Planning Guidelines and Design Standards v4.0
Testing Updates

Presented by: Gregory Cypher
Acceptance Test Lead

July 12, 2011
Agenda

- Planning Guidelines & Design Standards (PDGS) v3.0 to v4.0
- PDGS v4.0
- From PDGS v3.0 to v4.0 – Key Changes
- Testing Performance Criteria
- Site Specific Test Plan Timelines
Planning Guidelines & Design Standards (PDGS) v3.0 to v4.0

- Public comments for PGDS v3.0
  - Comment period was from November 27, 2009, through July 31, 2010
  - TSA reviewed all 210 comments and addressed them in PGDS v4.0
  - Several follow-on studies and additional steps were conducted
  - Comments received after July 31 cut-off date will be reviewed as part of PGDS v5.0

- Industry Day for PGDS v4.0 changes held May 12, 2011, in Dallas, TX

- Publication of PGDS v4.0 – targeted for July 2011
PGDS v4.0

- Public comments for PGDS v4.0
  - Comment period from July 2011, through December 31, 2011
  - TSA will review all comments and address them in PGDS v5.0
  - Comments received after December 31 cut-off date will be reviewed as part of PGDS v6.0
  - The following link should be used to obtain PGDS v4.0 and the comment sheet:
    http://www.tsa.gov/research/checked_baggage_material.shtm

- Publication of PGDS v5.0 targeted for June 2012
## From PGDS v3.0 to v4.0 – Key Changes

<table>
<thead>
<tr>
<th>PGDS v4.0 Appendixes</th>
<th>Type of Change</th>
<th>Expected Impact on Airports</th>
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<td><strong>Appendix D</strong></td>
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| “Commissioning and Evaluation Requirements” | ▪ Added several EDS testing requirements:  
▪ OOG; Lost Bag Routing; Bag Spacing  
▪ Accidental Flag of PEC Tracking  
▪ Added Problematic Bag Alignment illustration  
▪ Added Operational Run-in requirements  
▪ Added Post Commissioning requirements  
▪ Added test process flow charts and change request form (TRR and iSAT)  
▪ Revised tests:  
▪ Added Bag; Fail-Safe  
▪ Document Relocated tests:  
▪ Travel Time/OSR from D.3.6 to D.2.1  
▪ Over-Height, Width and Length Bag from D.3.7 to D.2.2 | ▪ Medium  
▪ N/A  
▪ Medium  
▪ Medium  
▪ N/A  
▪ Small  
▪ N/A |
Testing Performance Criteria – No Changes

- Invalid Arrival Rate
  - 3% for CBIS with Baggage Reinsertion Line
  - 2% for CBIS without Baggage Reinsertion Line
- Fail-Safe Rate remains 0.5%
- Jam Rate remains 1%
- System Throughput
  - Assessed against the Design Performance Standards (DPS) documented in the Site Specific Test Plan (SSTP) based on the approved design and any Request for Variance (RFV)
Site Specific Test Plan (SSTP) Timelines

- 180 days prior to ISAT – TSA Site Lead provides SSTP checklist and questionnaire to airport
- 100-120 days prior to ISAT – Airport provides SSTP checklist and questionnaire to TSA Site Lead/Acceptance Test Contractor
- By 90 days prior to ISAT – on-site SSTP survey meeting
- By 45-60 days prior to ISAT – draft SSTP provided to airport for review
- By 30 days prior to ISAT – on-site coordination meeting for final SSTP
Point of Contact

- Gregory Cypher, Acceptance Test Lead

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Transportation Security Innovative Concepts
Broad Agency Announcement

Presented by: Don Kim
Technology Portfolio Lead, OST Engineering

July 12, 2011
Broad Agency Announcement (BAA)
Transportation Security Innovative Concepts BAA HSTS06-11-R-BAA001

- Solicits proposals for research supporting TSA mission to secure nation’s transportation infrastructure
- Successor to HSTS06-10-R-BAA001, first announced Mar. 11, 2010

TSA strategic areas:

- Operations
- Technologies
- Processes
- Human Factors
- Other Capabilities

Specific emphasis on near-term improvements to current operations and capabilities for:

- Passenger and baggage screening
- Threat assessment and dissemination
- Cargo Screening
- Credentialing
Summary of BAA Process

- TSIC BAA is posted on Fedbizopps
- Solicits whitepapers and proposals for:
  - Innovative basic or applied research
  - Advanced technology development
  - Prototyping
  - Pilot demonstrations
  - Testing
- Open to academia, non-profits, Federally Funded Research and Development Centers, and private industry, with no Small Business Administration socio-economic set-aside
- Proposal reviews are conducted by teams of technical, program, and contracting SMEs, on an ongoing basis
Proposal Instructions and Evaluation

- Specific instructions are provided in the BAA
  - Both whitepapers and full proposals are allowed
  - Successful whitepapers may be awarded or additional information may be requested in a full proposal
  - Initial whitepapers are encouraged in the name of efficiency

- Submittals in response to the BAA are evaluated for:
  - Responsiveness to requirements and instructions
  - Scientific and technical merit
  - Importance, relevance, and timeliness to TSA mission
  - Capabilities, experience, facilities, management approach, and personnel of the respondent
  - Proposed cost and the value to TSA
  - Availability of funds to award against the proposal
Summary of Status

- TSA has received and reviewed numerous whitepapers and proposals in areas of:
  - Airport checkpoint effectiveness and efficiency
  - Techniques for detecting new and differing threats
  - Perimeter security, intrusion, and tampering
  - Workforce process enhancements
  - Passenger experience management and improvement
  - Technology integration and data fusion
  - …and many others

- In excess of 100 responses received to date

- Approximately 15% of responses are found to be responsive and meriting of further evaluation for award
Summary of Status (cont.)

- Rejected proposals have included:
  - Lack of innovation
  - Not responsive to TSA mission
  - Proposal of engineering services
  - Proposal of commercial off the shelf products
  - Incomplete concepts
  - No applicability to transportation security
  - … and other weaknesses per the Evaluation Criteria

- Potential awards have been delayed due to funding constraints
Moving Forward

- Increase emphasis on BAA as means for introduction of innovative technologies
- Successful prototype deliverables may undergo evaluation at TSA Systems Integration Facility (TSIF)
- Available funding indentified to award promising proposals
- Anticipate announcement of awards in late summer 2011
- Additional BAA awards anticipated in FY12
Point of Contacts

- TSIC BAA POCs
  - TSA-BAA@dhs.gov
  - TSA Office of Acquisitions, Ronald B. Gallihugh
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- TSA Office of Security Technology
  - Don K. Kim
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TSA OST Operational Testing

Presented by: Alan Davis
Manager, Operational Testing

July 12, 2011
Agenda

- Test and Evaluation (T&E) Policy
- T&E Officials
- T&E Documents
- Operational Effectiveness and Suitability
- Acquisitions and T&E Process
Test and Evaluation (T&E) Policy

- Department of Homeland Security (DHS) Acquisition Directive 102
  - Acquisition policy

- DHS Acquisition Instruction 102-01 Appendix L
  - Test and Evaluation Master Plan Guidebook

- DHS Management Directive 026-06
  - DHS T&E policy

- TSA OST T&E Policy
  - OST policy for Integrated T&E (all sources of testing)
T&E Officials

- **DHS Chief Acquisition Officer**
  - Policy, regulation, and standards
  - Decision Authority for level 1 systems
  - Designates component acquisition officials

- **Acquisition Decision Authorities (DHS or TSA)**
  - Ensure compliance with policy
  - Approve systems through acquisition phases through the Acquisition Review Board

- **DHS T&E**
  - DOT&E – Performs oversight of designated programs, approves Test and Evaluation Master Plan and Operational Test Plan, provides LOA
  - Test Standards Division

- **Component Heads**
  - Oversee acquisitions
  - Management of acquisition programs

- **Component Acquisition Executive**
  - Define acquisition policies and processes
  - Oversee acquisition portfolios
  - Serve as decision authority for delegated programs

- **Independent Operational Tester**
  - Conduct operational tests
  - Report results to Component Acquisition Executive
T&E Documents*

- Operational Requirement Document/Concept of Operations
- Test and Evaluation Master Plan
- System Evaluation Plan
- Developmental Test Plan
- Operational Test Plan
- System Evaluation Report

*Additional information regarding this slide is located in the Appendix
**OPERATIONAL EFFECTIVENESS**

- Does the system perform effectively in the target environment?
  - Probability of detection
  - False alarm
  - Throughput Rate

**OPERATIONAL SUITABILITY**

- Does the system interoperate with all other appropriate systems and protocols?
  - System interface requirements
  - Data exchange interface requirements

- Will the system be reliable, maintainable and available in the target environment?
  - Mean Time Between Failures
  - Mean Time Between Critical Failures
  - Mean Time To Repair
  - Critical Failure Mean Down Time
  - Mean Time Between Maintenance Actions
  - Operational Availability
  - Inherent Availability

- Does the system have appropriate logistical plans to support the system in the target environment?
  - Maintenance planning
  - Supply support
  - Training & training support
  - Packaging, handling and storage

- Does the system employ appropriate Human Factors Engineering practices applicable to the target environment?
  - Usability
  - Training
  - Staffing
  - Health & safety

- Does the system provide sufficient information security protections?
  - Confidentiality
  - Integrity
  - Availability
  - Privacy

- Will the system appropriately fit within the allotted space and sufficiently integrate with elements in the target environment?
  - Design elements
  - Resource requirements
  - Compatibility with Common Security Architecture
  - Life Cycle Cost
Acquisition and T&E Process

- Need
- Analyze / Select
- Obtain
- Produce / Deploy / Support

Plans
- Evaluation Strategy
- DTP
- TEMP & SEP
- OTP

Events
- DEVELOPMENTAL
- QT/CT
- FAT/SAT
- OPERATIONAL
- LUT
- IOT&E
- FOT&E
- OTHER SOURCES
- Vendors
- Ind Gov’t Labs
- MODELING & SIMULATION

Evaluation/ Reports
- DTR/ERB
- SER
- LOA
Point of Contact

- Alan Davis, Operational Test Manager

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APPENDIX
T&E Documents

- **ORD/CONOPS** - describing operational requirements and concepts of operations in the airport environment

- **TEMP** – Test and Evaluation Master Plan (program summary, developmental testing, operational testing, critical operational issues) in support of the acquisition program

- **SEP** – System Evaluation Plan describes how the evaluation of all test information will contribute to the evaluation of system effectiveness and suitability in support of acquisition decisions

- **DTP** – Developmental Test Plan, verify that the system meets technical performance requirements
Test and Evaluation Documents

- **OTP** – Operational Test Plan, test of the production or production representative system, in an operational environment, with typical users and a representative threat

- **SER** – System Evaluation Report describes the effectiveness and suitability of the system in support of the acquisition decision