Transportation Security Administration

Checkpoint Property Screening Systems (CPSS)
Basic Order Agreement (BOA)
Statement of Work (SOW)

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1. Executive Summary

1.1 The Transportation Security Administration (TSA) is responsible for protecting the Nation's transportation systems to ensure the freedom of movement for people and commerce. In order to meet its mission within the aviation transportation environment, TSA will implement a layered security approach specifically focusing on technology and processes utilized in and near the passenger screening checkpoint to deter and mitigate existing and evolving risks and threats, employing multiple solution resources to screen passengers and their carry-on baggage. This approach multiplies the value of each capability creating a stronger and more formidable system.

TSA's Acquisition Program Management (APM) identifies, tests, procures, deploys, and sustains equipment to detect threats concealed on passengers and their accessible property as they enter the screening checkpoint. TSA's passenger screening checkpoint is divided into three (3) separate capability areas:

- People Screening: Equipment with the capability to detect threats carried by or concealed on the passenger's body.
- Property Screening: Equipment with the capability to detect concealed threats on or in the passenger's carry-on baggage.
- Layered Security: Incorporate layers of services and technologies into an integrated security solution.

Current property screening technologies are limited in their ability to reliably and efficiently detect new and evolving threats to civil aviation. TSA currently uses Advanced Technology (AT) X-rays as the primary screening system at passenger screening checkpoints to screen divested accessible property. TSA has a need to detect a broader range of homemade explosives and greatly reduced threat mass, reduce false alarm rates, automate detection for explosive threats and prohibited items, enable remote image screening, provide the ability for passengers to leave liquids and laptops in bags, and automated conveyance of personal property. The most impactful property screening technology available today is the Computed Tomography (CT) system as it can automate much of the threat detection function while enhancing security effectiveness. CT systems offer an enhanced imaging platform compared to AT X-ray systems and can be upgraded to automatically detect a broader range of threats. Additionally, TSA plans to integrate CT systems with an automated tracking and diverter system to automatically divert bags identified for alarm resolution.

The CPSS Program, previously reported as the Accessible Property Screening System (APSS), is an information technology program and investment. Prior to CPSS Program standup there was an urgent need identified to procure CT systems. In order to fulfill this need, the AT/CT project was established under the legacy AT Program. On December 13, 2018, the Acquisition Review Board (ARB) approved TSA's request to procure up to 300 CT systems under the AT Program, primarily at Last Point of Departure airports. In parallel with deployment of the initial CT systems, TSA is standing up the CPSS program to enhance threat detection algorithms, ingress/egress, and networking capabilities that are not currently present in systems being procured under the AT/CT project. The CPSS acquisition

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strategy will leverage previously initiated studies and demonstrations of CPSS technologies as modified Commercial Off-The-Shelf (COTS) solutions with custom developed software.

2. Purpose

The purpose of the requirement is to provide TSA with Checkpoint Property Screening Systems, simulators, program management, warranties, configuration management services, shipping, and installation. All other associated labor, materials, and travel required to meet the requirements of this Statement of Work shall be provided by the Contractors across multiple increments and purchases.

3. Background

3.1 Currently, there are over 2,100 AT X-ray systems fielded at 450+ airports nationwide to screen carry-on items. These systems are nearing their estimated useful lifespan of ten (10) years. TSA has identified a need within the CPSS Mission Needs Statement approved August 2017 to fulfill the following capability gaps:

- Increase efficiency of existing accessible property screening capabilities;
- Provide continuous control and tracking of divested property; and
- Improve security effectiveness through technology upgrades or replacement.

The CPSS Program will address current capability gaps, emerging requirements, and comply with federal mandates to advance TSA beyond its existing capabilities by deploying an improved aviation security infrastructure for the screening of accessible property. The TSA mission capability will be significantly marginalized without this investment. Specifically, potential for mission failure arises from the following key concerns:

- Risk to passenger safety and commercial aircraft with existing AT-2 X-ray screening technology limitations;
- Capability gaps will continue to persist;
- Core technology underpinning currently-deployed equipment offers limited opportunities for enhancement and will remain in operation beyond the planned service life;
- Longer-term strategic efforts to optimize carry-on baggage technologies and processes will not be pursued, resulting in barriers to risk-based screening and cybersecurity implementation;
- Ability to automate detection of all threats, both explosives and prohibited items, to maximize security effectiveness and operational efficiencies will not be achieved; and
- Economic harm to the airline industry and diminished passenger satisfaction may arise should excessive wait times be experienced by passengers during seasonal or other rush periods.

3.2 The CPSS program will apply an incremental approach to rapidly deploy new technology/capabilities. In parallel, emerging technology development, machine learning, and human factor research efforts are being pursued in coordination with the TSA offices of Requirements and Capabilities Analysis (RCA), Information Technology (IT), and Security Operations in furtherance of this incremental approach. Additionally, TSA will

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continue to work on developing specific algorithms that target threats identified through intelligence gathering. CPSS equipment must be capable of evolving and accommodating detection and performance capability enhancements to the maximum extent possible prior to undergoing full AT-2 X-ray system replacement and disposal.

3.3 The CPSS program technology allows transportation security officers (TSOs) to identify threats concealed in passenger carry-on items prior to entering the sterile area of the airport terminal through the passenger screening checkpoint. This screening activity minimizes the risk of personal injury or death, and the damage to, or loss of property, due to acts of terrorism or criminal activity directed towards aviation transportation. These threats include, but are not limited to explosives, weapons, and other prohibited items. To achieve this mission, deployed CPSS capabilities must, at a minimum:

- Automatically detect commercial, military, home-made explosives, and explosive precursors when present in accessible property at or above quantities that are threats to aircraft;
- Automatically detect Liquid, Aerosol, and Gel (LAG) container volumes when present in accessible property at or above quantities that are threats to aircraft;
- Automatically detect firearms, firearm parts, and sharps when present in accessible property;
- Enable accurate identification and tracking of accessible property to maintain positive bag control;
- Minimize operator complexity in threat adjudication;
- Provide the operational capacity to absorb the increasing number of passengers so that each passenger can traverse security within ten (10) minutes of entering the queue;
- Operate at a passenger checkpoint and accommodate a wide variety of screening protocols; and
- Integrate into the TSA enterprise using a sound cybersecurity approach and architecture.

3.4 TSA will continuously evolve CPSS technology in the following areas by applying an incremental approach:

- Expand the detection capability of the systems in order to achieve the full list of threats identified in the detection standard.
- Enhance system capabilities to better support operators, monitoring and sustainment activities, and system of systems integration.

3.5 CPSS technology will be flexible and allow for the integration of software and hardware changes. CPSS incremental enhancements will be deployed throughout the program lifecycle and adhere to updated functional requirements that are traceable to the Accessible Property Screening Systems (APSS) Operational Requirements Document (ORD).

END OF STATEMENT OF WORK

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