Transportation Security Administration

MEMORANDUM OF UNDERSTANDING

between

THE TRANSPORTATION SECURITY ADMINISTRATION

and

THE CITY AND COUNTY OF DENVER

at

DENVER INTERNATIONAL AIRPORT

for

TRANSPORTATION SECURITY EQUIPMENT AND SERVICES

File - 5000.11

ARTICLE I – PARTIES

This Memorandum of Understanding (MOU) is entered into by and between the City and County of Denver, hereinafter called "Donor," and the Transportation Security Administration (TSA), jointly hereinafter called the "Parties." This MOU is not intended to be, nor shall it be construed as creation of, a partnership, corporation, or other business entity between the Parties.

ARTICLE II – AUTHORITY

TSA has authority to enter into this MOU pursuant to the Aviation and Transportation Security Act (Pub.L. 107–71, Nov. 19, 2001) (see 49 U.S.C. § 114(m), incorporating the authorities of 49 U.S.C. § 106(l) and (m) to accept unreimbursed equipment and services), and in accordance with TSA Management Directive No. 200.58.

The City and County of Denver has authority to enter into the MOU pursuant to Denver Revised Municipal Code, Chapter 20 Article 4.

ARTICLE III – PURPOSE AND BACKGROUND

The purpose of this MOU is to document the Parties' respective understanding of the Donor's acquisition of equipment and services and proposed non-monetary offer of this equipment and services to TSA. This offer and acceptance of equipment and services is intended to be mutually beneficial to the Parties. Once finalized and executed, the Donor can consider this MOU as TSA's approval for the City and County of Denver to proceed with the purchase of the Transportation Security Equipment (TSE), necessary ancillary equipment, and all services necessary and required to incorporate the TSE into the East security checkpoint located at Denver International Airport (DEN). TSA has determined that the TSE will improve the operational and security efficiencies of passenger on-person and carry-on baggage screening at the TSA checkpoint.

Background

The DEN Great Hall Project is a capital improvement project to support passenger growth and enhance security and operational efficiency. Phase 1 involved additional renovated space, new ticket counters and restrooms. Phase 2 and 3 include two new 17-lane checkpoints that will become the Great HallWest and East Security Checkpoints The West checkpoint was completed in January 2024. DEN is donating all associated equipment to TSA for the East Checkpoint Project to include 17 Full Size Scarabee Checkpoint Property Screening Systems (CPSS), 9 Rohde & Schwarz QPS Advanced Imaging Technology (AIT) units, 9 CEIA Bottle Liquid Scanners (BLS), 26 Leidos Explosive Trace Detection Systems (ETD), 9 CEIA Walk-through Metal Detectors (WTMD), 17 Idemia Credential Authentication Technology (CAT-2) units, 16 Desko Boarding Pass Scanners (BPS), podiums for Known Crew Member (KCM) access, and carts, cabinets, mats and barriers. The go live date for the East Great Hall checkpoint is August 2025 .

ARTICLE IV – EQUIPMENT AND SERVICES

The Donor intends to procure, install, and maintain for a set period of years the following TSE and ancillary equipment and to procure associated services to TSA, hereinafter called the "Capability Equipment and Services," with the intent to voluntarily offer, give, donate, transfer, convey, and assign said equipment, and direct the services to be provided, free and clear of all encumbrances to TSA. The Donor agrees to the Terms and Conditions as described in Attachment 1 and to incorporate applicable Terms and Conditions into any subsequent purchase agreement involving the Capability Equipment and Services.

Transfer of ownership of the Capability Equipment to TSA will occur following installation and successful completion of the applicable form of Acceptance Testing of the TSE, and will be documented with the execution of the Offer and Acceptance Letters, to be signed and executed by the City and County of Denver, Department of Aviation Chief Executive Officer. The Parties agree that the offer and acceptance of the Capability Equipment and Services are not intended to influence TSA or any other agency of the U.S. Government to obtain or be rewarded favorable treatment in any civil penalty cases or compliance proceedings that may be pending or potentially initiated in the future, or in connection with any U.S. Government contract, subcontract, or grant, nor will acceptance of the City and County of Denver's offer be considered as an offset against any pending or future actions.

Description of Capability Equipment and Services

The list of anticipated TSE to be procured by the City and County of Denver and transferred to TSA includes:

Donated TSE and Services:

- Procurement and installation:
  - 17 Full Size Scarabee CPSS
  - 7 training simulators for the Scarabee Full Size CPSS –
  - 9 Rohde & Schwarz (R&S) AIT units
  - 9 CEIA BLS
  - 26 Leidos ETDs
  - 9 CEIA WTMDs
  - 17 Idemia CAT-2 units
  - 16 Desko BPS
  - Podiums for KCM access and carts, cabinets, mats and barriers.
  - 18 Podiums to backfill West Checkpoint and for the East Checkpoint standard ticket document check area.
- Four (4) years of warranty and maintenance packages for all donated TSEs beginning on the operational date or when the TSEs are accepted by TSA.
  - For the CPSS, warranty and maintenance needed to meet TSA's logistic support service level requirements is further detailed in Attachment 1, Terms and Conditions.
  - Attachment 1, Terms and Conditions for Capability Equipment and Services, Section 4 and Attachments A-G shall be incorporated into the Donor's procurement contracts with OEMs.

Design: The creation of designs for the installation of the TSE for the checkpoint that meet all of TSA's requirements per the most recent version of the Checkpoint Requirements and Planning Guide (CRPG) and all as-built designs for the installation of the TSE at the completion of the project. All drawings must be provided to TSA in PDF and AutoCAD.

Site Preparation: All activities associated with site preparations required to install the TSE for the checkpoint. This will include all construction to support the necessary infrastructure (per CRPG) for the TSE and associated Peripheral Equipment and Furniture, Fixtures and Equipment (FF&E) required to ensure successful operations. The Donor shall coordinate site preparation activities with a TSA-approved contractor.

Peripheral Equipment and FF&E[1]: The procurement, as needed, and installation of all Peripheral Equipment and FF&E required to ensure successful checkpoint operations.

TSA Supplied Equipment: Services necessary for the decommissioning, removal, and re-installation of the existing TSA TSE and other fixtures, furniture, and equipment (collectively, the "Existing TSE and FF&E") to include: proper packaging, storing and shipping (as necessary) of the Existing TSE and FF&E to a Continental United States (CONUS) location determined by the TSA. All activities shall be performed by a TSA-approved contractor.

- Decommissioning of all TSA equipment after closing the South Checkpoint and Ansbacher Hall.
- Shipping of all TSA equipment to the TSA warehouse after closing the South Checkpoint and Ansbacher Hall.

Testing: Donor shall cause its contractor to provide acceptance testing for the TSE to be conducted in accordance with TSA-approved testing plans and procedures as follows:

- Factory Acceptance Testing (FAT) for the 17 Scarabee Full Size CPSS units, 9 Rohde & Schwarz QPS AIT, 9 CEIA BLS, 26 Leidos ETD, 9 CEIA WTMD, 17 Idemia CAT-2 units, and 16 Desko BPS.
- Site Acceptance Testing (SAT) for 17 Scarabee Full Size CPSS units, 9 Rohde & Schwarz QPS AIT, 9 CEIA BLS, 26 Leidos ETD, 9 CEIA WTMD, 17 Idemia CAT-2 units, and 16 Desko BPS.
- Integrated Site Acceptance Testing (ISAT) for the 17 Scarabee Full Size CPSS units.
- Additional testing required for Remote/Cross lane screening after TSA obtains DHS approval for the Remote/Crosslane capability and it is added to the Acceptable Capabilities List (ACL). This includes but not is not limited to providing OEM support of IT/Cyber interviews, data collections, site assessments, and retesting.

Risks and Conditions: The Donor agrees to accept the following risks and conditions regarding the Scarabee Full Size CPSS units:

1. The Donor understands that the requirements for CPSS Remote/Cross lane screening capability have been defined by TSA for screening operations for all CPSS manufacturers. Remote/Cross lane screening is expected to be a qualified part of the CPSS program by the end of 2024 and placed on the Acceptable Capabilities List (ACL). DEN will be expected to install and TSA to operate the latest approved version of Remote/Cross lane at the time of installation and to continue to update the capability utilizing the Plans of Action and Milestones (POAM) to reach the 100% qualified version.
2. Once TSA obtains DHS approval for the Remote/Cross lane capability, the Donor, via Scarabee, and in coordination with TSA, shall shall be responsible to ensure the installed Remote/ Cross lane system at the East and West checkpoints are at 100% compliance with the TSA approved configuration at that time and meet all Functional Requirements and Cyber/IT Requirements. At the time of installation, if the system is not 100% compliant, a Plan of Action and Milestones (POAM) will be established to reach 100% compliance.
3. The Donor will be responsible for all required testing for the Remote/Cross lane screening network. Testing requirements for Remote/Cross lane will include, but may not be limited to, a Network Throughput Test (NTT) and IT/Cyber testing which could take 3 or more months to accomplish.

[1] Both the ACL and CRPG provide an overview of non-TSE checkpoint FF&E and Peripheral Equipment required to ensure successful checkpoint operation. Examples of FF&E and Peripheral Equipment include, but are not limited to, bins, operational test kits, duress alarms, podiums, x-ray chairs, stanchions, gates, barriers, anti-fatigue mats, tables, and cabinets.

This includes all necessary testing before and after the East checkpoint operational date, POAM activities for the DEN East and West checkpoints, and any necessary retestings for the West checkpoint.

4. The Donor is to ensure the OEM meets the requirements outlined in the *CPSS Cross Lane Remote Screening Functional Requirements* and *TSE Technical Cybersecurity Requirements* documents. These documents are Sensitive Security Information (SSI) and can only be provided to the CPSS OEM and those cleared by TSA to receive SSI and with the need to know.
5. The Donor, via Scarabee, and in coordination with TSA, shall provide support services with regards to the Full Size CPSS configuration management, engineering services, and operational support (including optimization) for two years following the donation of the Scarabee CPSS units to TSA or until such time that TSA has its own contract to support this work. These services may include, but are not limited to, submission of and necessary support services, for Engineering Change Proposals, Requests for Deviation, Design Engineering Proposals, system testing, and training to support both Donor and TSA-initiated change requirements.

Description of Services Provided by TSA

In addition to the TSA services related to the establishment of the checkpoints, such as the review and approval of site design and preparation, acceptance testing results, as well as training of TSA staff to operate the equipment, the additional services to be provided by TSA to ensure successful operations include the maintenance packages following the donated warranty period for all the donated systems.

ARTICLE V – EFFECTIVE DATE AND DURATION OF MEMORANDUM OF UNDERSTANDING

The terms of this MOU shall be effective upon signature of both Parties. This MOU shall continue in full force and effect until donation of the equipment and services, as identified further in Article IV, *Equipment and Services,* unless terminated earlier as set forth in Article VII, *Termination*. The Parties may mutually agree to extend the duration of the MOU period. Such extensions shall be renegotiated between the Donor and TSA in accordance with Article VIII, *Changes and/or Modifications*. Any provision of this MOU that requires performance following MOU termination or that must survive to give effects to its meaning, such as ongoing warranty obligations, shall survive the termination of this MOU.

ARTICLE VI – POINTS OF CONTACT

Points of Contact for this MOU (for Donor) are:

Name	Position Title	Phone Number	Email Address
John McGinley	Ops Program Manager	303-342-2614	John.McGinley@flydenver.com

Points of Contact for this MOU (for TSA) are:

Name	Position Title	Phone Number	Email Address
Casey Cudworth	Program Specialist	202-309-3455	casey.cudworth@tsa.dhs.gov

ARTICLE VII – TERMINATION

This MOU may be terminated by mutual agreement of the Parties by providing thirty (30) days advance written notice. TSA will provide such advance written notice to Donor if TSA determines in good faith and on a non-discriminatory basis that the Capability Equipment and Services no longer meet applicable

TSA screening requirements such that the continued use of Capability Equipment and Services would not adequately address TSA security requirements.

ARTICLE VIII – CHANGES AND/OR MODIFICATIONS

Changes and/or modifications to this MOU shall be in writing and signed by the authorized representatives of the Parties to this MOU.

ARTICLE IX – PROTECTION OF INFORMATION

The Parties agree that they shall take all appropriate measures to protect proprietary, privileged, Sensitive Security Information (SSI), or otherwise confidential information (which shall be marked or otherwise identified as proprietary, privileged, confidential, or SSI) that may come into their possession as a result of this MOU. To the extent that the donation of the Capability Equipment and Services involves any SSI, the Donor will be a covered person under TSA SSI regulations at 49 CFR part 1520.

ARTICLE X – FUNDING AND PAYMENT

No funds are required to be obligated under the terms of this MOU. Each Party shall bear the cost of its own performance under this MOU.

IN WITNESS WHEREOF, the Parties have entered into this MOU by their duly authorized representatives on the dates specified below.

_____ **Date:** 08/13/2024
Phillip A. Washington
Chief Executive Officer
Denver International Airport

_____ **Date:** _____
Joseph Illar
Executive Director, Deployment and Sustainment Division
Acquisition Program Management
Transportation Security Administration

ATTACHMENT 1 –Terms and Conditions for Capability Equipment and Services
ATTACHMENT 2 - CPSS Cross Lane Remote Screening Functional Requirements and TSE Technical Cybersecurity Requirements – SSI provided under separate cover.

Attachment 1

Capability Acceptance Process

Terms and Conditions for Acceptable Capability

Version 6.5

April 2024

File: 5000.4

Contents

1. General

This document provides the terms and conditions that accompany the donation to the Transportation Security Administration (TSA) by the City and County of Denver, the Donor. Terms and conditions that TSA has accepted in the past may not be the same as those provided within this document. In addition, the terms and conditions accepted for one Donor may not be the same for another. TSA works with each Donor individually to determine the Capabilities[1] and terms and conditions that meet the needs of both Donors and TSA based on specific Capability Requests[2] and screening environments.

2. Basic System Requirements

2.1. Acceptable Capability List

The Donor shall ensure that any Capabilities proposed for donation are on the TSA Acceptable Capability List (ACL), and that such Capabilities use the most up-to-date configuration - components, parts, software, and related materials - provided and approved by TSA.

2.2 Capability Configuration

The Donor shall ensure that the configuration of any donated Capability complies with the configuration listed in the ACL, and includes TSA branding, at the time the Capability is installed. As there may be a delay between the time of a Donor procurement and installation of a Capability, the Donor is responsible to ensure the Capability installed meets the latest TSA-approved qualified configuration. The Donor is responsible for coordinating with TSA to ensure that they are procuring approved Capabilities (including components, parts, and materials) and configurations. If the Donor does not procure an approved configuration it can lead to significant delays in the approval, or disapproval, of the donation.

Any changes to the TSA-approved configurations (to include system updates, and changes to hardware, software, TSA branding, color, etc.) must be approved by a TSA Acquisition Program Management representative prior to delivery, installation, and the applicable form of acceptance testing, and otherwise may not be deemed acceptable. If changes to hardware, software, TSA branding, color, etc., of the TSE are approved, Donor will be responsible for ensuring that the TSE can be and is returned to TSA's approved configuration prior to the TSE being moved. Additional testing may be required for any changes to the configuration.

2.3. Checkpoint Remote Screening Equipment

If applicable, the Donor shall also be responsible for maintaining the infrastructure required for checkpoint remote screening capability. This may include power, Ethernet cables, fiber cables and other peripheral equipment to support this capability in the remote screening room. All non-infrastructure components and equipment for remote operations will be provided by the original equipment manufacturer (OEM), supported by the Donor provided maintenance agreement and listed on the Master Configuration Item List (MCIL).

3. Donor Responsibilities

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[1] Capabilities include security screening technology (including some emerging technologies) or equipment, often referred to as Transportation Security Equipment (TSE), related services such as installation, acceptance testing, preventive and corrective maintenance warranty, and Furniture, Fixtures, and Equipment.

[2] A request submitted by a Donor or Donating Stakeholder such as an airport authority or airline that outlines the intent to voluntarily procure, and ultimately donate, transfer, and convey, Capabilities to TSA.

ACQUISITION PROGRAM MANAGEMENT

The Donor shall be responsible for all costs associated with the procurement, installation, acceptance testing, and maintenance of the donated Capability as outlined in this document. The Donor may use a systems integration contractor of their choice to support these activities, provided the integrator uses OEM-certified technicians for TSE installation. For Donor use of a systems integration contractor,

Original Equipment Manufacturer (OEM) certified technicians, or TSA-approved contractors for services related to the CAP project, TSA encourages the Donor to adhere to the spirit of the Davis-Bacon Act and Related Acts (see 40 U.S.C. 3141 *et seq.* and 40 U.S.C. 3145 *et seq.*) by employing contractors and subcontractors that pay their laborers and mechanics employed to provide services for the CAP project no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area.

3.1. Site Survey and Design

As necessary and as required by TSA, the Donor shall complete site surveys and create, provide, and receive approval of designs for the installation. Designs must meet all of TSA's requirements per the most recent version of the Checkpoint Requirements and Planning Guide (CRPG) and the Planning Guidelines and Design Standards (PGDS) for Checked Baggage Inspection Systems. Designs shall be submitted in PDF and computer-aided design (CAD) with input from the airport/airline or project sponsor. The Donor shall receive approval from both a TSA Acquisition Program Management representative and the local TSA representative.

Designs (IFC or bid drawings) shall include the infrastructure, electrical, data, and other relevant components and be submitted in CAD and PDF formats.

3.2. Procurement

The Donor shall be responsible for all costs associated with the procurement of the Capability from the OEM. This will include the approved configuration of applicable TSE hardware and software; TSA branding; peripheral equipment; associated Furniture, Fixtures, and Equipment (FFE); and all labor required for installation and integration.

3.3. Site Preparation

The Donor shall provide, and be financially responsible for, all activities associated with site preparations required to install the TSE. This will include all construction to support the necessary infrastructure (per the approved design/CRPG) for the TSE and associated peripheral equipment and FFE required to ensure successful operations. The Donor shall coordinate site preparation activities with a local TSA representative.

3.4. Delivery and Installation

The Donor shall provide and be financially responsible for all activities necessary to deliver, install, and/or integrate the TSE in accordance with the approved design, in preparation for the applicable form of Acceptance Testing. The Donor shall coordinate the installation activities with an authorized TSA representative. Specific airport requirements must be followed. The Donor shall minimize, to the highest extent possible, disruption or interference with airline or airport operations.

3.5. Existing Equipment and Infrastructure

If existing equipment is to be decommissioned, the Donor shall provide and be financially responsible for the services necessary for decommissioning and removal of any existing TSA system or infrastructure, including proper packaging and shipping of the existing equipment and FFE to a Continental United States (CONUS) location determined by TSA. If existing equipment is to be moved within checkpoints, the Donor shall provide and be financially responsible for the services necessary for moving and reinstalling the TSA system. The Donor may use a systems integration contractor for these tasks, provided the integrator uses

OEM-certified technicians and all activities are coordinated with an authorized TSA representative. The Donor (or its Systems Integration Contractor) shall provide TSA with tracking information for all TSA equipment/ property in transit.

For either decommissioning or moving of existing TSA systems or infrastructure, the Donor or its systems integration contractor shall be responsible for submitting all required government paperwork (DD-1149) associated with moving TSA property and the Asset Information Sheet for Donors.

- Department of Defense (DoD) "Requisition and Invoice/Shipping Document" Form DD-1149. A DD-1149, most current version, is required on all TSA-owned equipment being moved by the Donor (this excludes the initial shipment from the OEM). The Donor or Systems Integration Contractor shall email this form to the Government Property Administrator (GPA) for approval 3-5 business days prior to the movement of TSA equipment. The form shall include an itemized listing with description, make, model, serial number, full TSA barcode (if applicable), and contract/order number.

    1. The subject line of the email and the DD-1149 file name shall both follow the structure below:
        a. From airport to depot: SerialNumber_Dateinblock5_ Site/location code _to OEM Name (e.g., 30787 21JUN2016 LRD to *"OEM name"*.docx; 21020041010 17JUNE2016 ORD to *"OEM name"*.docx).
        b. From depot to airport: SerialNumber_Dateinblock5_ OEM Name to Site/location code (e.g., 54371 27JUN2016 *"OEM name"* to MHT; 53491_23Jun2016_*"OEM name"* to DVL).
    2. Block_1) From: Full Name Location including and Site Code Full Shipping Address and 2 POCs (Name, Email Address, and Telephone Number)
    3. Block_2) To: Full Name Location including and Site Code Full Shipping Address and 2 POCs (Name, Email Address, and Telephone Number)
    4. Block_3) Ship to: Mark for: (only used to hold equipment for temporary storage location within one business day)
    5. Block_4) Appropriation Symbol and Subhead: Manufacturer, make, model, SN#/TSA barcode number/condition code; quantity, type of container, container numbers
    6. Block_5) Requisition Date (always the date the document is being sent)
    7. Block_7) Date Material Required (date equipment needs to be at designation)
    8. Block_8) Priority (e.g., Standard or Expedite)
    9. Block_9) Authority or Purpose (Contract Number and/or Task Order Number; TSA Loan Agreement (if applicable))
    10. Block_12) Date Shipped (always the date equipment shipped)
    11. Block_13) Mode of Shipment: Ground and or Water (e.g., Carrier Name, Driver's Name, Driver's Cell Number, Truck Number, Trailer Number)
    12. Block_18) Issued by: (Full Name of Person completing DD-1149), (Total containers, type of containers, description, total weight)

- Asset Information Sheet for Donors. This form is required to notify TSA when existing equipment is removed or added to TSA's maintenance servicing contract. All TSE removed from an active checkpoint is considered inactive from the maintenance contract and will be re-activated once it is re-installed at a screening checkpoint.
    1. The Asset Information Sheet can be obtained from the Capabilities Acceptance and Management Branch (CAMB) Representative.
    2. The completed form should be emailed to DD1149Submission@lsmash.tsa.dhs.gov, and the CAMB Representative.

3. Forms are required at the removal of the TSE with the decommissioning date and re-activation with the Operational Readiness Test (ORT) or Site Acceptance Testing (SAT) dates. Other information, such as the equipment's serial number and TSA bar code number, is also necessary.

The Donor is responsible for safeguarding TSA property at all times, until TSA takes possession in shipment, warehouses, manufacturer's depot, and/or loading/unloading to/from site locations including installations/decommissions, as applicable.

The Donor shall submit an incident report (including pictures) to the GPA for any property loss, damage, destruction, or theft (from negligence, misuse, dishonesty, or willful destruction) within 24 hours of the incident.

- The Donor incident report shall, at a minimum, contain the following information:
    1. Date of Incident
    2. OEM/Manufacturer, Make, Model, Serial Number (if applicable), TSA Barcode Number (if applicable, e.g., #057000000xxxxxx), Condition Code (e.g., 1 = New (never been installed), 4 = Used (installed at least once), 7 = Need Evaluation/Repair, or X = Final Disposition/Disposal)), Requisition and Invoice/Shipping Document/Government Paperwork, and quantity
    3. Contract and/or Order Number
    4. Cause and Corrective Action taken or to be taken to prevent recurrence
    5. Copies of all supporting documentation (including pictures)
    6. Last known location of the property
    7. A statement that the property did or did not contain hazardous material, and if so, that the appropriate agencies were notified.

3.6. Acceptance Testing Procedures

The Donor shall be financially responsible to acquire services for the applicable form of Acceptance Testing for the TSE (e.g., Factory Acceptance Testing, Operational Readiness Testing, Site Acceptance Testing, and Integrated Site Acceptance Testing as applicable). Acceptance Testing shall be in accordance with the most recent TSA-approved test plans and procedures and it is the responsibility of the Donor to coordinate, fund, implement, and provide the test.

Acceptance Testing cannot be obtained by the OEM, or any organization affiliated with the OEM (i.e., subcontractor to the OEM) or contractors performing/coordinating construction and equipment installation activities. Donors must use a TSA-approved Third-Party Test (TPT) agent to execute acceptance testing for donated TSE. Information regarding TPT agents may be obtained from CAMB. Donors are required to flow-through relevant terms and conditions to the Donor's TPT agent.

The appropriate and current test plans, Master Configuration Item List (MCIL), and report template for the donated TSE will be provided to the Donor/TPT by CAMB upon request.

The Donor/TPT shall provide a written notification to CAMB of its contract to work on the donation project. Information shall include TPT name, test location, test dates, and TSE to be tested.

Proper allocation of time for testing processes should be incorporated into the project schedule that must be provided to the TPT. In addition to the applicable Acceptance Testing for the donated TSE, the following items must also be identified in the project schedule (when appropriate):

- System Phasing Plan (installation, testing, live operation)
- Factory Acceptance Testing (FAT), System Acceptance Testing (SAT), Integrated Systems Acceptance Testing (ISAT), and Network Acceptance Testing (NAT)
- Pre-Acceptance Testing (testing conducted by the OEM and/or Donor)

- Pre-ISAT Testing (testing conducted by the OEM and/or Donor)

The Donor shall ensure the TSE is in a final TSA-approved configuration that will follow all of the rules outlined by TSA for Configuration Management. Any changes to the system configuration shall require a Request for Deviation (RFD)/Engineering Change Proposal (ECP) and/or a Configuration Change Report (CCR) approved by the appropriate TSA Program Official and TSA Engineering (Checkpoint CCR Process). For example, the CCR process shall be utilized for any changes in the system that relate to the Programmable Logic Controller (PLC), photo eyes, cameras, or any other item used to track or manipulate the bag through the system. TSA shall be consulted prior to any changes to determine if the CCR process should be followed.

Acceptance Testing through the TPT shall confirm that the Capability is secure and operationally efficient based on the requirements identified in the Functional Requirements Document (FRD) as outlined in the approved test procedures.

For all Factory Acceptance Testing:

- All systems that are on the Qualified Product List (QPL)/ACL shall have a FAT performed on them by a TPT agent. This test shall be the responsibility of the Donor to coordinate, fund, and provide the test results to TSA.
- Factory Acceptance Testing is conducted at the OEM's manufacturing facility. These tests are comprised of a configuration audit, detection testing, and system evaluation to determine if the system meets the requirements outlined in the FRD. FATs are completed in approximately one (1) business day per system.

For all System Acceptance Testing (SAT):

- All TSE shall be installed in its final configuration prior to any testing (i.e., ready for passenger screening). The Donor is responsible to ensure that the installed TSE configuration conforms with approved designs, the CRPG, the ACL, and the system configuration approved by the Government representative.
- System Acceptance Testing is conducted once the TSE is installed in its designed location on site. This test ensures that the system is operational and has the current approved operational software installed. SATs are completed in approximately ½ business day per system.

For Integrated System Acceptance Testing (ISAT):

- ISAT is conducted once the system and all of its components are successfully installed in their final configurations, integrated, and tested. This test ensures that all components work together and all functionality operates per the Concept of Operations document and FRD. It is expected that the system will be ready to screen passengers before the ISAT is started.
- All interfaces and/or network connections shall be completely integrated and tested.
- ISATs are completed in approximately two (2) business days per lane/system.

For Network Throughput Testing (NTT):

- Network Throughput Testing is completed after all ISATs have been completed for the lanes on a specific network or for the entire project (included in last phase of testing). This test ensures that the network is capable of handling the network traffic expected during full operation of all screening lanes.
- All nodes and TSE to be connected to the system network or infrastructure network shall be connected at the time of the test.
- All interfaces and/or network connections shall be completely integrated and tested.

- The system integrator/OEM/Donor shall provide a network diagram with IP Addresses to the TPT.
- NTTs will vary in duration based on the complexity of the CONOP and number of screening lanes. For planning purposes, an estimate for the duration of the test will be five (5) business days.
- NTT testing will require a discussion between the TSA, TPT, OEM, Donor, and Integrator to determine scope for this test. The test shall be the responsibility of the Donor to provide the proposed test plan to CAMB for approval.

Test Articles:

- TSA Acceptance Test and System Assessment (ATSA) will provide the test articles necessary for the Acceptance Testing.
- The TPT or System Integrator shall request shipment of test articles to the test site. The request shall be made via email to the Acceptance Testing Request (ATR) Inbox (atr@tsa.dhs.gov) with a copy to CAMB. The email needs to provide all logistic information about the delivery (location, time, special requirements, and any other notes that will assist in the delivery of the test articles). Upon receipt, ATSA will reach out to the Donor to coordinate the shipment of the items.
- The Donor is responsible for the following costs:
  - Cost of shipping of bags to and from test location.
  - Coordinating and storing the bags in a secured location that is protected from the elements as much as feasibly possible (if applicable).
  - Cost of any damage to test articles due to storage, transportation, or any abusive use.
  - The TSA-approved TPT agent is responsible for the care and maintenance of the test bags during testing. It is the responsibility of the TSA-approved TPT agent to return the bags to TSA in the same condition, excluding normal wear and tear, as when they departed the TSA controlled warehouse.
- Test bags must be returned to TSA after each Acceptance Testing event unless authorization is received from TSA. TSA will inspect the bags upon their return and assess any damages.

Test Results:

- Decisions regarding a system passing or failing Acceptance Testing events are made solely by TSA after review of the formal test report. Donors are requested to allocate seven (7) business days for this review and adjudication.
- The Donor is responsible for resolving and mitigating any failures found during testing to receive a positive result, which must be completed prior to TSA's operation of TSE for passenger security screening. Donor is responsible for any retesting of the TSE as necessary.
- Factory Acceptance Testing and Site Acceptance Testing
  - TPT will submit the FAT and SAT results Quick Look Report (QLR) to CAMB for review upon completion of the tests.
  - The TPT may provide a copy of the QLR report to the Donor or entity that contracted them to perform the service.

- Integrated System Acceptance Testing/Network Throughput Testing:
  - TPT shall provide daily ISAT testing updates to CAMB. If required by contract the TPT will provide daily updates to the entity contracting testing services.
  - TPT will provide final test results (QLR) to CAMB and CAMB shall have the final decisions regarding a system's PASS or FAIL status.

- All technical and procedural questions shall be directed to CAMB for dissemination to the appropriate TSA stakeholders, as needed. CAMB shall act as the Program Management Office for all matters dealing with the testing process for all donated TSE.

3.7. TSA Property Management

The Donor shall not relocate and/or ship TSA property without prior notification to and approval from the GPA.

The Donor may use a Systems Integration Contractor of their choice, provided the integrator uses OEM certified technicians for TSE installation. Coordination with an authorized TSA representative is required.

The Donor or its Systems Integration Contractor shall request TSA barcodes from the GPA prior to TSA's Acceptance of the donated Capability. The Donor shall ensure TSA barcode(s) are physically attached, as directed, on the units and peripherals meeting the acquisition cost threshold of $5,000.00 or that have the ability to store Sensitive Security Information (SSI). The Donor shall request exact placement instructions of TSA barcodes with the GPA.

One week prior to TSA's acceptance of the donated Capability, the Donor or its Systems Integration Contractor, and in coordination with local TSA, shall provide CAMB with a "TSA Form 251/251-1 – Vendor Shipping and Receiving Report" (SF251), Offer Letter and the Standard Configuration Report, if applicable.

• A SF251 shall be created for each type of TSE. Each unit shall be listed individually with the following information:

1. Manufacturer
2. Type and Model Number
3. Value of the TSE
4. TSA Acceptance Date for the TSE
5. Serial Number
6. TSA Barcode Number
7. Networking & Integration Equipment

The Donor is responsible for safeguarding TSA property at all times until TSA takes possession in shipment, warehouses, manufacturer's depot, and/or loading/unloading to/from site locations including installations/decommissions, as applicable. The Donor shall be fully liable for any damage, diminution in value, or losses incurred during shipment, handling, and installation that is attributed to improper packaging prior to install.

3.8. As-Built Designs

The Donor shall provide TSA with updated As-Built designs of the entire checkpoint or checked baggage area once the installation is complete. These designs shall meet TSA requirements as per the CRPG and PGDS and be submitted in PDF and CAD with red-lines.

3.9. Movement or Modification of Donated Capability

Upon voluntarily donating, transferring, conveying, and assigning Capabilities free and clear of all encumbrances to the TSA, the TSA assumes ownership and management of the Capability. It is TSA's intent to use the donated Capability for its intended purpose at its intended location. Nonetheless, as owner of the Capability, TSA retains the right to upgrade, modify, move, recapitalize, or decommission the Capability as necessary to support TSA security screening operations or if TSA determines the Capability is underutilized or obsolete. TSA may recapitalize TSE when required for improved security screening operations. The new TSE typically will be installed with the standard TSA configuration and may require changes to the original checkpoint design. Prior to any modification, move, recapitalization, or decommissioning of the Capability, TSA will inform the Donor, provide a justification for the modification, move, recapitalization, or decommissioning, and consider the impacts of such actions on the Donor's operation and the passenger experience at the airport.

4. Preventive and Corrective Maintenance Sustainment Services; Technical Requirements

NOTE: Section 4 and Attachments A-G under this T&C should be incorporated into the OEM procurement contracts to ensure TSA maintenance requirements are provided with the equipment.

The Donor shall provide a minimum of four (4) years of preventative and corrective maintenance coverage by a TSA-approved contractor ("Maintenance Contractor") on the Capability the Donor procures and offers to TSA.

The effective start date of the maintenance coverage shall be the date that TSA accepts the donation of the Capability, unless a different effective date is agreed upon.

The Donor-provided maintenance services shall meet the requirements of this agreement, including labor for preventive and corrective maintenance as well as associated logistics support resources including repair parts, training, and tools and test equipment. All services shall be provided by trained and certified Field Service Technicians who have successfully completed training by the OEM on the fundamentals of safety, functional operation, maintenance and repair of specific Transportation Security Equipment and associated peripheral equipment.

Any Maintenance Contractor used by the Donor in connection with this Agreement shall be held to the same terms and conditions as the Donor under this Agreement. This maintenance coverage shall ensure that the Capability operates effectively and supports the Service Level Agreements (SLA) required by the TSA as defined in Section 4.13 below.

For CPSS, the Donor-provided maintenance services shall include bin, bin carts, and all other CPSS peripheral equipment necessary to meet the logistic service level requirements.

If, after the donated warranty period, TSA has not been appropriated adequate funding to be able to assume maintenance services for the Capability, TSA will work with the Donor to determine the best path forward, which may include requiring the Donor to continue to provide maintenance coverage until funding is appropriated or removing the TSE from operations.

4.1. Preventive Maintenance

The completion of Preventive Maintenance (PM) is integral to the proper operation of TSE. PM actions are periodic scheduled activities performed to increase product reliability and prevent the requirement for unscheduled corrective maintenance actions. There are (2) discrete levels of PM:

- Level I PM - This is primarily PM that is performed by TSA personnel on a routine basis every shift (1-3 times a day), daily, and/or weekly. These are defined by the TSA-approved TSE user and/or maintenance manual and are typically routine tasks such as inspection, cleaning, and calibration/verification. Level I PM is performed without the need to open the machine.

- Level II PM - Level II PM typically is performed monthly, quarterly, semi-annually, annually, and/or at other intervals. These tasks are required to be performed by trained and certified Field Service Technicians (FSTs). These activities are identified in the OEM Maintenance Manual and shall be performed as part of the maintenance services. The Donor shall ensure that the Maintenance Contractor maintains a complete record of all Level II PM actions performed on all Capabilities and shall report all Level II PM actions performed to TSA, the TSA designated point of contact, and any other persons designated by TSA. The Donor shall make sure that all Level PM are tracked and scheduled to

ensure that maintenance occurs according to maintenance schedules and state and federal environmental and safety regulations. The Donor shall ensure the Maintenance Contractor obtains and utilizes OEM PM checklists.

- Level II PM Performance Requirements - Level II PM shall be performed in accordance with the most recent OEM maintenance manual, as well as State and Federal environmental and safety regulations. The Maintenance Contractor shall obtain and utilize OEM PM checklists. In the event a scheduled maintenance activity cannot be completed due to factors outside of the Maintenance Contractor's control or the performance of Corrective Maintenance (CM) prevents the Maintenance Contractor from completing PM, the Maintenance Contractor shall reschedule PM on the impacted machines during the same month. If unable to reschedule due to outside factors, the Maintenance Contractor shall notify local TSA and reschedule PM as soon as possible.

- In providing Level II PM, TSA requires that the Donor ensures the Maintenance Contractor:
  - Coordinates all Level II PM scheduling with local TSA staff.
  - Contacts local TSA to conduct the PM on an earlier date than scheduled; however, if the earlier date is not convenient for local TSA this shall not be reflected as a lack of access to the facility and the Contractor shall adhere to the original schedule to perform the PM.
  - Makes every effort to schedule PM actions during non-operational hours or non-peak operational hours with approval of local TSA officials.
  - Provides all required consumables (cleaning supplies, filters, etc.).
  - Performs required radiation tests in accordance with applicable regulations on all applicable fielded TSE.
  - Records PM actions in local maintenance logbooks provided by local TSA and in the Maintenance Contractor's database. If there is no logbook available at the location, the FST shall notify local TSA at the location. If a logbook is not provided by TSA, the FSTs are not required to wait for the logbook. If the logbooks are not available and local TSA is not present, then the FST will continue with their scheduled work. In both cases, the FST will note the non-availability of the logbook in the remarks section of the PM ticket along with the date the PM was conducted.
  - Enters the date the PM was conducted to indicate that the FST completed the PM in full on that date according to the applicable OEM checklist.

TSA encourages the Donor to enforce penalties, similar to those enforced by TSA, if the Maintenance Contractor fails to perform the Level II PM requirements as outlined in this Section.

4.2. Radiation Surveys and Radioactive Leak Tests (*if applicable*)

TSA requires the Donor to ensure the Maintenance Contractor:

- Delivers all Radiation Surveys (RSs) and Radioactive Leak Tests (RLTs) by posting to a TSA or Contractor SharePoint site, via email, by disk, or by another method, as decided by TSA.
- Uses a file naming convention that includes at minimum: RS/RLT date (formatted so that files line up chronologically); the unit serial number; airport code; and, if more than one survey or leak test is performed on the same date, a differentiator (e.g., 1, 2, pre/post- CM, etc.). Examples: 2016-06-05_40310_PHX .PDF; 2016-06- 20_7080809_EWR_preCM.PDF
- Achieves 100% on-time compliance for all RSs and RLTs. RSs and RLTs are considered complete when the Maintenance Contractor provides the documentation to TSA. If documentation is not provided or lost the Maintenance Contractor shall conduct another RS or RLT.

4.3. Cabinet X-ray and Direct X-ray Exposure Systems *(if applicable)*

Cabinet X-ray systems are systems with an X-ray tube that emits ionizing radiation installed in an enclosure (cabinet) which is intended to contain at least that portion of a material being irradiated, provide radiation attenuation, and exclude personnel from its interior during generation of X-ray radiation. A direct X-ray exposure system is an X-ray system in which people are intentionally exposed to very low doses of ionizing radiation. The cabinet X-ray systems are governed by 21 CFR § 1020.40, and direct X-ray exposure systems are governed by American National Standards Institute ANSI/HPS N43.17-2009.

TSA requires the Donor to ensure the Maintenance Contractor:

- Performs and records radiation surveys on each applicable cabinet X-ray system, while the system is operational, in the situations below and annotate on the survey which situation applies:
  - At least once every twelve (12) months
  - After any maintenance that affects the radiation shielding or X-ray producing components
  - After the Maintenance Contractor relocates a system
  - After any incident that may have damaged the system such that unintended radiation emission could occur.
- Documents the RS using a TSA-approved radiation survey form obtained from the OEM.
- Investigates and records all unusually high emission readings identified on the surveys and corrects any conditions on the systems that caused the elevated readings.
- Performs a follow-up radiation survey to verify the effectiveness of a corrective action if repairs were made to address elevated readings.
- Has a Contractor Radiation Safety Officer (RSO) or qualified individual review each radiation survey, perform a quality check, and sign the form confirming it has been completed correctly (electronic signature is permissible). If an error is identified and the survey is returned to the Maintenance Contractor to correct, then the Maintenance Contractor shall ensure all corrections are made and a corrected survey is resubmitted within seven (7) calendar days of identification and notification.
- Following signature by the RSO, delivers the radiation surveys each month to a designated representative.
- Documents radiation readings before and after any service call that is related to suspected and unplanned radiation exposure, and reports before and after readings to a designated TSA representative and local TSA (contact information to be provided) following correction of the problem associated with the radiation exposure event once internal review is completed by the Maintenance Contractor's RSO.
- Notifies the designated TSA representative and local TSA immediately if there is a radiation reading confirmed on any system that is above the 21 CFR 1020.40 or ANSI 43.17.2009 emission limits. Local TSA will ensure the equipment is removed from service immediately (e.g., powered down) until the system is repaired and verified by the Maintenance Contractor to be within the 21 CFR 1020.40 or ANSI 43.17.2009 emission level limits. The Maintenance Contractor shall also document the incident in the TSE database and provide the designated TSA representative with, at a minimum, the unit serial number, unit location, an explanation of the cause of the elevated radiation reading, action to resolve the issue, and a completed RS when the issue is resolved.
- Investigates and records all unusually high emission readings identified on the survey and correct any conditions on the system which caused the elevated readings as applicable. If repairs are made to address the elevated readings, then a follow up survey will be performed to verify effectiveness of corrective action.
- Upon completion of each RS, securely attaches a label to the system that is clearly visible to the operators of the system. The label shall include the following: performed by, date of survey, next radiation survey due, and the statement "System Meets FDA Requirements of 21 CFR 1020.40 or ANSI 43.17.2009, as applicable".

- Returns a copy of the RS to the airport of origin or the hub airport coordination center for their records after the RS has been reviewed and approved by the Maintenance Contractor's RSO.

The Donor shall ensure the Maintenance Contractor prepares and delivers by the 10th calendar day of each month the radiation survey in a similar format to *Attachment A:* Radiation Survey and Radioactive Leak Test Record Submittal. If the 10th calendar day of the month falls on a weekend or observed federal holiday, the submission is due the next weekday. TSA will determine method of submission, e.g., password protected website, email, disk, etc.

4.4. Explosives Trace Detection Systems Containing a Sealed Radioactive Source (*if applicable*)

Some Explosives Trace Detection (ETD) systems contain a sealed radioactive source which is encased in a capsule to prevent leakage or escape of the radioactive material. This capsule is located in a source holder (housing or assembly) internal to the system to facilitate the handling and use of the source. The sealed radioactive sources are governed by Nuclear Regulatory Commission (NRC) regulations at 10 CFR Part 31. Not all explosive trace detection systems that contain a sealed radioactive source require an RLT. The Donor shall ensure the Maintenance Contractor coordinates with the OEM to identify units requiring an RLT and the specified testing frequency.

For these units, TSA requires the Maintenance Contractor to:

- Perform an RLT and document the results on each required system in accordance with 10 CFR § 31.5 unless the OEM has received an exemption from the NRC that the unit does not require an RLT. This exemption notification is specified on a label on each system.
- Conduct RLTs on all applicable deployed systems at the required frequencies. Systems that are not in active use may, upon approval of the designated TSA representative, be considered to be "in storage" and an RLT is required only every two years.
- Ensure the wipe of a sealed source is performed as specified by the OEM. The wipe sample must be taken from the nearest accessible point to the sealed source where contamination might accumulate. The wipe sample must be analyzed for radioactive contamination. The analysis must be capable of detecting 185 Becquerel (0.005 microcurie) or more removable radioactive material on the test sample and must be performed by a person holding a specific license pursuant to 10 CFR Part 30 and 10 CFR Part 32 or from an Agreement State to perform such analyses.
- Notify the designated TSA representative and local TSA if an RLT reveals the presence of removable radioactive material that exceeds the regulatory limits [185 Becquerel (0.005 microcurie)] so the sealed source may be removed from service immediately and have it decontaminated, repaired, or disposed of by a U.S. NRC or Agreement State licensee that is authorized to perform these functions. The Maintenance Contractor must submit a report to the designated TSA representative within five (5) calendar days of receiving the test results. The report must describe the equipment involved in the leak, the RLT results, any contamination which resulted from the leaking source, and the corrective actions taken up to the time the report is made.
- Maintain a record of leak test results and retain the record for inspection by the U.S. NRC for three years after the next required RLT is performed or until the sealed source is transferred or disposed of.
- Ensure each ETD system containing a sealed radioactive source has an RLT performed at intervals in accordance with the governing regulation. In the absence of a certificate from a transferor that an RLT has been made within the six (6) months before the transfer, the ETD system shall not be used until tested.
- Provide the designated TSA representative access to the test reports upon request.

The Donor shall ensure the Maintenance Contractor prepares and delivers by the 10th calendar day of each month the radiation survey in a similar format to *Attachment A:* Radiation Survey and Radioactive Leak Test

Record Submittal. If the 10th calendar day of the month falls on a weekend or observed federal holiday, the submission is due the next weekday. TSA will determine the method of submission, e.g., password protected website, email, disk, etc.

4.5. Corrective Maintenance

Corrective Maintenance consists of unscheduled maintenance performed to repair or otherwise restore failed TSE to operational condition. These actions usually expend consumable and repair parts. TSA considers three discrete levels of CM:

- Level I CM – This is CM that is performed as needed to effect minor repairs to the TSE that do not require trained FSTs (e.g., bag jams, fault resets, PC reboots, etc.). These activities are normally performed by TSA personnel or their designees and shall not be required under the maintenance coverage.
- Level II CM – This is unscheduled corrective maintenance performed as needed to effect repairs that always require trained FSTs. These activities are coordinated with Local TSA staff and performed on site with the TSE in Level II CM status, in accordance with *Attachment B*. The Donor shall ensure the Maintenance Contractor applies high priority to returning all TSE experiencing critical failures (non-operational) to operational status, whether the failure is relevant or non-relevant, to ensure the expeditious return of TSE not able to perform its assigned mission. These services shall be required under the maintenance coverage.
- Level III Depot Maintenance (DM) – This consists of unscheduled corrective maintenance activities performed by trained technicians to repair a failed TSE by shipping the item to a depot facility for repair. This can include repairs within the normal maintenance strategy or damages to TSE that exceed normal corrective maintenance that can be performed on site. DM is required under the maintenance coverage.

4.5.1. Level II Corrective Maintenance

TSA requires the Donor to ensure the Maintenance Contractor:

- Performs CM actions to meet the maintenance services performance requirements identified in Paragraph 4.13, Maintenance Services Service Level Agreement (SLA) Performance Requirements. CM shall include any repair requirements necessary to bring inoperable TSE back to operational status. This includes, but is not limited to: repair after liquid spills on TSE; broken parts due to operator misuse; unintentional damage during passenger screening or by TSA/airport personnel (e.g., cleaning crews); and other similar damages as a result of operator error.
- Records all CM activities in the TSE Database in accordance with Paragraph 4.14, Transportation Security Equipment Database and *Attachment B:* TSE Metrics Terms and Definitions & RMA Metrics and assign a Failure Mode Indicator (FMI) in the TSE Database in accordance with Paragraph 4.11 Failure Mode Indicators.
- Coordinates all Level II CM with local TSA staff/airport Coordination Center.
- Dispatches every ticket to a Field Service Technicians within 15 minutes of receipt of a maintenance service request (Low-Level metric M1 as defined in *Attachment B:* TSE Metrics Terms and Definitions & RMA Metrics).
- Using a standardized approach across all locations, notifies the airport's Coordination Center or other point of contact, if identified, by email that the repairs are completed and that the TSE has been returned to service.
- Coordinates with the OEMs to ensure parts obsolescence during the contract period of performance does not affect the Contractor's ability to meet maintenance services SLA requirements. See Paragraph 4.8, Parts Obsolescence.

4.6. Unforeseen Damages to Donated Capabilities and Response to Catastrophic Events

On occasion, unforeseen damages and catastrophic events may damage or destroy donated or bailed capabilities. TSA and the Donor agree when possible, to take precautionary actions to reduce potential damages (e.g., from hurricanes), and to make reasonable efforts, consistent with the law and available funding, to remediate any damage to capabilities.

If unforeseen damages to donated or bailed capabilities are attributable to TSA, then local TSA will work with the Maintenance Contractor to repair or replace the capabilities at TSA's cost. If it is not cost effective to repair the damaged system or funding is unavailable, then TSA reserves the right to remove the system. To the extent that unforeseen damages are not attributable to TSA (e.g., facility mishaps such as water pipe breakage damage or facility fires), TSA will coordinate with the Maintenance Contractor and the donor for repair and replacement services and ensure that the Maintenance Contractor tracks any capability repair or replacement action and updates the TSE Database to show current status of such actions. The Donor may be able to address losses by submitting a report of survey findings to airport insurance providers, depending on how the system was damaged.

If unforeseen damages are attributable to Donor actions, the Donor will coordinate with the Maintenance Contractor for repair and replacement services. Any replacement systems proposed by Donors in this situation must be approved by TSA. It is the Maintenance Contractor's responsibility to track any TSE repair or replacement action and update the TSE Database to show the current status of such actions.

If any unforeseen damages described above occur to systems that are being operated under a bailment agreement between the Donor and TSA, and those systems are not TSA property, TSA and the Donor will work together to address the repair or replacement of the Donor-owned property that is damaged according to the specific circumstances of the event.

It is the Maintenance Contractor's responsibility to track any TSE repair or replacement action and update the TSE Database to show current status of such actions.

4.7. Supply Support

The Donor shall insure the Maintenance Contractor is responsible for all parts and materials used for Radiation Surveys, RLTs, preventive maintenance, and corrective maintenance actions performed in accordance with Paragraphs 4.1 through 4.5 (as applicable). The Maintenance Contractor shall establish a robust supply chain management process that includes the appropriate levels of OEM Master Configuration Item List (MCIL) Repair parts, distribution procedures, and shipping modes to support the SLA requirements as defined in Paragraph 4.13. For all preventive and corrective maintenance actions, the Maintenance Contractor shall record parts data associated with each maintenance or repair in the TSE Database in accordance with Paragraph 4.14, Transportation Security Equipment Database.

- The Maintenance Contractor shall inform the TSA when refurbished parts are initiated into the Contractor's supply chain for corrective maintenance repairs. The Maintenance Contractor shall ensure that parts obsolescence does not affect the Contractor's ability to meet Performance Based Logistics (PBL) service level requirements.
- Repair part shipment from the Maintenance Contractor part location to the unit shall include shipment, and all associated transportation costs including local logistics transportation to the unit.

4.8. Parts Obsolescence

The Donor shall ensure the Maintenance Contractor is responsible for coordinating with the OEMs and implementing solutions for all parts obsolescence issues.

4.9. Preventive Maintenance Consumables (*if applicable*)

The Maintenance Contractor shall order TSA-approved Level I PM consumables from a TSA-approved supplier. The Maintenance Contractor shall establish a consumable ordering process for local TSA to submit orders via email or web-based ordering system. Consumable orders shall be processed and shipped in no more than seven (7) calendar days upon receipt of the order and delivered to airports using standard commercial shipping. The Maintenance Contractor shall notify the designated TSA representative immediately upon exceeding the seven calendar day requirement for any order and provide detailed order information. This quantity will normally not exceed a three-month supply per machine at the airport.

The Maintenance Contractor shall evaluate each TSA order for reasonableness of quantity. If the Contractor determines that an order is unreasonable, the Maintenance Contractor shall notify the designated TSA representative for disposition.

The Maintenance Contractor shall evaluate and consider cost-effective alternatives to OEM-provided consumables where appropriate. The Maintenance Contractor shall provide only TSA-approved maintenance consumables and shall notify the designated TSA representative prior to providing alternative consumables. The Maintenance Contractor shall notify the designated TSA representative of anticipated and actual maintenance consumables shortages and provide the reason for the shortage, a mitigation plan, and an expected date of resolution.

The Maintenance Contractor shall, in coordination with OEM, provide the annual requirements of maintenance consumables to conduct Level I PM per unit for each model requiring Level I PM, and shall provide the designated TSA representative updated requirements as appropriate.

The Maintenance Contractor shall provide the Safety Data Sheet for each consumable to the designated TSA representative.

4.10. Dispatch Contact Process or Facility

The Donor shall ensure Maintenance Contractor provides or designates a dispatch contact process or facility to receive maintenance requests from the TSA Service Response Center (TSRC) and dispatch FSTs to provide maintenance. The TSRC is required to dispatch calls within 15 minutes of receipt. The Maintenance Contractor shall establish interface protocols with the TSRC to ensure that all TSE maintenance calls are recorded and dispatched to Contractor FSTs within 15 minutes of receipt of a maintenance request from the TSRC.

The Maintenance Contractor shall provide status updates to the TSRC on every open trouble ticket as status changes occur until the ticket is closed. Upon closure of the trouble ticket the Maintenance Contractor shall send an automatic notification to both the TSRC and the local TSA POC.

The Maintenance Contractor shall supply the location and serial numbers to the TSRC prior to a new TSE installation to ensure there is no disruption in maintenance service response. The Maintenance Contractor's dispatch process or contact facility shall be reachable 24 hours a day, seven (7) days a week. The Maintenance Contractor shall not use callback or voice message systems for the TSRC calls related to TSE maintenance.

4.11. Failure Mode Indicators

The Donor shall ensure the Maintenance Contractor creates or develops robust FMI codes, when necessary, that can clearly identify the cause(s) of each failure and allow effective trend analysis of failure causes. The Maintenance Contractor shall capture the FMI codes in the TSE Database. One or more FMIs will be assigned for each CM or DM maintenance action documented in the TSE Database. The FMI codes shall identify the failure cause, sub-system part(s) consumed in the repair, and detailed resolution or action code(s) that

would restore the TSE to operational condition. The Maintenance Contractor shall submit the proposed FMI codes to TSA for approval prior to implementation. The Maintenance Contractor shall ensure only the approved FMI codes are used in maintenance reporting.

The Maintenance Contractor shall supply the TSRC with a list of standardized problem codes, definitions, and priority ratings for trouble ticket generation and apply the codes in a consistent manner.

The Maintenance Contractor shall develop and deliver the FMI codes in a similar format to *Attachment C:* Failure Mode Indicator Codes. The FMI codes shall be reviewed and updated at a minimum semi-annually. If the FMI codes are updated, the revised data item shall be submitted within 15 business days from end of review. If no update is required, then the Maintenance Contractor shall notify TSA the date the review was completed.

4.12. Disposal

4.12.1. Waste Disposal

The Donor shall ensure the Maintenance Contractor implements the proper disposal of any and all equipment or components removed during preventive and corrective maintenance. With the exception of property with a TSA property barcode, all replaced parts that have been removed from TSA screening equipment become property of the Maintenance Contractor and the Maintenance Contractor is responsible for removing said parts from the site. The Maintenance Contractor shall provide all labor, materials, equipment, and coordination of logistics activities to load, transport, and off-load waste materials. The waste materials must be properly packaged, crated, and prepared for shipment.

The Maintenance Contractor should, when practicable, take full advantage of reuse, reutilize, and recycle options as the first method of disposition or disposal. The Maintenance Contractor shall properly dispose of any and all hazardous waste resulting from a maintenance action (e.g., lead curtains, batteries, etc.) in accordance with and as defined by 40 CFR Parts 260, 261, and 263. TSA reserves the right to direct the Maintenance Contractor to an alternate disposition of removed equipment and components.

4.12.2. Hard Drive Sanitization

TSA information technology assets, including computers, hard drives (including magnetic and solid-state), and media with persistent memory that contain SSI and are determined to be beyond repair capability at the unit location shall be shipped back to the Maintenance Contractor's TSA authorized facility for disposal.

The item shall be shipped via any traceable means (i.e., tracking number) through a mail or parcel carrier (e.g., U.S. Postal Service, Federal Express) and packaged in a way that does not disclose its contents or the fact that it contains sensitive information (double- wrapped in a non-opaque wrapper) in accordance with *Attachment 1* of TSA Management Directive (MD) 1400.3, TSA IT Security Handbook (available from TSA upon request). The Maintenance Contractor shall comply with all data disposition requirements stated in the TSA IT Security Policy Handbook, applicable Technical Standards and TSA MD 3700.4, Handling Sensitive Personally Identifiable Information.

Hard drives that are determined to be beyond repair capability or refurbishment (on-site or at the Maintenance Contractor's depot facility) shall be sanitized of SSI data by TSA at the TSA Springfield Warehouse. The Donor shall ensure the Maintenance Contractor completes Sections I, II and III of the TSA Form 1412 TSA Media Sanitization Certificate dated April 2009, *Attachment G* for each hard drive and shall email it to the APM APO at CtoPropertyManagement@dhs.gov. The Maintenance Contractor shall ship the inoperable hard drives, with a copy of the completed and signed TSA Form 1412, via any traceable means (i.e., tracking number) through a mail or parcel carrier (e.g., U.S. Postal Service, Federal Express) packaged

in a way that does not disclose its contents or the fact that it contains sensitive information (double-wrapped in a non-opaque wrapper) to the address below:

TSA Springfield Warehouse

ATTN: Sammy Rodriguez/Jon Dixon

6810 Loisdale Rd

Building A, Door 17

Springfield, VA 22150

4.13. Maintenance Services Service Level Agreement Performance Requirements.

This section provides top level performance measures and supporting metrics for this agreement. Time Points (T-Values) and low level metrics (M-Values) identified in the *Attachment D:* TSE Database for each maintenance action shall be documented in accordance with *Attachment B:* TSE Metrics Terms and Definitions & RMA Metrics. These T-Values and M-Values shall be used in calculating SLA performance metrics in accordance with *Attachment E*: ILS Service Level Agreement Performance Metrics.

4.13.1. Operational Availability (Ao).

Ao is the percentage of airport operating hours a TSA system is available to perform its required mission. Ao shall be measured by 'airport-technology' monthly. The Donor shall ensure the Maintenance Contractor provides maintenance services for fielded TSE to meet or exceed the following Ao requirement.

Operational Availability Requirement	SLA	Required Ao
Ao for each technology at each airport, measured monthly	SLA1	98.0% or higher

4.13.2. Technician Availability.

The Donor shall ensure the Maintenance Contractor provides trained and certified FSTs who have successfully passed training by the OEM or TSA on the fundamentals of safety, functional operation, maintenance and repair on specific TSE and associated peripheral equipment to support the Ao requirements described above. Technicians shall be located within reasonable proximity to the airport.

4.13.3. Reliability, Maintainability, and Availability Metrics.

Attachment B: TSE Metrics Terms and Definitions & RMA Metrics and *Attachment E:* ILS Service Level Agreement Performance Metrics define and describe the TSE RMA metrics that TSA uses to monitor TSE performance. The Donor shall ensure the Maintenance Contractor uses *Attachments B* and *E* to calculate all TSE RMA metrics for each fielded TSE technology/model at each site, the cumulative metrics for each supported technology/model by each category of airport, and the cumulative for each supported technology/model across all sites.

The TSE RMA metrics shall be reported monthly through the last day of each month in a format similar to *Attachment F:* TSE RMA Metrics Report. Monthly submissions shall be delivered by the 10th calendar day of the month following the monthly reporting period. If the 10th calendar day of the month falls on a weekend or observed federal holiday, the submission is due the next weekday. As this is operational information, it will not be due until the 10th calendar day following the first full month of operations. TSA will determine

the method of submission, e.g., password protected website, email, disk, etc. All reported metrics shall be reported for the month in which they are incurred.

The Maintenance Contractor shall also deliver T-values or time points and other required data which TSA uses to validate all metrics in a format similar to *Attachment D:* TSE Database. Monthly submissions shall be delivered by the 5th calendar day of each month. If the 5th calendar day of the month falls on a weekend or observed federal holiday, the submission is due the next weekday. As this is an operational information, it will not be due until the 5th calendar day following the first full month of operations. TSA will determine the method of submission, e.g., password protected website, email, disk, etc. All reported metrics shall be reported for the month in which they are incurred.

4.14. Transportation Security Equipment Database.

The Donor shall ensure the Maintenance Contractor establishes and maintains a TSE Database which:

- Includes the entire inventory of fielded TSE maintained under contract with this Donor and which will be the basis for computation of performance metrics.
- Uniquely identifies each TSE by OEM, model, serial number, and barcode number; the Maintenance Contractor shall use TSA GPM conventions (e.g., no prefixes or suffixes on serial numbers or barcodes).
- Includes information on all accumulating Radiation, PM and CM actions.
- Includes PM start time (at the machine) and stop time (when the Field Service Technician is finished) for every unit so TSA can monitor the average PM duration time.
- Includes RMA metrics data (high and low level) and provides the full maintenance and performance history.
- Reflects all time values reported in local airport location time.
- Provides TSA with access and data rights to all data collected.
- Ensures FMI codes are in a standard format and used in a consistent manner.
- Includes parts replaced data.

The Maintenance Contractor shall deliver an extract of the TSE Database each month in a similar format to *Attachment D:* TSE Database.

5. Data Rights

The software Products associated with the donated Capability have been commercially developed, at private expense, and Donor has acquired a commercial license to use the software Products involved. This license shall transition to the TSA (as a third-party beneficiary) by way of the transfer of ownership of the Capability and associated Products to the TSA. Donor agrees to the allocation of data rights between TSA and the Contractor in accordance with Federal Acquisition Regulation (FAR) 52.227-14, Rights in Data – General.

5.1. Release and use restrictions

Except as otherwise specifically provided for in this Agreement, Donor shall not use, release, reproduce, distribute, or publish any data first produced in the performance of this Agreement, nor authorize others to do so, without written permission of the TSA.

5.2. Liability for violations of data rights

Subject to applicable provisions of Federal, State and local law, each Party agrees without exception or reservation that it shall be solely liable for costs and expenses related to any acts or omissions of its officers, agents and/or employees that result in a violation of trade secrets, copyrights, or rights of privacy or publicity, arising out of the creation, delivery, publication, or use of any data furnished under this

Agreement; or any libelous or other unlawful matter contained in such data. The Parties agree to provide each other notice as soon as practical of any claim or suit alleging such violations, to afford the other Party an opportunity under applicable laws, rules, or regulations to participate in the defense of the claim or suit, and to permit the other Party to reach a settlement of any claim or suit. These provisions do not apply to material furnished to Donor by the TSA and incorporated in data to which this clause applies.

6. Patent Infringement

Subject to applicable provisions of Federal, State and local law, the Parties shall be solely liable for the acts or omissions of their respective officers, agents, and employees against liability, including costs, for infringement of any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. § 181) arising from the procurement of the Capabilities, the performance of services, such as the installation, alteration, modification, or repair of the Capabilities, or from the use or disposal of the Capabilities or other TSE.

7. Sensitive Information Protection and Handling

(a) Sensitive Security Information (SSI) shall be protected in accordance with the TSA *SSI Policies and Procedures (P&P) Handbook*. This SSI Handbook expands on the SSI Regulation (49 C.F.R. Part 1520, Protection of SSI); Department of Homeland Security (DHS) MD 11056.1, Sensitive Security Information; DHS MD 11042.1, Safeguarding Sensitive but Unclassified (For Official Use Only) Information; and TSA MD 2810.1, SSI Program. SSI is a category of sensitive but unclassified (SBU) information that must be protected because it is information that, if publicly released, would be detrimental to the security of transportation.

(b) The SSI Handbook contains policies and procedures on how to properly identify, mark, handle, protect, disclose, and destroy SSI. This Handbook covers many media that may contain SSI, including hard copy (paper), soft copy (electronic), magnetic, CDs and DVDs, video, and other types of media (written and spoken). Only covered persons with a need-to-know shall have access to sensitive information. To the extent that the Donor and OEM are covered persons who may require access to SSI on a need-to-know basis in support of a donation, they are covered persons and subject to TSA SSI regulations at 49 CFR part 1520. In such instances, you are required to ensure the appropriate handling, storage, and protection requirements and limitations on further dissemination, as stated in this provision, until such time as the donation is completed.

(c) All TSA data must be encrypted and protected when stored on Donor equipment, such as removable media (e.g., disks or CDs) or portable drives (e.g., external drives or USB flash drives). Personnel must not open, view, process, download or store SSI on personal devices, including personal computers, smart or cellular phones, or other personal devices. SSI data handling standards require use of least-privileges access only to those who need-to-know in performance of the work detailed herein. See the SSI Handbook for additional information.

(d) Packaging & Delivering SSI: When personnel need to hand-deliver SSI, send it through the mail, or carry it from one location to another, they must follow SSI handling procedures in order to minimize the risk of loss or improper disclosure. While packaging records containing SSI, personnel must ensure that the records are properly marked. See the SSI Handbook for additional information.

(e) For disposition of SSI information, personnel must conduct proper sanitization and disposition of media used to process SSI as it is critical to ensuring confidentiality. Printing, scanning, and copying devices typically contain persistent memory such as hard drives or internal flash memory to store data. TSA and DHS disposition requirements prohibit this media from leaving the facility and require that it be destroyed

on-site. All associated sanitization and disposition of media used to process SSI shall be consistent with SSI Handbook Section 6.2.

8. Disputes/Applicable Law

Where possible, disputes shall be resolved by informal discussion between the Parties. Notwithstanding anything to the contrary in this Agreement, the Parties acknowledge that, to the extent required and permitted by law, all claims, demands, complaints and disputes involving the TSA or any other agency, instrumentality of department of the Federal government of the United States in connection with this Agreement will be subject to the Contract Disputes Act (41 U.S.C. §§ 601-613), the Tucker Act (28 U.S.C. § 1346(a) and § 1491), or the Federal Tort Claims Act (28 U.S.C. §§ 1346(b), 2401-2402, 2671-2672, 2674-2680), as applicable, or other applicable Federal governing authority.

9. Attachments

9.1. Attachment A: Radiation Survey and Radioactive Leak Test Record Submittal

9.2. Attachment B: TSE Metrics Terms and Definitions & RMA Metrics

9.3. Attachment C: Failure Mode Indicator Codes

9.4. Attachment D: TSE Database

9.5. Attachment E: ILS Service Level Agreement Performance Metrics

9.6. Attachment F: TSE RMA Metrics Report

9.7. Attachment G: TSA Media Sanitization Certificate

DATA ITEM DESCRIPTION

1. TITLE	2. IDENTIFICATION NUMBER
Radiation Survey and Radioactive Leak Test Record Submittal	**APM-ILS-0XX**

3. DESCRIPTION/PURPOSE

3.1. Radiation Survey (RS) and Radioactive Leak Test (RLT) records submittals are the method the Contractor uses to provide documentation of the completion of RSs and RLTs on TSA equipment in accordance with regulatory requirements.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTC APPLICABLE	6b. GIDEP APPLICABLE
	APM		

7. APPLICATION/INTERRELATIONSHIP

7.1. This Data Item Description (DID) contains the format and submittal instructions for RSs and RLTs.

8. APPROVAL LIMITATION	9a. REFERENCES	9b. AMSC NUMBER

10. PREPARATION INSTRUCTIONS

10.1. FORMAT. RS and RLT records are prepared using a standardized form for a technology and approved by the TSA Occupational Safety, Health, and Environment Division (OSHE). The form must address the requirements required by the Federal regulations.

10.2. SUBMITTAL.

10.2.1. The Contractor ensures the following terms are met when submitting RS and RLT records:

a. Conducts RSs and RLTs on all required technologies in accordance with the regulatory and TSA requirements;
b. Contractor Radiation Safety Officer or qualified individual reviews each RS and RLT record, performs a quality check, and signs the form confirming it has been completed correctly;
c. Submits copies of RS and RLT records to the local TSA or point of contact for non-TSA facilities;
d. Provides record copies of all completed and approved RSs and RLTs to CO, COR, and designated COR representatives.

If any corrections or changes to a RS or RLT are required before final TSA acceptance, the rejected RS(s) or RLT(s) and an explanation of the changes shall be attached to the new version of the RS or RLT.

10.2.2. SUMMARY.

Summary Checklist for all RSs / RLTs on the disk, to include, at a minimum, the following fields:

a. Serial Number;
b. Airport Code;
c. Airport Location;
d. Manufacturer;
e. Model;
f. Date of Last RS/RLT;
g. Date current RS/RLT completed;
h. RS/RLT on disk (Y/N);
i. RS/RLT provided for prior period (Y/N);
j. RS/RLT filename;
k. Survey meter calibration due date;
l. Reason for survey (PM, CM, SAT/ORT, other (fill in the blank)).

10.2.3. BODY.

Copies of RSs/RLTs using the standard filename convention in Paragraph 4.3, Radiation Surveys (RS) and Radioactive Leak Tests (RLTs), of the PWS.

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

Transportation Security Administration

Transportation Security Equipment

Metrics Terms and Definitions
&
Reliability, Maintainability, and Availability Metrics

March 2019

Table of Contents

1. Purpose

This document has three purposes:

- Define the process that the Transportation Security Administration (TSA) will use to identify, collect, record, and report each preventive and Corrective Maintenance (CM) activity conducted on Transportation Security Equipment (TSE).
- Establish the process for developing the Reliability, Maintainability, and Availability (RMA) metrics that TSA will use to evaluate the performance of TSE during the Operation and Maintenance (O&M) phase of its life cycle. An effective RMA metrics program for operational TSE provides TSA management with technical insight into the quality of the development and fielding of TSE.
- Support the process TSA uses to develop metrics to evaluate the performance of TSE contracted Maintenance Service Providers. Contractor performance metrics requirements are delineated in each applicable TSA Service Level Agreement contract document.

2. Scope

This document delineates the maintenance elements that TSA uses to document the preventative and CM activities conducted on TSE. It identifies the requirements for recording these maintenance elements in the TSE Database, including time points and the low-level metrics from those time points associated with each CM action. While individual TSA contracts will dictate the requirement for both types of maintenance, this document is focused on unscheduled CM actions and the accurate recording of them in a TSE Database. It also provides the process TSA uses to develop RMA metrics from the low-level metrics for evaluating and analyzing the operational performance of deployed TSE throughout its life cycle.

3. Maintenance Types

TSA identifies two types of maintenance activities to support TSE: preventive and corrective.

3.1 Preventive Maintenance

Preventive maintenance improves the reliability of TSE and is scheduled according to the Original Equipment Manufacturers manual. All preventive maintenance documentation includes start and end times and a description of the preventative maintenance performed. Preventive maintenance records are used to demonstrate compliance with contract requirement but are not included in calculations for low-level or RMA metrics.

3.2 Corrective Maintenance

CM is unscheduled and is performed to repair and restore TSE to full mission capability. CM can be performed either on site or at a depot facility. TSA defines the three discrete levels of CM below.

- Level I CM – This is CM that is performed as needed to effect minor repairs to TSE that do not require Field Service Technicians (FST) (e.g., some bag jams, reboots, etc.). These activities are normally performed by TSA personnel or their designees and are not addressed under this document.

- Level II CM – This is unscheduled CM activities performed as needed to effect repairs that always require FSTs.

    - Field Service – These activities are performed on site by FSTs with the TSE in Level II CM status. Level II CM – Field Service will be referred to as CM in this document.

    - Telephone Customer Support – These activities are performed via telephone consultation with an FST. Level II CM – Telephone Customer Support will be referred to as TCS in this document.

- Level III DM – This is unscheduled CM that requires shipping TSE to a depot facility for repair. Level III Depot Maintenance will be referred to as DM in this document.

4. Maintenance Activity Collation Process

Each TSE CM activity must progress through a repair cycle from the initial notification of TSE failure to the return of the TSE to fill mission capability. The process identified in this document will ensure proper recording and reporting of the TSE maintenance activity required by TSA to successfully validate TSE and contractor performance.

4.1 Maintenance Elements

Each CM activity begins with the identification of a TSE maintenance requirement. It is important to identify the following maintenance elements in each repair cycle to properly document the CM elements:

- TSE failure criticality
- TSE failure relevancy
- Maintenance action time points along the repair cycle
- Maintenance action low-level metrics derived from the maintenance action time points

All maintenance elements identified in this document, as well as other required maintenance activity information identified in Contract Data Requirements Lists (CDRL) and associated Data Item Descriptions (DID), must be collected and recorded for each CM activity in the TSE Database. Other information would include, but is not limited to, failure mode indicators and parts replacement information as outlined in individual contracts.

4.2 Transportation Security Equipment Failure Criticality

The criticality of a maintenance activity must be validated by the Contractor as soon as possible to ensure the prompt return of TSE to full mission capability and must be documented in the TSE Database. The definitions below are used to determine whether a TSE failure is identified as a critical failure or a non-critical failure.

- **Critical (Priority 1 (P1))** – Failures where TSE is unable to perform its required mission and requires immediate CM to restore the TSE to full operational condition. Events that TSA Security Officers can correct via system resets, simple removal of obstructions, etc., are not categorized as critical failures during the TSA O&M phase.

- **Non-Critical (Priority 2 (P2))** – Failures where TSE needs CM but still operates at full mission capability until the minor repair is completed.

CM and TCS can be associated with either critical or non-critical failures. Criticality of CM and TCS maintenance activities affect how other maintenance elements are measured. DM is always associated with critical failures.

4.3 Transportation Security Equipment Failure Relevancy

For each TSE failure, the relevancy of the failure must also be determined and documented in the TSE Database. The definitions below are used to determine whether a TSE failure is a relevant or non-relevant failure. Both relevant and non-relevant failures can be critical or non-critical.

- **Relevant** – Failures attributable to the TSE's inherent performance reliability. This could include such things as wear and tear or part failure. In this case, the inherent reliability of the TSE is directly related to the failure.

- **Non-Relevant** – Failures verified to be caused by an unintentional or intentional external occurrence in the operational environment not related to the inherent performance reliability of TSE. This could include baggage processing irregularities or operator mishaps that physically damage the TSE. In this case, the inherent reliability of the TSE is unrelated to the failure.

CM, DM, and TCS maintenance activities can be either relevant or non-relevant depending on the cause of the failure.

4.4 Maintenance Action Time Points

TSA relies on the collection of specific maintenance action time points (T-Values) along a CM repair cycle to track its progress. Table 1 identifies and defines the 12 T-Values that must be recorded, as applicable, for each repair cycle to document CM, DM, and TCS maintenance actions. These T-Values must identify the date and time of each maintenance action and be provided in real clock times in the TSE location's local time based on a 24-hour day, seven-day week.

Table 1: Measurement Time Points (T-Values)

ID	Description
T1	Call Center Contacted: Time when the Dispatch Contact Facility is initially contacted after a TSE failure occurs.
T2	Technician Dispatched: Time when a FST is contacted to perform the repair.
T3	Technician Starts Diagnostics: Time when the FST begins to diagnose the TSE problem.
T4	Technician Diagnostics Complete: Time when the FST completes the diagnosis and is ready to request any part(s) from the supply chain or start the repair if parts are not required.
T5	Parts Begin Shipment: Time when the supply chain indicates that the part(s) are en route to the FST.
T6	Parts Delivered to Location: Time when the part(s) are delivered locally. Note that this is not necessarily when the part(s) are in the hands of the FST but rather when they are delivered from the supply chain locally; there may be additional time to get the part(s) to the FST to begin the repair.
T7	Technician Begins Repair: Time when the FST is at the TSE location and ready to begin the repair (has all necessary parts and tools).
T8	Technician Begins Testing: Time when the repair has been completed and the FST is ready to verify completion of the repair.
T9	TSE Ready for Signoff: Time when the FST has successfully completed the verification testing and the TSE is ready for the TSA signoff.
T10	TSA Signoff: Time when TSA signs off on the TSE repair and the TSE is ready to be returned to service.
T11	TSE Ready for Setup at the Location: Time when the TSE has returned from the depot or storage
T12	Start of Telephone Customer Support: FST decides that phone support is sufficient to resolve the failure.

4.5 Maintenance Action Low-Level Metrics

The T-Values provide the start and end times that are used to derive low-level metrics (M-Values) that measure the duration of discrete maintenance actions along the repair cycle. The M-Values are derived as the difference between two specific T-Values, resulting in M-Values that must be recorded as applicable for a repair cycle.

Table 2 shows the 13 M-Values that are derived from the T-Values in Table 1 in a straight linear progression. An explanation of each M-Value development process is identified below Table 2. Note in Table 2 that some T-Values and M-Values can be applicable when a TSE is in either a CM, DM, or TCS repair cycle. Section 4.6.2 explains known deviations in the development of M-Values when a repair cycle is not in a straight linear progression.

Table 2: Low-Level Metrics Summary

Maintenance Path	Low-Level Metric		Start Time		End Time	
	ID	Description	ID	Description	ID	Description
CM & DM	M_1	Initial Call Center Interaction Time	T1	Call Center Contacted	T2	Technician Dispatched
CM & DM	M_2	Technician Dispatch Time	T2	Technician Dispatched	T3	Technician Starts Diagnostics
CM & DM	M_3	Technician Diagnosis Time	T3	Technician Starts Diagnostics	T4	Technician Diagnostics Complete
CM	M_4	Part(s) Request Time	T4	Technician Diagnostics Complete	T5	Parts Begin Shipment
CM	M_5	Part(s) Fulfillment Time	T5	Parts Begin Shipment	T6	Parts Delivered to Location
CM	M_6	Local Logistics Time	T6	Parts Delivered to Location	T7	Technician Begins Repair
CM	M_7	Technician Repair Time	T7	Technician Begins Repair	T8	Technician Begins Testing
CM & DM	M_8	Technician Testing Time	T8	Technician Begins Testing	T9	TSE Ready for Signoff
CM & DM	M_9	TSA Signoff Time	T9	TSE Ready for Signoff	T10	TSA Signoff
CM	M_{10}	Time to Repair	T3	Technician Starts Diagnostics	T4	Technician Diagnostics Complete
			T7	Technician Begins Repair	T9	TSE Ready for Signoff
DM	M_{11}	Depot Turn Around Time (DTAT)	T4	Technician Diagnostics Complete	T11	TSE Ready for Setup at the Location
DM	M_{12}	Uncrate/Setup at Location Time	T11	TSE Ready for Setup at the Location	T8	Technician Begins Testing
TCS	M_1	Initial Call Center Interaction Time	T1	Call Center Contacted	T12	Start of Telephone Customer Support
TCS	M_{13}	Telephone Customer Support	T12	Start of Telephone Customer Support	T9	TSE Ready for Signoff

- **M_1 (Initial Call Center Interaction Time) -** This metric measures how long it takes the Dispatch Contact Facility to gather the initial information about the TSE problem(s) and assign a FST to conduct the repair. It is measured as the time between when the Dispatch Contact Facility is initially contacted after the failure occurs (T1) and the time the FST is contacted to perform the work (T2).

- **M_2 (Technician Dispatch Time) -** This metric measures how long it takes for the FST to respond to the service call and arrive at the TSE ready to diagnose and repair the TSE. It is measured as the time between when the FST is initially contacted by the Dispatch Contact Facility to perform the work (T2) and the time that the FST arrives at the failed TSE and begins the diagnosis of the problem (T3).

- **M_3 (Technician Diagnosis Time) -** This metric measures how long it takes the FST to diagnose the problem(s) with the TSE. It is measured as the time between when the FST

begins the diagnosis of the problem (T3) and when the FST completes the diagnosis and is ready to request any part(s) from the supply chain (T4) or is ready to begin repair if no parts are required (T7). See Section 4.6.1 for this explanation.

- **M_4 (Part Request Time) -** This metric measures how long it takes to request the part(s) from the supply chain required for the repair of the TSE. It is measured as the time between when the FST completes the diagnosis and is ready to request any part(s) from the supply chain when parts are required (T4) until the time the supply chain identifies that the part(s) are en route to the local delivery point (T5).

- **M_5 (Part Fulfillment Time) -** This metric measures how long it takes the supply chain to deliver (or fulfill) the part(s) required for the repair of the TSE. It is measured as the time between when the supply chain identifies the part(s) are en route to the local delivery point (T5) until the time the part(s) are in fact delivered (T6). Note that this is not necessarily when the part(s) are in the hands of the FST but rather when they are delivered locally from the supply chain; there may be additional time to get the part(s) to the FST at the TSE location to start repairs that would be included in M_6.

- **M_6 (Local Logistics Time) -** This metric measures any delays incurred where parts have been delivered locally but additional time is required to get the part(s) into the hands of the FST to start the repair of the TSE. It is measured as the time between when part(s) are delivered locally (T6) until they are in the hands of the FST at the TSE location and the FST is ready to begin the repair (T7).

- **M_7 (Technician Repair Time) -** This metric measures the repair time for a TSE. This is defined as the time between when the FST has all necessary tools and parts and begins the disassembly of the TSE for repair to when the TSE is reassembled and is ready for verification testing of a successful repair. It is measured as the time between when the FST has all necessary part(s), if required, and tools at the TSE and is ready to begin the repair (T7) until the time the TSE is repaired and ready for verification tests (T8). See Section 4.6.3 for deviation to development of M_7.

- **M_8 (Technician Testing Time) -** This metric measures the verification testing time for the TSE. It is measured as the time between when the TSE is ready for verification tests (T8) until the time the verification testing is successfully completed and the TSE is ready for the TSA signoff process (T9).

- **M_9 (TSA Signoff Time) -** This metric measures the TSA signoff time for the TSE and is the last step before the TSE is placed back into service. It is measured as the time between when the verification testing is successfully completed by the FST and the TSE is ready for the TSA signoff process (T9) until the TSE repair is signed off by TSA and the TSE is ready to be returned to service (T10).

- **M_{10} (Time to Repair) -** This metric measures the actual repair time for a TSE, including the time required for diagnostics and testing. It is measured as the sum of M_3 (T3 to T4), M_7 (T7 to T8), and M_8 (T8 to T9) (i.e., $M_{10}=M_3+M_7+M_8$), which ends when the TSE is reassembled and is ready for TSA signoff (T9).

- **M_{11} (DTAT) -** This metric measures how long a TSE remains away from its designated location for repair at the depot. It is computed as the time between when the diagnosis has been completed and DM decision (T4) has been made until the time the TSE is ready for setup at its designated location after the completion of depot repair (T11).

- **M_{12} (Uncrate/Setup at Location Time) -** This metric measures how long it takes the TSE to be prepared for re-installation at the airport's designated location after it has returned from the depot or storage. It is measured as the time between when the TSE has returned from the depot or storage (T11) until the time the TSE is ready for testing after re-installation at the installed location (T8).

- **M_{13} (Telephone Customer Support Time) -** This metric measures the time duration of diagnostics and maintenance where the FST directs the airport personnel over the phone (T12) to resolve the failure successfully without an FST visit to the TSE site. It is measured as the time between when TCS begins (T12) and the TSE is ready for TSA signoff (T9).

4.6 Maintenance Action Repair Cycles

Each CM activity involves a repair cycle that starts from initial notification until the repair is completed successfully. T-Values must be recorded and applicable low-level metrics (M-Values) derived from the T-values of each maintenance action to quantify the repair cycle and to ensure consistent accurate performance metric development.

These T-Values and M-Values must also be accurately captured in the TSE Database for each CM activity in accordance with the TSE CDRL and DID. Therefore, the Contractor should identify any other deviations that would preclude the documentation of T-Values and M-Values as identified above, and should make sure the TSE Database clearly identifies the T-Values used to derive an M-Value. As previously mentioned, it is also important that these T-Values and derived M-Values identify the actual date and time of each maintenance action and be provided in real clock times in the TSE location's local time based on a 24-hour day, seven-day week.

Some maintenance time points and associated low-level metrics will depend on whether the repair is being accomplished as a CM, DM or TCS repair. Figure 1 below shows an example of three paths (CM, DM or TCS) that TSE can progress through in a repair cycle in a straight linear progression. It identifies the maintenance time points (T-Values, i.e., T1, T2, etc.) and low-level metrics (M-Values, i.e., M_1, M_2, etc.) along a repair cycle, and illustrates the type of data points and low-level metrics that will be included in the TSE Database.

Figure 1: Repair Cycle Paths

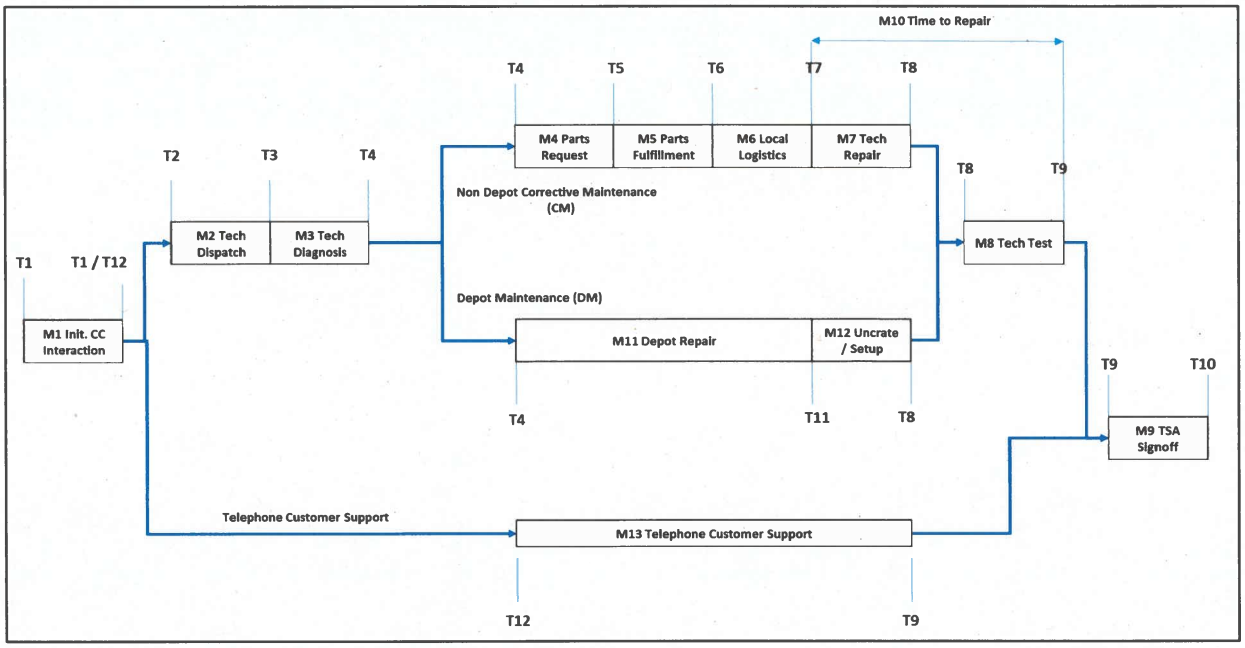


Table 3 shows the standard low-level metrics (M-Values) that will be measured from the T-Values for each failure type in a repair cycle's linear progression. The dark shaded blocks with no M-Values in the table indicate that the associated low-level metric are not applicable to that failure type in its repair cycle.

Table 3: Failure Types and Associated Lower Level Metrics

Failure Type			Low-Level Metrics										
Level	**Criticality**	**Relevancy**											
CM	Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8	M_9
CM	Non-Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8	M_9
CM	Critical	Non-Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8	M_9
CM	Non-Critical	Non-Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8	M_9
DM	Critical	Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8	M_9
DM	Critical	Non-Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8	M_9
TCS	Critical	Relevant	M_1									M_{13}	M_9
TCS	Non-Critical	Relevant	M_1									M_{13}	M_9
TCS	Critical	Non-Relevant	M_1									M_{13}	M_9
TCS	Non-Critical	Non-Relevant	M_1									M_{13}	M_9

Normally, a repair is achieved by progressing through the T-Values and low-level metrics in a straight linear progression as shown in Table 3. However, below are known deviations from the normal linear progression that should be identified and measured accordingly.

4.6.1 No Parts Replacement

The repair cycle previously illustrated in Figure 1 assumes the need for spare parts to complete the repair. In a CM where parts are not required to complete the repair, the T-Values associated with parts replacement would not be recorded, some low-level metrics would not be derived, and other low-level metrics would be ended and started with different T-Values. Following is the progression of a repair cycles without a parts replacement requirement:

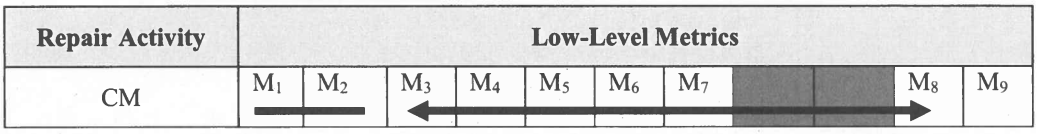
- T1 through T4 recorded, and M_1, M_2 and M_3 derived
- T5, T6 and T7 not recorded, and M_4, M_5 and M_6 not derived
- T8 and T9 recorded, M_7 derived (from T4 to T8), and M_8 and M_9 derived normally

4.6.2 Recursions

As a repair cycle progresses, there may be a need to repeat some T-Values or a need to change the type of repair cycle. This is referred to as recursion in the TSA maintenance collection process and can occur in the forms identified below. Each recursion event and the applicable maintenance time points and derived low-level metrics must be captured in the TSE Database for a CM activity.

4.6.2.1 The first form of recursion occurs when events result in the repetition of maintenance actions in a repair cycle and consequently the repetition of some T-Values and derived M-Values. An example would be the delivery of defective or incorrect parts, which would cause the repeat of M_4 and M_5, or failure of FST Testing (M_8), which would require the repeat of some portion of the repair cycle. A repair cycle that includes this type of recursion is represented in Figure 2, with the repair timeline path going back and forth, starting at M_1 and eventually ending at M_9. In this case the repair cycle would stay the same but repeat the necessary T-Values and derived M-Values and document them in the TSE Database.

Figure 2: Timeline Recursion - Repeated Maintenance Actions



4.6.2.2 The second form of recursion occurs when a repair starts as CM (repair in place) and is switched to DM because of the complexity of the needed repair. This is represented in Figure 3 with the repair timeline path starting in M_1 and eventually ending in the DM row at M_9 because the repair required depot maintenance. In this case the maintenance cycle would be changed to DM.

Figure 3: Timeline Recursion - CM Becomes DM

Repair Activity	Low-Level Metrics										
CM	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8	M_9
DM	M_1	M_2	M_3					M_{11}	M_{12}	M_8	M_9

4.6.2.3 The third form of recursion occurs when a repair starts as TCS and is switched to CM or DM because of the complexity of the needed repair. In this situation, the TCS was attempted but failed, and therefore a FST must travel to the location to diagnose the failure. In this case, there would be no M_{13} (Telephone Customer Support Time) measured. The repair follows the standard CM/DM repair cycle paths. These situations are represented by the TCS(1) and TCS (2) rows in Figure 4 with the repair timeline path starting with TCS repair but changing to CM or DM respectively.

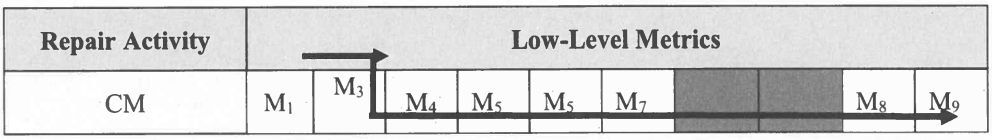
Figure 4: Timeline Recursion - TCS Becomes CM or DM

Repair Activity	Low-Level Metrics										
TCS(1)	M_1										M_9
CM	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8	M_9
TCS(2)	M_1										M_9
DM	M_1	M_2	M_3					M_{11}	M_{12}	M_8	M_9

4.6.2.4 Another situation occurs when TCS is attempted and the FST determines which parts are needed for the repair during the phone conversation with the airport. This is when TCS fails but the Telephone Customer Support Diagnostic is accomplished. In this case, there would be no M_{13} (Telephone Customer Support Time) or M_2 (Technician Dispatch Time) since the ticket was forwarded to the technician who was able to assist with the diagnosis over the phone to order parts without being physically dispatched. T4: Technician Diagnostics Complete is reported after T12: Start of Telephone Customer Support. The low-level metric created from T1: Call Center Contacted to T12: Start of Telephone Customer Support is M1: Initial Call Center Interaction time. The lower-level metric M_3: Technician Diagnosis Time is from T12: Start of Phone Triage to T4: Technician Diagnostics Complete. This type of maintenance activity with Telephone Customer Support Diagnostic results in no low-level metric of M_2: Technician Dispatch Time. The repair follows the standard CM/DM repair cycle paths. This situation is represented in Figure 5 with the recursion from TCS to CM with Telephone Customer Support Diagnostic.

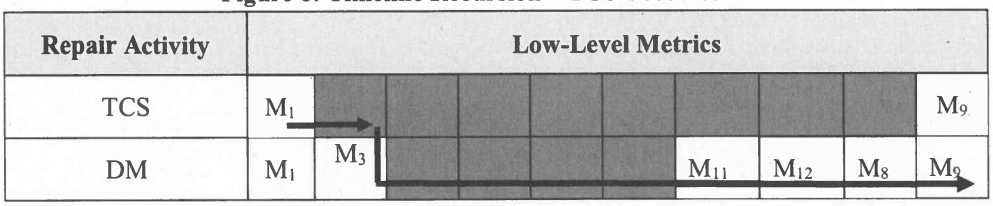
Figure 5: Timeline Recursion - TCS Identifies Parts Needed

Repair Activity	Low-Level Metrics									
TCS	M_1									M_9



4.6.2.5 Another situation of Telephone Customer Support Diagnostic is when FST identifies that DM is required for the failure. Then the low-level metrics are created from T12: Start of Telephone Customer Support to T4: Technician Diagnostics Complete is M3: Technician Diagnosis time. The next T-value is T11: TSE Ready for Setup at the Location for the DM and follows the DM activity path. This situation is represented in Figure 6 with the recursion from TCS to DM with Telephone Customer Support.

Figure 6: Timeline Recursion – TCS Becomes DM



4.6.3 Time to Repair Development

As shown previously in Table 2 (Section 4.5), in a straight linear progression M_{10} consist of the sum of M_3 (from T3 to T4) and M_7 and M_8 (from T7 to T9). If parts are not required there is no T7. Therefore, when parts are not required in a repair cycle, the maintenance repair action will be the sum of (from T3 to T4) and (from T4 to T9).

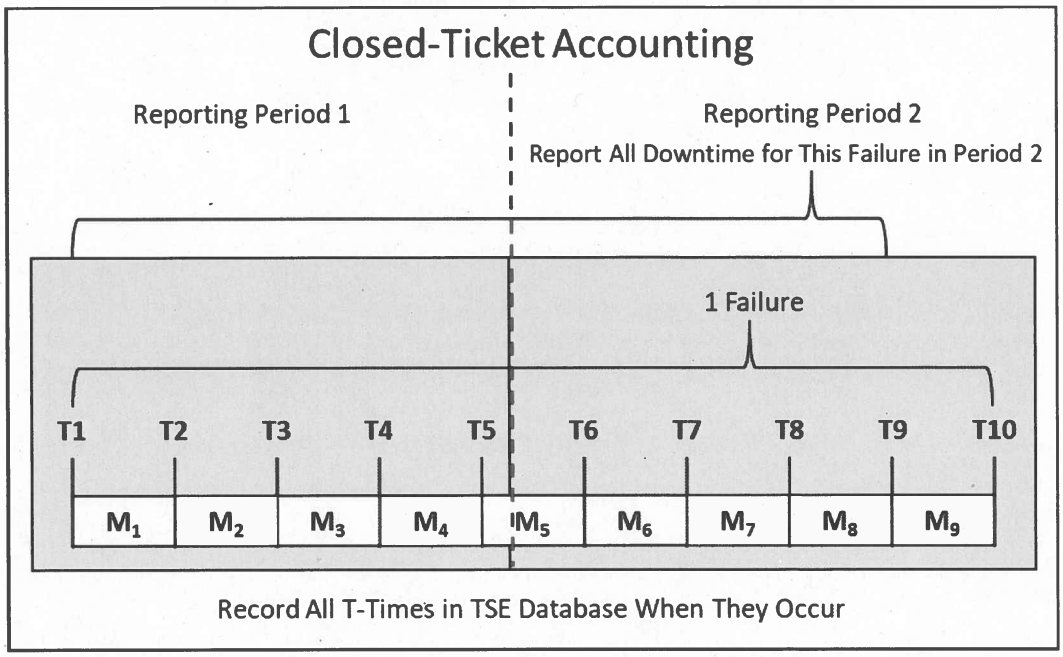
4.7 Accounting Methods

TSA uses two different types of accounting methods for the metrics calculations: Closed-Ticket and Open-Ticket.

4.7.1 Closed-Ticket Accounting

All high-level metrics will use a Closed-Ticket Accounting method except for Operational Availability (A_o) metrics. For example, if a ticket is open during two reporting periods, the entire downtime will be reported in second period when the ticket is closed and one failure counted in second period. Figure 7 shows an example of a maintenance cycle that started in one reporting period and continued into another reporting period.

Figure 7: Closed-Ticket Reporting Period Determination



- Times associated with M_1, M_2, M_3, M_4, and part of M_5 that were conducted during reporting period 1 will be counted as downtime for high-level metric calculations in reporting period 2.

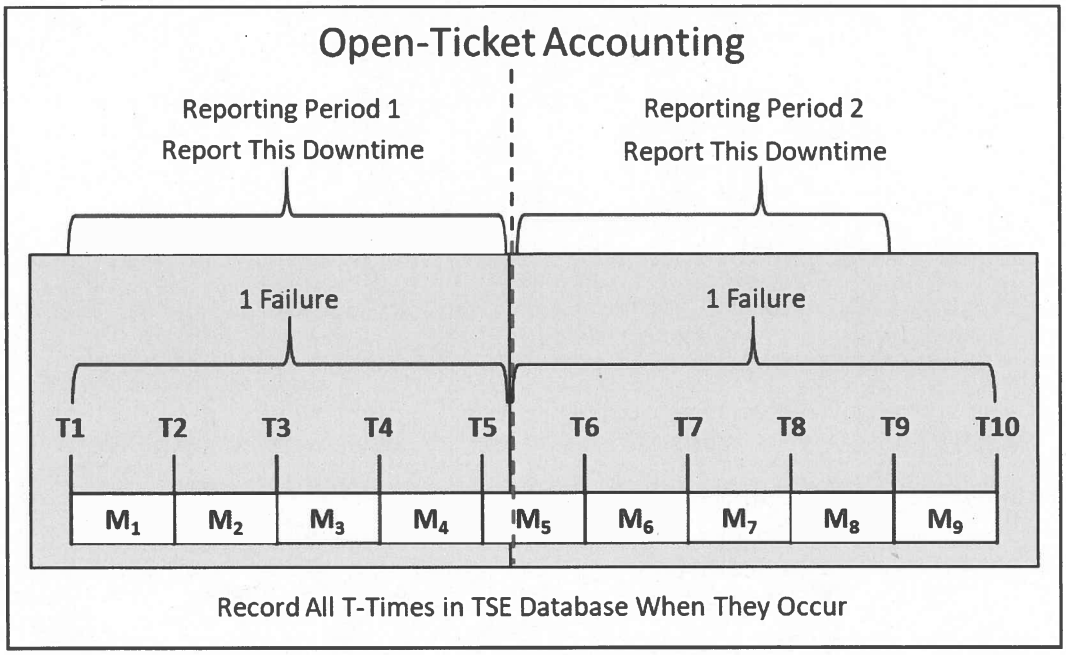
- Times associated with M_6, M_7, M_8, and the portion of M5 that were conducted during reporting period 2 will be counted as downtime for high-level metric calculation for reporting period 2.

- M_9 will not be included in any high-level metric calculations since the TSE should be operational at T9 awaiting TSA acceptance/signoff.

4.7.2 Open-Ticket Accounting

For A_o metrics only, the portion of the repair cycle time completed during a reporting period will be counted in the A_o metric calculations for that reporting period. See Figure 8 below as an example:

Figure 8: Open-Ticket Reporting Period Determination



- Times associated with M_1, M_2, M_3, M_4, and part of M_5 that were conducted during reporting period 1 will be counted as downtime for high-level metric calculations in reporting period 1.
- Times associated with M_6, M_7, M_8, and the portion of M5 that were conducted during reporting period 2 will be counted as downtime for high-level metric calculation for reporting period 2.
- M_9 will not be included in any high-level metric calculations since the TSE should be operational at T9 awaiting TSA acceptance/signoff.

5. Operational Reliability, Maintainability, and Availability Metrics

TSA will use the RMA metrics identified in this section to evaluate the operational performance of TSE during its operational life cycle.

Each TSE RMA metric in Sections 5.1 through 5.3 identifies the applicable low-level metrics to count in a particular failure type and repair cycle. Formulas and descriptions in Sections 5.1 through 5.3 are generic definitions of TSE RMA metrics. Each Maintenance Service Provider's Service Level Agreement provides specific definitions and formulas for each contract's requirements.

5.1 Transportation Security Equipment Reliability Metrics

5.1.1 Mean Time Between Critical Failures

Mean Time Between Critical Failure (MTBCF) will evaluate the reliability of TSE in relation to all critical relevant failures. MTBCF is the average uptime TSE is available to perform its mission between critical relevant failures. MTBCF will be calculated for a single TSE or grouping of TSE as follows:

1. Multiply daily uptime hours as defined in the contract by the number of TSE units in the TSE calculation population (one or more units) and the number of days in the reporting period;

2. Subtract the sum of the downtime associated with all critical relevant failures from the TSE calculation population (one or more units) during the reporting period;

3. Divide the difference by the total number of critical relevant failures.

MTBCF will be calculated for a specific reporting period (e.g., one month) and TSE combination (one or more units) based on the following formula:

One or more TSE units:

$$\textbf{MTBCF} = \frac{\textbf{(Uptime Hours x Number of TSE Units x Number of Days) – (Sum of TSE Critical Relevant Downtime)}}{\textbf{Total Number of Critical Relevant Failures}}$$

Where:

- **TSE Critical Relevant Downtime** = Period of time during which a TSE is not in a condition to perform its mission due to a critical relevant failure.

- **Uptime** = defined as the period of time TSE is available to perform its required mission.

For the failure types listed in Table 4, the low-level metrics (M-Values) identified are considered for the TSE downtime for MTBCF. As discussed in Section 5, each Maintenance Service Provider's Service Level Agreement provides specific definitions and formulas for each contract's requirement.

Table 4: MTBCF Low-Level Metrics Count

Failure Type			Low-Level Metrics									
Level	**Criticality**	**Relevancy**										
CM	Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
DM	Critical	Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8
TCS	Critical	Relevant	M_1								M_{13}	

When a maintenance repair cycle continues into a new reporting period, the downtimes and failure count will be calculated in the new reporting period as defined in Section 4.7, Accounting Methods.

5.1.2 Mean Uptime

Mean Uptime (MUT) will evaluate the reliability of TSE in relation to all critical relevant and non-critical relevant failures. MUT is the average time TSE is available to perform its mission between all relevant failures (critical and non-critical). MUT is equivalent to Mean Time Between Failures (MTBF). MUT will be calculated for a single TSE or grouping of TSE as follows:

1. Multiply daily uptime hours as defined in contract by the number of TSE units in the TSE calculation population (one or more units) and the number of days in the reporting period;

2. Subtract the sum of all downtime associated with all critical relevant and non-critical relevant failures from the TSE calculation population (one or more units) during the reporting period;

3. Divide the difference by the total number of critical relevant and non-critical relevant failures with downtime.

MUT will be calculated for a specific reporting period (e.g., one month) and TSE combination (one or more units) based on the following formula:

One or more TSE units:

$$\text{MUT} = \frac{\text{(Uptime Hours x Number of TSE Units x Number of Days) – (Sum of all TSE Relevant Failures Downtime}}{\text{Total Number of Relevant Failures}}$$

Where:

- **TSE Relevant Failure Downtime** = The period of time during which TSE is not in a condition to perform its mission due to any relevant failure (critical and non-critical).

For the failure types listed in Table 5, the low-level metrics (M-Values) identified in the non-shaded blocks are considered for the TSE downtime for MUT. As discussed in Section 5, each Maintenance Service Provider's Service Level Agreement provides specific definitions and formulas for each contract's requirements.

Table 5: MUT Low-Level Metrics Count

Failure Type			Low-Level Metrics									
Level	Criticality	Relevancy										
CM	Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
DM	Critical	Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8

Failure Type			Low-Level Metrics									
Level	Criticality	Relevancy										
CM	Non-Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
TCS	Critical	Relevant	M_1								M_{13}	
TCS	Non-Critical	Relevant	M_1								M_{13}	

When a maintenance repair cycle continues into a new reporting period, the downtimes and failure count will be calculated in the new reporting period as defined in Section 4.7, Accounting Methods.

5.2 Transportation Security Equipment Maintainability Metrics

5.2.1 Mean Downtime

Mean Downtime (MDT) will evaluate the downtime of TSE in relation to all relevant failures. MDT is the average TSE downtime associated with all relevant failures. MDT will be calculated for a single TSE or grouping of TSE as follows:

1. Sum the TSE downtime associated with all relevant failures from the TSE calculation population (one or more units) during the reporting period;

2. Divide by the total number of relevant failures from the TSE calculation population (one or more units) during the reporting period.

MDT will be calculated for a specific reporting period (e.g., one month) and TSE combination (one or more units) based on the following formula:

One or more TSE units:

$$\textbf{MDT} = \frac{\textbf{Sum of TSE Relevant Failures Downtime}}{\textbf{Total Number of Relevant Failures}}$$

Where:

- **TSE Relevant Failure Downtime** = The period of time during which TSE is not in a condition to perform its mission due to any relevant failure (critical and non-critical).

For the failure types listed in Table 6, the low-level metrics (M-Values) identified in the non-shaded blocks are considered for the TSE downtime for MDT. As discussed in Section 5, each

Maintenance Service Provider's Service Level Agreement provides specific definitions and formulas for each contract's requirements.

Table 6: MDT Low-Level Metrics Count

Failure Type			Low-Level Metrics									
Level	Criticality	Relevancy										
CM	Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
DM	Critical	Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8
CM	Non-Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
TCS	Critical	Relevant	M_1								M_{13}	
TCS	Non-Critical	Relevant	M_1								M_{13}	

When a maintenance repair cycle continues into a new reporting period, the downtimes and failure count will be calculated in the new reporting period as defined in Section 4.7, Accounting Methods.

5.2.2 Mean Time to Repair

Mean Time to Repair (MTTR) will evaluate the downtime required to diagnose and repair TSE due to all relevant failures. MTTR will be calculated for a single TSE or grouping of TSE as follows:

1. Sum the TSE downtime associated with Time to Repair (M_{10}) for all relevant failures from the TSE calculation population (one or more units) during the reporting period;

2. Divide by the total number of relevant failures from the TSE calculation population during the reporting period.

MTTR will be calculated for a specific reporting period (e.g., one month) and TSE combination (one or more units) based on the following formula:

One or more TSE units:

$$\textbf{MTTR} = \frac{\textbf{Sum of TSE Relevant Corrective Maintenance Downtime } (M_3 + M_7 + M_8 = M_{10})}{\textbf{Total Number of Relevant Failures}}$$

Where:

- **TSE Relevant Corrective Maintenance Downtime** = Duration of corrective maintenance actions associated with diagnosis, repair, and testing of TSE relevant failures.

For the failure types listed in Table 7, the low-level metrics (M-Values) identified in the non-shaded blocks are considered for the TSE downtime for MTTR. As discussed in Section 5, each

Maintenance Service Provider's Service Level Agreement provides specific definitions and formulas for each contract's requirements.

Table 7: MTTR Low-Level Metrics Count

Failure Type			Low-Level Metrics									
Level	Criticality	Relevancy										
CM	Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
CM	Non-Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8

When a maintenance repair cycle continues into a new reporting period, the downtimes and failure count will be calculated in the new reporting period as defined in Section 4.7, Accounting Methods.

Note that M_{11} (Depot Turn Around Time) and M_{13} (Telephone Customer Support Time) are not included in MTTR calculation. This is because MTTR measures the average on-site repair time. Thus, no DM or TCS failures' repairs will be included into the MTTR calculations.

5.3 Transportation Security Equipment Availability Metrics

5.3.1 Operational Availability

A_o will evaluate the availability of TSE to perform its required mission in relation to failures of any type. It is the percentage of time during operational hours that TSE is available to perform its required mission during a specified reporting period.

If a maintenance repair cycle continues into two or more periods, the downtime within each airport operational period will be summed together. When a maintenance repair cycle continues into a new reporting period, the operational downtime occurring in the second reporting period will be calculated as defined in Section 4.7.2, Open-Ticket Accounting. As discussed in Section 5, each Maintenance Service Provider's Service Level Agreement provides specific definitions and formulas for each contract's requirements.

6. Average Depot Turn Around Time

DTAT (M_{11}) measures the time TSE remains away from its designated location for repair at the depot or at its designated location in depot status while being repaired. The Average DTAT metric will evaluate the average time TSE remains away from its designated location for repair at the depot or in depot status for a reporting period. Average DTAT will include all DM from both relevant and non-relevant failures that have an M_{11} in their repair cycle. Each M_{11} is measured as the duration between the time when the diagnosis has been completed and the DM decision made (T4) until the TSE is ready for setup at its designated location after the completion of depot repair (T11). For Average DTAT metric calculations, a M_{11} time will be included in the reporting period when completed; the times will not be split between reporting periods. The Average DTAT metric will be calculated for a specific reporting period (e.g., one month) based on the following formula:

$$\text{Average DTAT} = \frac{\text{Sum of Depot Turn Around Time Hours } (M_{11})}{\text{Number of DM Failures with } M_{11}}$$

Where:

- **Number of DM Failures** = Number of DM failures with M_{11} and counted in the metric calculations.

For the failure types listed in Table 8, the low-level metrics M_{11} times identified in the non-shaded blocks are counted toward the Average DTAT metric calculation. As discussed in Section 5, each Maintenance Service Provider's Service Level Agreement provides specific definitions and formulas for each contract's requirements.

Table 8: DTAT Low-Level Metrics Metric Count

Failure Type			Low-Level Metrics										
Level	Criticality	Relevancy											
DM	Critical	Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8	M_9
DM	Critical	Non-Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8	M_9

When a maintenance repair cycle continues into a new reporting period, the downtime occurring in the second reporting period will be calculated as defined in Section 4.7.1, Closed-Ticket Accounting.

Appendix A: List of Definitions

Corrective Maintenance. All repair cycle activities performed as a result of TSE failure by an FST to restore the TSE to a full operational condition.

Critical Failure. Failure that causes TSE to be non-operational and requires immediate action by the FST to restore the TSE to full operational capability.

Depot Maintenance. If the TSE cannot be repaired at the installed location, it will be sent to a depot for repair.

Downtime. The period of time during which TSE is not in a condition to perform its required mission.

Field Service Technician. A trained and certified technician authorized to service TSE.

Non-Critical Failure. Failure where the TSE is still able to perform its function until the FST begins the repair, at which time the downtime for the repair begins. This will be resolved by either CM or DM, although the DM resolution is less likely for this type of failure. The repair is completed by the usual testing and signoff process.

Non-Operational Hours. Non-operational hours are the periods of time within a 24-hour day that are outside of the airport's operational hours. TSE are not expected to be operational during non-operational hours. Downtimes incurred during non-operational hours do not count towards the overall operational downtime.

Operational Hours. Periods of time within a 24-hour day that an airport is operational. Airport operational hours are based on the airport category and will be specified in the maintenance contract. TSE is required to be available to perform its required mission during operational hours.

Preventive Maintenance. All actions scheduled and performed to maintain TSE in a specified operational condition by providing systematic inspection, detection, and prevention of incipient failures. PM is typically scheduled during non-operational hours, but can be performed during other operational downtime periods if advantageous to TSA given the circumstances.

Transportation Security Equipment. Equipment used at airports for security screening of passengers and baggage.

Uptime. The period of time TSE is available to perform its required mission.

Appendix B: Acronyms

Acronym	Meaning
A_O	Operational Availability
CDRL	Contract Data Requirements List
CM	Corrective Maintenance
DID	Data Item Description
DM	Depot Maintenance
DTAT	Depot Turn Around Time
FST	Field Service Technician
MDT	Mean Downtime
MSP	Maintenance Service Provider
MTBCF	Mean Time Between Critical Failures
MTBF	Mean Time Between Failures
MTTR	Mean Time to Repair
MUT	Mean Uptime
OEM	Original Equipment Manufacturer
PM	Preventive Maintenance
RMA	Reliability, Maintainability, and Availability
TCS	Telephone Customer Support
TSA	Transportation Security Administration
TSE	Transportation Security Equipment

DATA ITEM DESCRIPTION

1. TITLE	2. IDENTIFICATION NUMBER
Failure Mode Indicator Codes	**APM-ILS-0XX**

3. DESCRIPTION/PURPOSE

3.1. The Failure Mode Indicator (FMI) Codes are used to track specific failure causes. FMI codes identify the cause of a failure, sub-system parts consumed in the required repair, and detailed resolution or actions codes, if used, which restore the Transportation Security Equipment (TSE) to operational condition.

3.2. FMI codes allow TSA to effectively analyze failure trends.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTC APPLICABLE	6b. GIDEP APPLICABLE
	APM		

7. APPLICATION/INTERRELATIONSHIP

7.1. This Data Item Description details the required format and data elements for the FMI Codes listing.

8. APPROVAL LIMITATION	9a. REFERENCES	9b. AMSC NUMBER

10. PREPARATION INSTRUCTIONS

10.1. FORMAT. The FMI list is a spreadsheet in contractor format. The data should be organized as a failure tree showing how failures and actions are related.

10.2. CONTENT. FMI codes are established for each model type of TSE. Each set of codes includes at minimum the three layers below:

a. Problem – Explanation of the failure
b. Cause – Explanation of what the cause of the failure
c. Action – Explanation of action taken to correct the failure, to include parts replaced

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

DATA ITEM DESCRIPTION

1. TITLE	2. IDENTIFICATION NUMBER
Transportation Security Equipment Database	**APM-ILS-0XX**

3. DESCRIPTION/PURPOSE

3.1. The Transportation Security Equipment (TSE) Database is a relational database that contains a complete listing of all fielded TSE, including donated TSE, with a complete maintenance history for each TSE.

3.2. The TSE Database is used by Acquisition Program Management (APM) to monitor Integrated Logistics Support (ILS) and contractor performance.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTC APPLICABLE	6b. GIDEP APPLICABLE
	APM		

7. APPLICATION/INTERRELATIONSHIP

7.1. This Data Item Description contains the format and content preparation instructions for the TSE Database. For further details refer Attachment B, Transportation Security Equipment (TSE) Metrics Terms and Definitions and RMA Metrics.

8. APPROVAL LIMITATION	9a. REFERENCES	9b. AMSC NUMBER

10. PREPARATION INSTRUCTIONS

10.1. FORMAT. The TSE Database may be in Contractor format. The TSE Database deliverable should be an image of the database used by the Contractor to manage the TSE data. It contains the data specified in the following subparagraphs. The relational database must have relational integrity. The relational database information must contain valid values for all data specified based on local times of the airports. The Contractor ***shall*** change the data format when requested by TSA.

10.2. CONTENT. The TSE Database contains the inventory of fielded TSE, including donated TSE. The database stores TSE baseline data and all accumulating maintenance activity information for each unit.

10.2.1. Database Dictionary. The Contractor will provide a data model and data dictionary describing the Contractor TSE Database. If the delivered database has a different structure than the previously delivered TSE Database, the data dictionary will be amended and provided to describe the database as delivered.

10.2.2. Inventory Baseline Data. At a minimum, the baseline data for each TSE will include the following information (identification (e.g., serial numbers, barcodes) ***shall*** follow the Government's format when available):

- **a.** Manufacturer;
- **b.** TSE identification (i.e., make, model, and serial number (S/N);
- **c.** Government bar code or other unique identifier(s);
- **d.** Installation location;
- **e.** Government acceptance date (Site Acceptance Test date);
- **f.** Decommission date;
- **g.** Warranty period (start and stop dates);
- **h.** Relocation/movement information;
- **i.** Any unique equipment information;
- **j.** Identification of TSE S/Ns that will be used for the monthly Metrics Report as required by the contract.

DATA ITEM DESCRIPTION **APM-ILS-0XX**

10. PREPARATION INSTRUCTIONS (CONTINUED)

10.2.3. Parts Data. For all preventive and corrective maintenance actions performed, the TSE Database will provide a list of the parts used for the maintenance or repair, to include as a minimum:

- **a.** Parts name;
- **b.** Parts number;
- **c.** Cumulative identification of quantity used by specified dates.

10.2.4. Preventive Maintenance Data. The TSE Database will capture data as scheduled preventive maintenance is performed on each TSE. At a minimum, the preventive maintenance data will include the following information:

- **a.** Manufacturer;
- **b.** TSE identification;
- **c.** Contractor Work Order (WO) number (#);
- **d.** Government bar code;
- **e.** Installation location;
- **f.** Date and time maintenance is performed (start and stop);
- **g.** Type of maintenance performed (Level I or II);
- **h.** Part number(s) and quantity replaced/used during the maintenance;
- **i.** Consumables used;
- **j.** Identity of Field Service Technician (FST) performing maintenance;
- **k.** Preventive maintenance schedule information on each type, model and serial number.

10.2.5. Corrective Maintenance Data. The TSE Database will capture the data as specified in the following paragraphs as corrective maintenance is performed on each TSE.

10.2.5.1. Corrective Maintenance Data. The TSE Database will capture the following corrective maintenance data for each maintenance action:

- **a.** Contractor WO #;
- **b.** Manufacturer;
- **c.** TSE identification;
- **d.** Government bar code;
- **e.** TSA Service Call Center ticket ID;
- **f.** Installation location (location must match TSE location as specified in Inventory Baseline Data (10.2.2);
- **g.** Description of the problem;
- **h.** Criticality (critical or non-critical). NOTE: Any not documented will be considered a critical failure;
- **i.** Relevancy (relevant or non-relevant). NOTE: Any not documented will be considered a relevant failure;
- **j.** Failure mode indicator code -- failure determined by technician;
- **k.** Action code – action taken to resolve the failure;
- **l.** Part number(s) and quantity replaced/used during the maintenance;
- **m.** Total downtime accrued by each work order (24-hour day).

DATA ITEM DESCRIPTION **APM-ILS-0XX**

10. PREPARATION INSTRUCTIONS (CONTINUED)

10.2.5.2. T-Values. In addition to the above data, the following maintenance time points (T Values) dates and times must be recorded and reported in the TSE Database for each corrective maintenance action, as applicable. These time points must identify the date and time of each maintenance action provided in real clock times in the TSE location's local time based on a 24-hour day, seven-day week. The T-Value terms and definitions are identified in Attachment B: TSE Metrics Terms and Definitions and RMA Metrics.

- **a.** T1 – Call center contacted when failure occurs
- **b.** T2 – Technician dispatch
- **c.** T3 – Technician starts diagnostics
- **d.** T4 – Technician diagnostics complete
- **e.** T5 – Part(s) begin shipment
- **f.** T6 – Part(s) delivered to location
- **g.** T7 – Technician begins repair
- **h.** T8 – Technician begins testing
- **i.** T9 – TSE Ready for signoff
- **j.** T10 – TSA signoff
- **k.** T11 – TSE ready for setup at the location
- **l.** T12 – Start of Telephone Customer Support

10.2.5.3. M-Values. To enable a cross reference with the contract performance metrics reporting requirements, the following low-level metrics (M Values) must also be derived, as applicable, for each corrective maintenance action from the T-Values referenced in 10.2.5.2 and recorded in the TSE Database. The database must identify the T-Values used to derive each low level metric They should be the full time for the maintenance action as measured from the recorded T-Values, and should not be adjusted for an airport's operating hours or reporting period. The sum of M-Values for a work order should equal 10.2.5.1(m) above. Any adjustments to M-Values will be made when counting them for high level metrics. The M-Value terms and definitions are identified in Attachment B: TSE Metrics Terms and Definitions and RMA Metrics.

- **a.** M_1 – Initial Call Center Interaction Time
- **b.** M_2 – Technician Dispatch Time
- **c.** M_3 – Technician Diagnosis Time
- **d.** M_4 – Part(s) Request Time
- **e.** M_5 – Part(s) Fulfillment Time
- **f.** M_6 – Local Logistics Time
- **g.** M_7 – Technician Repair Time
- **h.** M_8 – Technician Testing Time
- **i.** M_9 – TSA Signoff Time
- **j.** M_{10} – Time to Repair
- **k.** M_{11} – Depot Turnaround Time
- **l.** M_{12} – Uncrate/Setup at Location Time
- **m.** M_{13} – Telephone Customer Support

10.2.6. Change Log. A monthly Change Log (or Data updates) will be reported for any data fields previously submitted that have been updated/changed, with full justification for each update/change entry.

10.3. REPORTS. The TSE Database will support queries and extraction of all data outlined above.

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

Transportation Security Administration

Transportation Security Administration

Integrated Logistics Support

Service Level Agreement

Performance Metrics

Attachment E

March 2019

Table of Contents

1. Purpose

The purpose of this document is to define the process for developing the Contractor performance metrics specified in Section C.3.13, Warranty Services Service Level Agreement (SLA) Performance Requirements, to evaluate compliance with the SLA performance requirements. The maintenance elements used in the development of these metrics are provided in Attachment B: Transportation Security Equipment (TSE) Terms and Definitions & Reliability, Maintainability & Availability (RMA) Metrics.

2. Scope

This document identifies the process the Contractor should use to develop the metrics to demonstrate compliance with the SLA performance requirements and substantiate the determinations made for invoice development. It also provides the calculation instructions for each metric required by the contract.

3. Data Collection and Reporting Process

The process identified in this document relies on the maintenance elements collected from the corrective maintenance actions conducted to return TSE to full operational capability. These maintenance elements will be collected in accordance with the process identified in Attachment B and will be documented in the TSE Database in accordance with Attachment D: TSE Database. This includes the time points (T-Values) and low-level metrics (M-Values) measured for each time points.

Section 4 below identifies the process for calculating the SLA performance metrics defined in Section C.3.13. These metrics will be calculated as specified in each section and will be reported to the Transportation Security Administration (TSA) as part of the TSE RMA Metrics Report in accordance with Attachment F: TSE RMA Metrics Report, as required. The TSE RMA Metrics Report must clearly identify the low level metrics and times for each used in the calculation of a metric.

4. Operational Availability (A_o)

The Government seeks to minimize TSE's downtime associated with relevant failures. The Government will measure overall Contractor performance using Operational Availability (A_o), as defined in Section C.3.13. A_o will evaluate the operational availability of TSE in relation to **all relevant critical failures and all relevant non-critical failures** (includes corrective maintenance, depot maintenance, and telephone customer support work orders). It is the percentage of time during an airport's operational hours that TSE is available to perform its required mission during a specified reporting period. For A_o, TSA only considers a TSE's downtime when it is not in a condition to perform its required mission during an airport's operational hours. The counting of low-level metrics times for A_o will be based on the TSE operating time and TSE operational downtime as defined below.

- **TSE Operating Time** – The period of time TSE is available to perform its required mission during the operational hours of an airport. During the Operations & Maintenance (O&M) life cycle phase, TSE operating time will be equal to the airport's operational hours minus the time TSE experiences any operational downtime.
- **TSE Operational Downtime** – The period of time during an airport's operational hours that TSE is not in a condition to perform its required mission. This includes all times that a system is not available due to applicable on-site Corrective Maintenance (CM), Depot Maintenance (DM), and Telephone Customer Support (TCS) low-level metric times during an airport's operational hours. The determination of the operational downtime is made after all the low-level metrics are measured against the airport's operational hours.

Section C.3.13.1, Operational Availability, establishes the A_o performance level the Contractor must meet to satisfy the overall SLA performance requirement. Below is the process for developing the A_o metrics requirement.

5. A_o SLA Performance Requirement

For determining compliance with the A_o SLA performance requirement established in Section C.3.13.1, the Contractor shall calculate A_o monthly for each technology (e.g., all Advanced Imaging Technology models, all Explosives Trace Detection models, etc.) at each airport using the airport's operational hours as the required system operating time, and should only include installed operational units in the calculations.

The operational downtime will be calculated by summing the individual low-level metric times of each applicable failure that incurs operational downtime > 0. No averaging will be used over a reporting period.

To evaluate SLA compliance, A_o will be calculated monthly at each airport for each technology as follows:

1. Multiply daily airport operational hours, by the number of TSE units in a technology at an airport and the number of days in the reporting month period. The reporting period starts the first day (at 12:00 AM) of the month and ends on the last day (at 11:59 PM) of the month based on local time.

2. Subtract the sum of the operational downtime for all relevant critical (Priority 1 (P1)) and all relevant non-critical (Priority 2 (P2)) failures for the same TSE units used in Step 1 for a technology at an airport during the reporting period.

3. Divide the difference by the total operating hours calculated in Step 1 (daily airport operational hours multiplied by the same number of TSE units at an airport in a technology and the number of days in the reporting period).

Below is the A_o formula that will be used to develop the SLA performance metric:

(Airport Operational Hours x TSE Units x Number of Days) –

$$A_o = \frac{\textbf{(Sum of TSE all relevant critical (P1) and relevant non-critical (P2) failures Operational Downtime)}}{\textbf{(Airport Operational Hours x TSE Units x Number of Days)}}$$

Where: **Airport Operational Hours** = Period of time within a 24-hour day that an airport is operational (airport operational hours)

TSE Relevant Operational Downtime = The time a TSE is down for repair due to any relevant failure during an airport's operational hours

For the failure types listed below in Table 1, the low-level metrics (M-Values) identified in non-shaded blocks are counted toward the TSE operational downtime for A_o when the low-level metric times, or portion thereof, occur during the airport's operational hours. The low-level metrics times conducted during the airport's non-operational hours are not counted in the A_o operational downtime calculations.

If a maintenance repair cycle continues into two or more airport operational hours within the same reporting period, the operational downtimes within each airport's operational hours will be summed together if operational downtime > 0. When a maintenance repair cycle continues into a new reporting period, the operational downtimes in the second reporting period will be calculated in the second reporting period, as defined in Attachment B, Section 4.7.2, Open Ticket Accounting. The lightly shaded blocks with M-Values are measured but not counted in the A_o operational downtime calculations. The dark shaded blocks with no M-Values on the table indicate that the associated low-level metric should not be applicable to that failure type in its repair cycle, as defined in Attachment B.

Table 1 - A_o Low-Level Metrics Count

Failure Type			Low-Level Metrics									
Level	**Criticality**	**Relevancy**										
CM	Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
CM	Non-Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
DM	Critical	Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8
TCS	Critical	Relevant	M_1								M_{13}	
TCS	Non-Critical	Relevant	M_1								M_{13}	

times conducted during the airport's non-operational hours are not counted in the A_o operational downtime calculations. If a maintenance repair cycle continues into two or more airport operational hours within the same reporting period, the operational downtimes within each airport operational hours will be summed together if operational downtime > 0. When a maintenance repair cycle continues into a new reporting period, the operational downtimes in the second reporting period will be calculated in the second reporting period as defined in Attachment B, Section 4.7.2, Open Ticket Accounting. The lightly shaded blocks with M-Values are measured but not counted in the A_o operational downtime calculations. The dark shaded blocks with no M-Values on the Table indicate that the associated low-level metric should not be applicable to that failure type in its repair cycle as defined in Attachment B.

Table 1 - A_o Low-Level Metrics Count

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Level	**Criticality**	**Relevancy**										
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CM	Non-Critical	Relevant	M_1	M_2	M_3	M_4	M_5	M_6	M_7			M_8
DM	Critical	Relevant	M_1	M_2	M_3					M_{11}	M_{12}	M_8
TCS	Critical	Relevant	M_1								M_{13}	
TCS	Non-Critical	Relevant	M_1								M_{13}	

DATA ITEM DESCRIPTION

1. TITLE	2. IDENTIFICATION NUMBER
TSE RMA Metrics Report	**APM-ILS-0XX**

3. DESCRIPTION/PURPOSE

3.1. The Transportation Security Equipment (TSE) Reliability, Maintainability, & Availability (RMA) Metrics Report documents the status of contract efforts towards achieving contract maintenance objectives. It is used by TSA to monitor TSE and Contractor performance.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTC APPLICABLE	6b. GIDEP APPLICABLE
	APM		

7. APPLICATION/INTERRELATIONSHIP

7.1. This Data Item Description (DID) contains the format and content preparation instructions for the maintenance metrics report.

8. APPROVAL LIMITATION	9a. REFERENCES	9b. AMSC NUMBER

10. Preparation Instructions

10.1. FORMAT. The monthly TSE RMA Metrics Report may be in Contractor format. It ***shall*** contain the data and information specified in the following monthly metric report subparagraphs. The Contractor ***shall*** change the report format when requested by TSA.

10.2. CONTENT. The data delivered in accordance with this DID ***shall*** contain sufficient information to allow the low level and high level metrics to be independently recomputed by TSA.

10.2.1. IDENTIFICATION. The submittal will contain the information listed below:

a. Preparing activity and name/title of Contractor official certifying accuracy of the report
b. Sensitive Security Information (SSI) statement applied when required

10.2.2. Low Level Metrics (M-Values). Provide a list of all work order numbers, criticality, relevancy, and low level metrics (M-Values) making appropriate adjustments as required for high level metrics submitted as identified in this DID. This work order information should correlate with the M-Values derived for the same work order number as documented in the TSE Database, adjusted as required for metrics calculations. Metrics calculation information is included in Attachment 3, TSE Metrics Terms and Definitions and RMA Metrics; and Attachment 7, TSA Integrated Logistics Support Service Level Agreement Performance Metrics. The following M-Values will be reported for each maintenance activity, as applicable, as specified for a TSE or Contractor performance metric:

a. M_1 – Initial Call Center Interaction Time
b. M_2 – Technician Dispatch Time
c. M_3 – Technician Diagnosis Time
d. M_4 – Part(s) Request Time
e. M_5 – Part(s) Fulfillment Time
f. M_6 – Local Logistics Time
g. M_7 – Technician Repair Time
h. M_8 – Technician Testing Time
i. M_9 – TSA Signoff Time
j. M_{10} – Time to Repair
k. M_{11} – Depot Turnaround Time
l. M_{12} – Uncrate/Setup at Location Time
m. M_{13} – Telephone Customer Support

DATA ITEM DESCRIPTION APM-ILS-018

10. Preparation Instructions (Continued)

10.2.3. RMA Metrics. RMA metrics submitted on the RMA Metrics Report will be used to evaluate the operational performance of deployed TSE as specified in the contract in 4.11, Reliability, Maintainability, Availability Metrics. The metrics will be calculated monthly by airport and by technology. Definitions and calculation of RMA metrics can be found in Attachment 3. The maintenance activities and maintenance action M-Values should be counted as specified in Attachment 3. The following are the RMA metrics identified in Attachment 3:

- Mean Time Between Critical Failures (MTBCF)
- Mean Up Time (MUT)
- Mean Downtime (MDT)
- Mean Time to Repair (MTTR)
- Operational Availability(A_o)

10.2.4. Service Level Agreement (SLA) Performance Metrics. TSA will use Contractor performance metrics in the contract to evaluate maintenance service performance against the SLA requirements specified in 4.10, Warranty Services Service Level Agreement (SLA) Performance requirements. These metrics focus on the Contractor's responsiveness in returning TSE to full operational capability and the effectiveness of their logistics support structure. The Contractor must calculate all the SLA performance metrics as specified in Attachment 7, ILS SLA Performance Metrics and report these metrics in the TSE RMA Metrics Report. These metrics will include the same supporting data as specified in paragraph 10.2.2.

10.2.5. Units Counted. The report will include a list of all TSE serial numbers and locations on the Contract that are used to calculate the reporting period's metrics. If a unit was added to or deleted from the Contract during the reporting period, the list will include the date on which that action occurred.

10.2.7. Appendices. Appendices, where applicable, for tables, references, charts, or other descriptive material. Each appendix will be identified and referenced in the appropriate area of the report.

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

Transportation Security Administration

Media Sanitization Certificate

INSTRUCTIONS: The individual performing media sanitization must complete and sign this form and submit form to the Accountable Property Officer (APO).

Section I. Contact Information

Name: _____ Site Code: _____ Phone #: _____

Section II. Hardware Information

CPU Barcode #: _____ CPU SN#: _____

Hard Drive SN#: _____ Make: _____ Model: _____

Unit SN# _____ Model: _____ _____

Section III. Classification Level: *(check one)*

☐ Unclassified ☒ Sensitive But Unclassified ☐ Classified (Secret or Above)

NOTE: Classified media may only be reused at the current classification level or higher.

Section IV. Certification

I certify that I have: *(check all that apply)*

☐ Performed the sanitization of the media indicated above to meet the requirements of TSA MD 1400.3, *Information Security Policy's Information Security Policy Handbook.*

☐ Performed the sanitization of all areas that could be successfully overwritten on the media indicated above.

☐ Removed (or obliterated) the label formerly in use.

☒ Completed TSA Form 14XX that indicates that the media was:
☐ Degaussed ☐ Destroyed ☐ Overwritten ☒ Removed.

_____ _____
Signature *Date*

Witnessing Government Official:

Name: _____ Site Code: _____ Phone No.: _____

_____ _____
Signature *Date*