA Acquisition Practices Compliance Approach
    - Tier 2/3 Compliance Reviews

# Summary

- **The the spirit and integrity of the original T&E Gold Standard was maintained in the development of the In Service Management Gold Standard.**
- **The ISM-GS provides a value added tool that will assist organizations in managing and maintaining their programs through end of lifecycle.**
- **The ISM-GS is a time tested product that has been enhanced in response to the survey and/or changes to FAA Policies, Standards and Acquisition Practices.**

# Next Steps

- **AEB Sponsorship**
- **AMS Changes**



# Questions

