Metropolitan Washington Airports Authority
PROCUREMENT AND CONTRACTS DEPT.
AMENDMENT OF SOLICITATION

	1A. AMENDMENT OF SOLICITATION NO.	1B. DATED
Metropolitan Washington Airports Authority Procurement and Contracts Dept., MA-29 2733 Crystal Drive Arlington, VA 22202	**RFP-18-33811**	**February 14, 2019**
	2A. AMENDMENT NO.	**2B. EFFECTIVE DATE**
	Three (003)	**April 22, 2019**

The solicitation identified in Block 1A is amended as set forth in Block 3. Hour and date specified for receipt of offers ☒ is extended, ☐ is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and dated specified in the solicitation or as amended, by one of the following methods: (a) by completing Block 4 and returning copy of the amendment; (b) by acknowledging receipt of this amendment on the Solicitation Offer and Award Sheet, Block 13. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.

3. DESCRIPTION OF AMENDMENT

Solicitation RFP-18-33811 for Computerized Maintenance Management System (CMMS) SaaS Solution is hereby amended as follows:

A. Solicitation submission due date is hereby extended to 2:00 PM (EST) **May 14, 2019** at the address indicated in the Solicitation.

B. Section III, **Price Schedule** is hereby replaced in its entirety with the attached "Revised – Amendment 003 Price Schedule".

C. Section VI, SPECIAL PROVISIONS, **06 TRAVEL EXPENSES** is hereby incorporated.

D. Section X, Attachment 01, **STATEMENT OF WORK, ADDENDUM 001** is hereby incorporated.

E. Section X, Attachment 01, **STATEMENT OF WORK, APPENDIX A,** is hereby replaced in its entirety with the attached "Revised – Amendment 003 Appendix A."

F. Section X, Attachment 02, **EVALUATION CRITERIA AND PROPOSAL SUBMISSION REQUIREMENTS** is hereby replaced in its entirety with the attached "Revised – Amendment 003 EVALUATION CRITERIA AND PROPOSAL SUBMISSION REQUIREMENTS".

G. Section X, Attachment 06, **OFFICE OF TECHNOLOGY, TECHNOLOGY STANDARDS** is hereby incorporated.

H. All other items remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Block 1A, as heretofore changed, remain unchanged and in full force and effect.

4A. NAME AND TITLE OF OFFEROR	4B. SIGNATURE	4C. DATE

06 TRAVEL EXPENSES

A. Lodging/Meals/Incidental Expenses.

1. Each consultant required to travel overnight in performance of this contract shall be reimbursed for lodging, meals and incidental expenses at the rates specified by GSA (http://www.gsa.gov – search "Per Diem") for the locations being visited. Receipts are not required.

2. The amount for meals and incidental expenses includes state sales tax (where applicable) and a 15% gratuity. On the day of departure, 75% of the applicable rate will apply. On the last day of travel, 75% of the applicable rate will apply. Receipts are not required.

B. Air Travel:

The Authority shall reimburse for air travel at the coach rate. The Contractor is expected to obtain discount airfares to the extent possible. Travel shall be by the route that is most cost effective to the Authority. The Contractor shall bear any additional costs incurred as a result of deviations from this route for personal reasons. Travel time shall not be compensated. Legible receipts are required.

C. Local Transportation:

1. Taxi/limousine/airport bus – Reasonable expenses reimbursable at actual cost. Receipts are required. Transportation expenses between places of lodging or business and places where meals are taken are not allowed unless suitable meals cannot be obtained at the site.

2. Rental automobiles – Reasonable expenses reimbursable at actual cost. **Rental automobiles shall be used only when it will effect a savings or other advantage or when the use of other transportation is not feasible.** Rental automobiles should be limited to sub-compact models when available. A legible copy of the rental agreement is required to support costs. Rental of other than a sub-compact is allowable when sub-compacts are not available. Receipts are required.

3. Private automobile - Use of private automobiles will be reimbursed at the current IRS business mileage rate.

4. Tolls and parking charged for the use of ferries, roads, bridges, and tunnels while traveling to and from commercial carriers and parking charges at destination are reimbursable at actual cost. Receipts are required.

D. Telephone: Actual cost of business telephone charges incurred by Contractor while in travel status is reimbursable. Personal telephone charges are not allowable. Receipts are required.

E. Other

1. Other actual expenses incurred in the performance of this contract, exclusive of normal operating expenses, and as approved by the Authority, shall be reimbursed. Receipts or invoices are required on each individual item under this category.

2. **Non-reimbursable costs** include expense for entertainment, first-class airfare, contributions, personal telephone and facsimile charges, dues and subscriptions, alcoholic beverages, expenses for transportation and lodging for personal pursuits, gifts, gratuities, and other charges expressly disallowed under the terms of the agreement.

Metropolitan Washington Airports Authority

RFP-18-33811

ATTACHMENT 01, STATEMENT OF WORK

ADDENDUM No. 001

1. Section **1. Introduction, Washington Dulles International Airport Statistics** is hereby changed from:

   Washington Dulles International Airport
   - 12,000 acres
   - 5,852,073 square feet of maintainable facilities
   - 330 maintenance personnel
   - 23,000 facility assets
   - 92,000 facility work orders per year
   - 1,100 fleet assets
   - 14,500 fleet work orders per year
   - 240 CMMS Routine Users
   - 90 CMMS Power Users
   - 2 CMMS Administrators

   To:

   Washington Dulles International Airport
   - 12,000 acres
   - 5,852,073 square feet of maintainable facilities
   - 330 maintenance personnel
   - 23,000 facility assets
   - 92,000 facility work orders per year
   - 1,100 fleet assets
   - 14,500 fleet work orders per year
   - 240 CMMS Routine Users
   - 90 CMMS Power Users
   - 2 CMMS Administrators
   - 8,200 PM Schedules
   - 9,500 Locations

2. Section **1. Introduction, Reagan National Airport Statistics** is hereby changed from:
   Reagan National Airport
   - 733 acres
   - 2,247,400 square feet of maintainable facilities
   - 200 maintenance personnel
   - 10,000 facility assets

- 46,000 facility work orders per year
- 700 fleet assets
- 2,050 fleet work orders per year
- 240 CMMS Routine Users
- 25 CMMS Power Users
- 2 CMMS Administrators

To:

Reagan National Airport

- 733 acres
- 2,247,400 square feet of maintainable facilities
- 200 maintenance personnel
- 10,000 facility assets
- 46,000 facility work orders per year
- 700 fleet assets
- 2,050 fleet work orders per year
- 240 CMMS Routine Users
- 25 CMMS Power Users
- 2 CMMS Administrators
- 6,500 PM Schedules
- 1,500 Locations

3. Section **4. Management Requirements, 4.2 Industry Best Practices** is hereby changed from:

4.1 Industry Best Practices **(Deliverable 02)** Contractor must provide, as part of their technical proposal, the following:

To:

4.2 Industry Best Practices **(Deliverable 02)**:

4. Section **4. Management Requirements, 4.1 Project Plan** is hereby changed from:

4.1 Project Plan. Contractor must provide, as part of their technical proposal, a project plan that demonstrates their approach to achieving the requirements outlined in the SOW. The Project plan must include an execution approach, the general process that will be utilized, resource expectations from Airports Authority staff, in addition to duration estimates and reporting outputs. The plan must include a schedule showing all activities with completion dates to successfully implement the proposed solution. **(Deliverable 01)**

To:

4.3 Project Plan. Contractor must provide a project plan that demonstrates their approach to achieving the requirements outlined in the SOW. The Project plan must include an execution approach, the general process that will be utilized, resource expectations from Airports Authority staff, in addition to duration estimates and reporting outputs. The plan must include a schedule showing all activities with completion dates to successfully implement the proposed solution. **(Deliverable 01)**

5. Section **4. Management Requirements, 4.2 Industry Best Practices** is hereby changed from:

4.4 Industry Best Practices **(Deliverable 02)** Contractor must provide, as part of their technical proposal, the following:

To:

4.5 Industry Best Practices **(Deliverable 02)**:

6. Section **11. Service Level Agreements, 11.4 IT TIERS** is hereby incorporated as follows:

11.4 TIERS – Tiers are defined as follows:

IT SUPPORT LEVEL	FUNCTION
Tier I	Basic help desk resolution and service desk delivery
Tier II	In-depth technical support
Tier III	Expert product and service support
Tier IV	Outside support for problems not supported by the organization

Revised Amendment 003 - Appendix A
CMMS Functional Requirements
Computerized Maintenance Management System
Software and Support
at
Ronald Reagan National Airport, Washington Dulles International Airport and the Dulles Toll Road

Req ID	Key Areas of Functionality	Yes	No	Response Comment
5.0	**CMMS Technical Requirements**			
5.1	Software as a Service (SaaS) solution required			
5.2	Must have industry standards APIs and provide open access to the CMMS APIs. Briefly describe interface/integration tools and methodologies. (E.g. Application Program Interfaces, Web Services, Service Oriented Architecture, Proprietary Middleware Tools, etc.).			
5.3	Contractor shall provide access to a "sandbox" instance to allow the Airports Authority to test configuration modifications prior to pushing modifications to the production instance.			
5.4	Must comply with Airports Authority Information Security Directive (2018) at http://www.mwaa.com/business/contracting-manuals-forms-and-other-resources			
5.5	Must comply with Security compliance SSAE/ISO 27000			
5.6	Must support single-sign-on, integration with MS Azure			
5.7	Must support current Airports Authority approved platforms			
5.8	Must comply with Airports Authority Disaster Recovery Site Requirements			
5.9	Must support assigning hierarchical roles, responsibilities and permissions			
5.10	Role-based and user-definable menus, fields and screens.			
5.11	Capability to configure required fields on data entry screens.			
5.12	Capability to create and save advanced on-screen queries			
5.13	Searchable system user help.			
5.14	Context sensitive system help.			
5.15	Audit trail with date, time, user stamp and historical values on all fields.			
5.16	Document and photo attachment throughout system.			
5.17	All fields are searchable and reportable throughout the system, including user-defined fields.			
5.18	Capability to create user-defined fields.			
5.19	Capability to create definable isolated segments (DCA, IAD, DTR, Contractors, etc.)			
5.20	Capability for field label customization on all screens.			
5.21	Provide wizards for complex task sequences.			
5.22	Provide pop-up dialog box advisories or warnings.			
5.23	Support point-and-click, drag-and-drop mouse functionality.			
5.24	User Interface: The system shall: Provide standard Windows tools (drop down menus, toolbars, etc.) and capabilities (split or minimize windows, attachments, undo, spell check, etc.).			
5.25	Enable the user to customize screens/forms.			
5.26	Capability to assign a unique username and password for each user.			
5.27	Capability to mass import assets, PM schedules, procedures and tasks.			
5.28	Capability to for user configurable rule-based process workflow throughout the system.			
5.29	Provide capability to add new fields to existing records and globally populate attributes.			
	Capability to interface/integrate with the following systems:			
5.30	Workday (Financial and Inventory)			
5.31	Builder SMS			
5.32	ESRI ArcGIS (GIS)			
5.33	Fuel Master (Fuel System) (if fleet option is included)			
6.1	**Work Order Management**			
6.1.1	Flexible work order creation from screen.			
6.1.2	Capability to include costs for labor, material, parts, equipment, vehicles, tools and outside resources on work orders.			
6.1.3	Capability to include asset ID on work order to create asset history.			
6.1.4	Capability to assign estimated time and resources on work orders.			
6.1.5	Capability to enter multiple assets to a single work order with ability to apply labor and material to each asset as needed.			
6.1.6	Capability to route work orders to appropriate maintenance shop and be able to route a single request to multiple shops simultaneously or consecutively. (User definable)			
6.1.7	Capability to schedule work to be done on a calendar that allows the user to change the day, time or crew by activating the work order from the calendar view			

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6.1.8	Capability to duplicate work order function to create new work orders.			
6.1.9	Capability to configure categories, tasks, priorities, problem, cause, action, types, sub-types, etc. for work performed, including context sensitive dropdowns.			
6.1.10	Capability to schedule work orders. (e.g. work crew calendar).			
6.1.11	Capability to schedule balancing by crew or by person (e.g. load balancing).			
6.1.12	Capability to generate a daily work list for staff based on work orders and assigned tasked and estimated time to complete them.			
6.1.13	Capability to schedule work to be done on a calendar that allows the user to change the day, time or crew by activating the work order from the calendar view			
6.1.14	Capability to schedule closures; shut downs by date, or by date and time.			
6.1.15	Capability to detect duplicate work orders by addresses or location.			
6.1.16	Capability to create Parent/Child work order relationships with the ability to close parent work order prior to closing child work orders			
6.1.17	Capability to support the creation of "projects," generally defined as multi-trade or work requiring a permit. Projects generally require more than one work order.			
6.1.18	Capability to provide work order backlog by skill.			
6.1.19	Capability to maintain an audit trail for all actions taken on a WO.			
6.1.20	Contain Work Order completion information, i.e. employee, hours, location, action taken.			
6.1.21	Maintain the identity of the originator and that of the organization and individual who has the responsibility to react to the maintenance requirement.			
6.2	**Asset Management**			
6.2.1	Capability to provide work order history on assets.			
6.2.2	Capability to monitor asset cost history for the life of the asset including acquisition, maintenance, repairs, retirement, and disposition.			
6.2.3	Capability to store and display assets in an asset tree hierarchical structure			
6.2.4	Each asset must have an unique ID number.			
6.2.5	Capability to assign Criticality rating to assets.			
6.2.6	Capability to track asset to a location, facility, vehicle, department or person (assigned company property)			
6.2.7	Capability to transfer an asset and all related records and history to another person, location, facility or equipment/asset.			
6.2.8	Track asset activities and history for unlimited years (e.g. repairs, replacement, maintenance, upgrades, retirement, abandon-in-place, etc.).			
6.2.9	Create/update maintenance task(s) associated with a facility/component including task instruction, estimated time required, labor and skill requirement, spare part and tool/equipment requirements, etc.			
6.2.10	Condition assessment tracking with useful life estimates by asset type.			
6.2.11	Capability to define unlimited number of parent/child/component asset hierarchy levels			
6.2.12	The system shall provide notification to users when estimated useful life threshold is nearing.			
6.2.13	The system shall be able to calculate asset performance statistics (such as uptime, miles per gallon)			
6.2.14	Capability to group assets to help schedule and coordinate preventive maintenance activities			
6.2.15	Lifecycle management including strategy to comply with Authority Enterprise Asset Management standards.			
6.2.16	The system shall generate/retrieve MTBF			
6.2.17	The system shall generate/retrieve frequency of down time			
6.2.18	Support Warranty Management and tracking.			
6.2.19	Capability to add components to asset record.			
6.2.20	Capability to add Bill of Materials to asset record.			
6.2.21	Include capability to query/sort assets on many attributes.			
6.2.22	Provide a field for O&M manual location.			

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6.2.23	Provide a field for barcode number.			
6.2.24	Provide a field for GPS location			
6.2.25	Flag the user when an asset maintenance requirement is covered under warranty.			
6.3	**Web Service Request**			
6.3.1	Capability for an On-line Request for Service module – generates work order with minimal data entry. Must be capable to be accessible from the MWAA website and mobile app.			
6.3.2	Capability for service requester to track their service requests status.			
6.3.3	Capability for to send and track customer survey email responses.			
6.4	**Planning & Scheduling**			
6.4.1	Capability to create and maintain multiple PM schedules for each asset.			
6.4.2	Capability to set triggers for automatic PM generation by various criteria such as by date, hours, readings, miles, etc.			
6.4.3	Capability to include required estimated labor, procedure, materials, parts, and other requirement work components to a PM schedule.			
6.4.4	Support a QA/Inspection program for both equipment, services, planned events.			
6.4.5	The system shall generate view (plan/schedule) for future work, i.e., identifying future month's workload.			
6.4.6	Set various PM work order start date types, e.g. days, weeks, months, etc.			
6.4.7	Schedule resource incl. staff, contract and tenant labor on PM schedule.			
6.4.8	Retrieve the facility/vehicle detailed information such as safety instructions, component associated task list from the facility and fleet management functions.			
6.4.9	Capability to create a corrective work orders from a preventative maintenance work order.			
6.5	**Inventory Management**			
6.5.1	Capability to integrate with Workday Materials management and inventory control, including the capability to track the use of parts, material, equipment, tools, on work orders, asset, etc.			
6.5.2	Capability of creating User definable centralized and shop inventory warehouse for supplies, parts, tools, and equipment.			
6.5.3	Capability to create asset and expensed based warehouses.			
6.5.4	Capability to systematically transfer material from main warehouse to shop warehouse.			
6.5.5	Support bar code reading of inventory.			
6.5.6	Designate any area or vehicle as a store room or warehouse.			
6.5.7	Inventory tracking including asset tagging and barcoding.			
6.5.8	Lower stock on hand figure based on use through a work order.			
6.5.9	Assign bin location in a warehouse.			
6.5.10	Min/max order quantities and re-order lead times that trigger suggested purchase requisitions. Inform user and Workday when minimum parts level is reached .			
6.5.11	Include vendor and manufacturer information with a part.			
6.5.12	Issue/transfer inventory to work orders.			
6.5.13	Support Actual and Last in First Out (LIFO) inventory valuation.			
6.5.14	Capability to categorize obsolete spare parts, attic stock, non moving stocks, expired stocks.			
6.5.15	Capability to update all stock adjustments and provide audit trail of all adjustments including quantities.			
6.5.16	Capability to add material on-the-fly to work orders.			
6.5.17	Support fuel Management. (if fleet option is included)			
6.5.18	Support tire Management. (if fleet option is included)			
6.5.19	Maintain the tools for maintenance work and equipment including the master location and custody information.			
6.5.20	Support alphanumeric spare part number.			
6.5.21	Support alternate supplier's spare part number.			
6.5.22	Support ordering, storage and issue unit of measure with conversion factor. Allow conversion of bulk purchased material/supplies to unit of issue. (example; case of filters received, in inventory becomes 25 filters.)			

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6.5.23	Define the spare part by category, subcategory and condition such as maintenance spare part or non-maintenance spare part; inventory stock or expense stock; or new, reconditioned, stock under warranty, insurance stock, etc.			
6.5.24	Capability to track bulk inventory.			
6.5.25	Provide calculation on average day turnovers in quantity and value and their totals within a user definable time period.			
6.5.26	Be able to identify slow moving, redundant and obsolete spare parts based on user specified criteria such as timeframe, stock range or type.			
6.5.27	Deduct the received quantity from the on-order quantity .			
6.5.28	Maintain the record audit of the issue of the spare part to either the maintenance service providers or the direct employed maintenance staff.			
6.5.29	Maintain an audit trail of the return of unused spare parts from a work order.			
6.5.30	Capability to cross reference NIGP/NAICS for codification Develop a common set of stock numbers used across MWAA			
6.5.31	Capability to handle designated inventory location (e.g., safety) for environmental or HAZMAT segregation			
6.5.32	Capability to track shelf life/expiration date for certain inventory, i.e., consumables			
6.5.33	Capability to transfer inventory between two shops locations			
6.5.34	Capability to forecast inventory for future demand based on past history and future projections (using statistical modeling technique)			
6.5.35	Capability to track and report MTD and YTD usages of parts by location			
6.5.36	Capability to track repairable parts including repair costs of those repairable parts that are kept in shop inventory; establish & maintain a repaired part value.			
6.6	**Mobile Application**			
6.6.1	Capability by the field technician to access the maintenance history of the asset being worked.			
6.6.2	Capability to attach photos, and documents to work orders from mobile device.			
6.6.3	Capability to change status and enter comments, add labor and material to work orders.			
6.6.4	Capability to add an inspection checklist with skip logic based on responses. Each inspection item should be able to capture types like images, coordinates, drop down lists, checkboxes, radio buttons, text string, dates and etc. A work order may be generated from the inspection.			
6.6.5	Capability to create work orders by scanning barcodes and QR codes			
6.6.6	Capability to enter a generic indication of the fault/problem type (for example, area too cold), without stating a specific real asset when the asset affected is uncertain.			
6.6.7	Capability to close an inspection work order and input a follow up work request to carry out the needed maintenance work.			
6.6.8	For the remote field technician capability to create a work order based on on-site findings of a maintenance requirement that is fixed on-the-spot.			
6.6.9	Capability on a controlled basis, change the priority on a work order.			
6.6.10	Shall provide capability to prioritize work orders.			
6.6.11	Remote capability of the field technician, enable ready access to the set of work orders scheduled to be addressed for the day/week.			
6.6.12	Monitor the progress of the work order including issuing the work requisition acknowledgment when the work order is generated against the request, updating the work order status, closing the order, and issuing completion acknowledgment.			
6.6.13	Monitor the work order progress by capturing the status of the tasks in a work order input by responsible person.			
6.6.14	Status data that allows the maintenance supervisor to review the progress of a work order in real time.			
6.6.15	Enter the identity of the requester such as airport employee, tenant, etc. so that acknowledgments of different stages can be sent back to the corresponding person or party.			

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6.6.16	Capability to relate multiple tasks per work order.			
6.6.17	Support operation and maintenance functions for all utilities supplies and services for the airport including electric access and distribution, all HVAC function and domestic water, natural gas, sprinkler (fire), sanitary storms systems from the water main through faucets through sewer system until it leaves airport property.			
6.6.18	The mobile application shall provide capabilities to view Historical information of work performed against an asset			
6.6.19	The mobile application shall provide capabilities to communicate with the worker in the field			
6.6.20	Capability to access assets records and documents.			
6.6.21	Capability to scan an asset barcode to determine a list of all active work orders for an asset.			
6.7	**Resource Management**			
6.7.1	Capability for employee to submit pay period timesheet and for supervisor to approve timesheet.			
6.7.2	Capability of the field technician to provide an input mechanism for capturing time associated with travel and other overhead time costs.			
6.7.3	Capability to calculate shop labor rate.			
6.7.4	Capability to analyze manpower performance of one individual, a group of technicians or all personnel.			
6.7.5	Capability to schedule the direct employee (permanent and temporary) labor for the maintenance work.			
6.7.6	Capability to select the time period for labor analysis.			
6.7.7	Capability to select for analysis one labor category or all direct employed technicians.			
6.7.8	Capability to assign employee shift.			
6.7.9	Enable tracking of labor category and hours by type, e.g. overtime, regular.			
6.7.10	Support hours by month by employee.			
6.7.11	Associate labor category and hours with the task being worked on.			
6.7.12	Maintain the overtime authorized per direct employed labor.			
6.7.13	Ensure relatively even distribution of work among the labor who possess the same skills set.			
6.7.14	Enable the supervisor to monitor and approve the labor schedule of the maintenance technician.			
6.7.15	Monitor the maintenance technician's labor schedule by maintaining information such as number of maintenance technician's labor being assigned for the particular maintenance work skills possessed by the labor, etc.			
6.7.16	Assist the maintenance supervisor/manager to assess the adequacy of maintenance technician's staff to the volume of maintenance work.			
6.7.17	Maintain the approved maintenance technician's labor assignment information in the system for future reference or comparison with the actual.			
6.7.18	Maintain the profile of the direct employed labor including salary information as the basis to define the actual cost per man-hour .			
6.7.19	Maintain the skill profile of the direct employed labor.			
6.7.20	Maintain the leave profile of the direct employed labor; leave includes paid and non paid leave, training time, etc.			
6.7.21	Capability to add and track on ad-hoc basis contract labor utilized on various work orders.			
6.7.22	Capture the roster plan of the direct employed labor assuming there will be staff working in shifts to cover twenty-four hour operations of the airport.			
6.7.23	Provide analysis of the manpower performance of the direct employed labor based on the manpower schedule with estimated maintenance time and the actual work schedule based on the completed work order log.			
6.7.24	The manpower loading schedule in graphical time slice format.			
6.7.25	Capability to track time at the work order level			
6.7.26	Capability to track time at the task/vmrs level			
6.7.27	Capability to track certifications/Safety training and etc.			
6.8	**Cost Management**			
6.8.1	Capability to calculate Lifecycle Replacement Cost			
6.8.2	Capability to analyze one asset, a group of assets of the same asset type or all assets depending on the selection.			

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6.8.3	Assist the airport maintenance operations to execute the "charge back" policy or turn the cost center into a profit center although there will not be actual monetary payment by any internal department/division.			
6.8.4	Capability to create a bill invoice with labor and materials used on work orders.			
6.8.5	Capability to evaluate the costs (material and labor) for projects.			
6.8.6	Include costs for direct employed staff, maintenance service providers, materials such as spare parts and tools/equipment, etc.			
6.8.7	Associate how much money is spent on materials per PM, per job (WO) or type of work.			
6.8.8	Capture the costs in the details according to the same categories defined for the budget.			
6.8.9	Capture the costs by the individual asset when the completed work order log is updated in the work order Management Module.			
6.8.10	Provide the analysis as on-line inquiry or hardcopy report format.			
6.8.11	Capture the mark-up price set by management either as a percentage of the actual cost or a dollar amount.			
6.8.12	Capture the standard charging rate or other charging mechanism to be decided by the Authority .			
6.8.13	Output data that are useable to support budget estimates.			
6.9	**Reporting**			
6.9.1	The reporting functionality must include the capability to generate unlimited custom and ad hoc reports, exportable into a variety of formats including MS Excel.			
6.9.2	The system must provide advanced analytics / business intelligence reporting to allow for more comprehensive and specific analyses.			
6.9.3	The system shall provide dashboard reporting capability with drill down function to the record level allowing for modification if user credentials match			
6.9.4	Capability to access CMMS database with Crystal Reports.			
6.9.5	User level security flows through to reports.			
6.9.6	Open standards reporting tools with drill down to source transactions based on multiple parameters / filters.			
6.9.7	Ad-hoc query and reporting on real-time data.			
6.9.8	Allow users to create ad hoc reports.			
6.9.9	Capability to review reports before they are printed.			
6.9.10	User-definable executive dashboard components with drilldown capability.			
6.9.11	Mobile executive dashboards (at-a-glance functionality).			
6.9.12	Send reports to printer, file, or email.			
6.9.13	Provide compatible file formats for exporting reports, (i.e. .doc, .xls .pdf, txt, csv, etc.).			
6.9.14	Query or report on data by providing date parameters.			
6.9.15	Modify an existing or standard report to create a customized report.			
6.9.16	Support management level tracking for: resource allocation; preventative maintenance functionality; estimation/approximation of future maintenance events based upon historical data; open work order tracking; and, man hour allocation and management.			
6.9.17	Provide a shared data and reporting environment that effectively supports all maintenance management activities of IAD, DCA and DTR.			
6.9.18	Support a robust ad-hoc and canned reporting capability. Report writing shall be flexible and responsive.			
6.9.19	Enable a comprehensive response to a single item input, i.e., determine how much time a technician has spent on any given piece of equipment on which they have worked throughout a year.			
6.9.20	Be able to calculate diagnostics such as cost per operating hour or mile used.			
6.9.21	Support real time reporting, i.e., the actual status of the equipment must be continually refreshed.			
6.9.22	Provide diagnostics such as failure history by type and number for a certain item of equipment.			
6.9.23	Enable timely (real-time) feedback on the status of work orders.			

Revised Amendment 003 - Appendix A
CMMS Functional Requirements
Computerized Maintenance Management System
Software and Support
at
Ronald Reagan National Airport, Washington Dulles International Airport and the Dulles Toll Road

Req ID	Key Areas of Functionality	Yes	No	Response Comment
6.9.24	Enable continual feedback to the customers who have identified the maintenance requirement and raised the issue.			
6.9.25	Provide multiple levels of sorting and sequencing to define a report.			
6.9.26	Save a customized report or query in both a public and/or private domain with specific rights applied by the author.			
6.9.27	Capability to schedule routine daily/weekly/quarterly reports.			
6.9.28	Capability of reporting on the maintenance history for any asset.			
6.9.29	The system shall generate/retrieve: A view of the maintenance history of an item of equipment, specifically the cumulative time spent and replacement history for the same equipment item.			
6.9.30	Vehicle/equipment Utilization Reports – (Hours, Miles – PM to be automated based on usage).			
6.9.31	Work Order history for the specified by year or status.			
6.9.32	Special situation reports such as snow removal and availability of snow removal vehicles.			
6.9.33	Detailed management reporting capability – i.e., maintenance hours distribution on switch-gear, transformers, airfield lighting, relamping, and distribution panels.			
6.9.34	A view of how much time a technician has missed in a year.			
6.9.35	Inventory Control Reports (Usage Rates, Meantime between Failures (parts)).			
6.9.36	The system shall provide ability to generate reports using ODBC connection			
6.9.37	Capability to export/feed data via automated API to MWAA data warehouse environment (currently Informatica).			
6.10	**GIS**			
6.10.1	Interface CMMS to GIS to be able to locate work orders and assets within the GIS application by room, building, or selected area.			
6.10.2	Capability to create location-based reports of assets or work orders based on geographic region or user defined areas and subjects.			
6.10.3	Capability to create a GIS map of selected assets from within CMMS.			
6.10.4	Capability to select work orders and inspection records from GIS selection set.			
6.10.5	Create “on the fly” work orders or service requests from a map selection in GIS.			
6.10.6	Map display of location and status of selected work order(s).			
6.10.7	Print and/or export (for example, PDF format) a map with a legend, bar scale, and notes displaying work order or asset location.			
6.11	**Fleet Management**			
6.11.1	Capability to track labor and material on separate line items on work orders.			
6.11.2	Capability to track inspection, emission and registration renewal dates.			
6.11.3	Use the industry standard VMRS as a default and enable the user to amend the values as required.			
6.11.4	Capability to perform analysis of the maintenance history of a vehicle based on the work order history.			
6.11.5	Capability to retrieve the planned maintenance schedule from fleet management function.			
6.11.6	Capability to create/update a vehicle register record or a group of records.			
6.11.7	Capability to copy all information of a vehicle type from another record.			
6.11.8	Capability to Identify vehicles by component, if necessary, by associating the vehicle identification number with a component code.			
6.11.9	Capability to maintain and change the change of location of a vehicle.			
6.11.10	Capability to create/update maintenance task(s) associated with a fleet/vehicle/component including task instruction, estimated time required, labor and skill requirement, spare part and tool/equipment requirements, etc.			
6.11.11	Capability to define the task list at any levels of components in the component hierarchy.			

Revised Amendment 003 - Appendix A
CMMS Functional Requirements
Computerized Maintenance Management System
Software and Support
at
Ronald Reagan National Airport, Washington Dulles International Airport and the Dulles Toll Road

Req ID	Key Areas of Functionality	Yes	No	Response Comment
6.11.12	Capability to select a component task from a list of retrieved master tasks.			
6.11.13	Capability to specify per task unlimited number of records for required labor (direct or contract), spare part and tool/equipment where applicable.			
6.11.14	Capability to optionally determine whether a fleet/vehicle component will have planned maintenance.			
6.11.15	Capability to specify more than one task list identifier for a component depending on the type of work such as inspection or maintenance, planned or unplanned.			
6.11.16	Capability to sequence the tasks to present a logical flow of work.			
6.11.17	Capability to set-up more than one schedule per fleet/vehicle component. Individual schedule may be referenced to different task list of the component in order to perform different types of maintenance work.			
6.11.18	Capability to copy the maintenance schedule of a vehicle component to another vehicle.			
6.11.19	Capability to change the vehicle component planned maintenance schedules to a group of vehicle components based on the retrieved records.			
6.11.20	Capability to set-up context-sensitive maintenance instruction cross references. The interface shall allow a toggle to the specified area in the instructions without the need of signing off from the CMMS.			
6.11.21	The system shall: Maintain a detailed and accurate inventory of all fleet/vehicles that require maintenance operations.			
6.11.22	The system shall: Associate fleet/vehicles operating at the airport with different organization, groups and types, and defined location.			
6.11.23	The system shall: Maintain each vehicle in a vehicle register.			
6.11.24	The system shall: Be capable of specifically identifying each vehicle on the airport.			
6.11.25	The system shall: Maintain the change of the fleet/vehicle detailed information which is relevant to the maintenance operations.			
6.11.26	The system shall: Be capable of making reference to the vehicle number as defined in the Finance Systems.			
6.11.27	The system shall: Maintain a table of user definable fleet/vehicle groups by responsibility, for example, landside, airfield, etc.			
6.11.28	The system shall: maintain the change of the fleet/vehicle type detailed information.			
6.11.29	The system shall: Maintain the master information of the component installed in a vehicle, e.g., combine the vehicle identification number and the component code to allow identification of the unique component in the particular vehicle.			
6.11.30	The system shall: Maintain the change of task master detailed requirements including task instruction, estimated time required, labor and skill requirement, spare part and tool/equipment requirements, etc.			
6.11.31	The system shall: Maintain a list of work order authorization user IDs sequenced by hierarchy.			
6.11.32	The system shall: Provide maintenance support to a diversified fleet.			
6.11.33	The system shall: Maintain lists of standard inspection and/or maintenance tasks per component type.			
6.11.34	The system shall: Maintain planned maintenance schedules for the preventative maintenance inspections for each vehicle.			
6.11.35	The system shall: Provide analysis of fleet/vehicle performance by comparing the preset expectation and the history of the work performed on the fleet/vehicle.			
6.11.36	The system shall: Maintain the change of the task list of a component.			
6.11.37	The system shall: Retrieve the initial component task list from the manual.			
6.11.38	The system shall: Be able to compute and update the total time required to complete the whole task list of a component as soon as the task list is updated.			
6.11.39	The system shall: Maintain the change of the planned maintenance schedule of a unique vehicle component by combining the vehicle identification number and component code to become the unique code.			

Revised Amendment 003 - Appendix A
CMMS Functional Requirements
Computerized Maintenance Management System
Software and Support
at
Ronald Reagan National Airport, Washington Dulles International Airport and the Dulles Toll Road

Req ID	Key Areas of Functionality	Yes	No	Response Comment
6.11.40	The system shall: Maintain the task list code for each schedule in order to easily refer the particular tasks to be performed.			
6.11.41	The system shall: Retain work order data within the CMMS data base as historical data complete with its statistics.			
6.11.42	The system shall: Allow historical data to be archived at selectable intervals off the system into long term storage.			
6.11.43	The system shall: Identify the type of each maintenance work order, i.e., whether it is a planned or emergency.			
6.11.44	The system shall: Provide the history of maintenance to forecast or adjust the future maintenance schedule as needed.			
6.11.45	The system shall: Record and archive historical audit trail of who made the changes to the fleet/vehicle register record.			
6.11.46	The system shall generate/retrieve: The work orders from the list of standard tasks for both preventative planned maintenance and emergency maintenance.			
6.11.47	The system shall generate/retrieve: Work orders that correspond to planned maintenance schedules. For each fleet/vehicle, there will be prescribed expectation of performance such as availability, expected down time, maintenance cost and expected life of service.			
6.11.48	The system shall generate/retrieve: The maintenance history of the fleet/vehicle based on the work performed including parts and supplies.			
6.11.49	The system shall generate/retrieve: The fleet/vehicle performance and forecast future maintenance schedule. Analysis shall be provided by at a minimum, vehicle identification number and vehicle type.			
6.11.50	Capability to send automatic e-mail notifications that state emissions are coming due			
6.11.51	Capability to provide automatic notification for vehicle inspection renewals			
6.11.52	Capability to track tags and title information.			
6.11.53	Capability to track insurance and vehicle tag renewal dates			
6.11.54	Capability to scan and attach vehicle title			
6.11.55	Capability to indicate that an asset has no expiration date			
6.11.56	Capability to interface with Fuel Master			
6.11.57	Capability to track accidents and recalls			
6.11.58	Capability to track vehicle recalls by VIN#			
6.11.59	Capability to track accident claim numbers against asset number, work order number, estimated cost to repair, actual cost of repair, and summarize repair/work being done to the asset			
6.11.60	Capability to track and associate vehicle/equipment accident to an employee/contractor/department/vandalism			
6.11.61	Capability to attach multiple repair estimates to a work order			

ATTACHMENT 02

REVISED – AMENDMENT 003

EVALUATION CRITERIA AND PROPOSAL SUBMISSION REQUIREMENTS

EVALUATION CRITERIA AND PROPOSAL SUBMISSION REQUIREMENTS

01 EVALUATION CRITERIA

A. Information submitted in proposals will be evaluated using only the criteria listed below. The criteria are listed in descending order of importance with the first having the most weight and with each of the following criteria having equal or lesser weight than the one preceding it. Each criterion consists of all elements listed in the paragraph under each criterion. Please note that the elements listed in each of these paragraphs are not considered sub-criteria and will be evaluated collectively, not individually. In other words, when evaluating how well a technical proposal meets a particular criterion, the Authority will consider all of the elements of that criterion together as a single criterion, not as separate sub-criteria. The Authority will base its evaluation on information provided by the Offeror.

B. The Authority reserves the right to establish a competitive range of offerors based upon its initial evaluation of the technical proposals (the technical evaluation) and at subsequent points during the evaluation process. The Authority also reserves the right to conduct oral interviews with only the Offerors in the competitive range and to include the results of the interviews in its evaluation and to consider only these firms for contract award. Offerors in the competitive range must be prepared to provide a demonstration of their proposed solution.

C. The Authority further reserves the right to request Best and Final Offers (BAFO) if in the best interest of the Authority. If BAFOs are desired, the Contracting Officer will issue a solicitation amendment containing the BAFO request. This amendment will be issued to all Offerors still within the competitive range and will state a deadline for receipt of the best and final offers. Offerors are not required to change their technical and price proposals in response to the BAFO request, but must acknowledge the BAFO amendment even if they do not change their proposals. Contract award will be made to whose offer is judged by an integrated assessment of the evaluation criteria to be most advantageous to the Airports Authority based on technical merit and price (best value) and that the Airports Authority deems responsible in accordance with the Airports Authority Contracting Manual.

D. **Definitions For Technical Evaluation**

Proposals will be evaluated by their strengths, weaknesses and deficiencies against the evaluation factors and these attributes will be communicated to the proposers for follow-up action as appropriate.

Definitions:

Clarifications: Communications with an Offeror for the sole purpose of eliminating minor irregularities, informalities, or apparent clerical mistakes in the proposal. Unlike discussions, clarifications do not give the Offeror an opportunity to revise or modify its proposal, except to the extent that correction of apparent clerical mistake results in revisions.

Discussions: Oral or written communications including negotiations between the Authority and an Offeror (other than clarifications) that; involves information essential for determining the acceptability of the proposal or to cure identified defects in the proposal.

Deficiencies: Defects in the proposal which preclude acceptance. Involves any part of the Offeror's proposal which would not satisfy the Authority's minimum requirements established in the solicitation. Included failures to meet specifications, submit information, or questionable technical or management approaches. Items disclosed during discussions, evaluated in two categories: material-basis for rejection because further discussions would be meaningless; curable –may be corrected by clarifications or discussions and brought into the competitive range.

Weakness: Includes ambiguities, lack of complete descriptions, errors in interpretation, and omissions of essential information, inadequate information, all of which are considered curable in discussions. An excessive number of clarifications may in itself constitute a weakness.

Strengths: Elements of the proposal that meet or exceed the minimum requirements of the solicitation and provide an identified benefit to the Authority.

EVALUATION CRITERIA

EVALUATION RATINGS:

Based upon the evaluations, an adjectival rating will be given depicting how well the offerors' proposal meets or exceeds the stated evaluation factors and solicitation requirements for Technical Proposals. The adjectival criteria are as follows:

A. TECHNICAL PROPOSAL EVALUATION

(No price information is to be submitted with Technical Proposal)

Unacceptable	Fails to meet an acceptable evaluation standard and the deficiency is uncorrectable. Proposal would have to undergo a major revision to become acceptable. Demonstrated lack of understanding of the Authority's requirements or omissions of major areas.
Marginal	The proposal response lacks essential information to support a rating of Unacceptable, Acceptable or good. Deficiencies found are not material and are curable with clarification. Marginal is not intended as a final rating, but used as a placeholder to obtain a clarification from the firm. The clarification is not intended as a re-write of the proposal.
Acceptable	Meets the evaluation standard in a beneficial way to the Authority and has some strength and no significant weaknesses and is comprehensive and complete in all details.
Good	Meets the evaluation standard in a beneficial way to the Authority and has all strengths and no significant weaknesses and is comprehensive and complete in the major areas of resources and capabilities.
Excellent	Meets the evaluation standard in a valuable way to the Authority and has all strengths and no weaknesses and is comprehensive and complete in the major areas of resources and capabilities and has no conflicts of interest.

Technical Proposals will be evaluated based on the following Technical Evaluation factors:

1. Past Performance
2. Product Capability
3. Integration

B. PRICE PROPOSAL EVALUATION

Complete Price Schedule, Section III, and submit as part of the Price Proposal envelope as stated in paragraph 03.A. below.

The Authority will evaluate price proposals for reasonableness, completeness, and realism as appropriate. Each Offeror's cost will be evaluated in terms of the following which are equal in importance:

1. Submittal of proposed fully loaded fixed rates for period of performance, failure to do so will necessitate rejection of the proposal;
2. Any offer which is materially unbalanced may be rejected. An unbalanced offer is one which is based on prices that are significantly overstated for some items and understated for other items;
3. The Authority will compare the price proposals to the Authority estimate and otherwise determine reasonableness by performing a price analysis if adequate competition exists. A cost analysis will be performed if adequate price competition does not exist, to ascertain whether or not the proposed price is fair and reasonable; and
4. In accordance with the Contracting Manual (latest edition, as revised) or FAR 15.400 for DOT Funded projects, the Offeror shall provide certified cost or pricing data as requested by the Contracting Officer.

TECHNICAL PROPOSAL EVALUATION

Criterion 1: Past Performance

~~Offeror will be evaluated on past performance on contracts supporting facilities similar in size and scope to the Airports Authority requirements. Offerors must narratively demonstrate at least five (5) years past experience of providing implementation, data migration, training, commercial off the shelf SaaS CMMS software and support for the management of inventoried assets. The SaaS CMMS solution must at a minimum address planning, scheduling, cost and recording activities.~~

Offeror will be evaluated on past performance on contracts supporting facilities similar in size and scope to the Airports Authority requirements. Offerors must narratively demonstrate at least three (3) years past experience of successfully providing implementation, data migration, training, commercial off the shelf SaaS CMMS software and support for the management of inventoried assets. The SaaS CMMS solution must at a minimum address planning, scheduling, cost and recording activities.

The Offeror must submit a minimum of three (3) clients references within the past three (3) years for which the Offeror has provided services similar to or greater than those described in the technical specifications. Describe the Offerors' role in the implementation and the success of the implementation for each client reference. References may be contacted and feedback taken into consideration during evaluation. Each client reference must include the following:

- Name of firm
- Name of point-of-contact
- Point-of-contact telephone numbers and email addresses if available
- Location of services performed
- Cost of implementation and total contract value
- Number of inventory assets and system users
- Approximate SQFT of facilities
- Approximate number of work orders per year
- Term of the contract to include Go-Live date and years of maintenance
- Start and completion of Go-Live dates
- Risks associated with the implementation and resolutions

Criterion 2: **Product Capability**

Offerors will be evaluated on how well the software solution meets the technical and functional requirements as set forth in Appendix A of the STATEMENT OF WORK. The Offeror must narratively detail the software's capability including the scalability and level of configuration provided to achieve the Authority's requirements as part of their proposal. Appendix A must be completed and returned as part of this criterion.

Criterion 3: **Integration Experience**

Offeror will be evaluated on its approach to successfully integrating the proposed software solution to include project management, data migration, review of current business processes, schedules, reports, training and long term maintenance and support services.

The Offeror shall provide a draft project plan to include typical or general best practices, key performance indicators, workflows and data entry standards that they have utilized during previous CMMS implementations.

Offeror shall provide its organization chart with lines of delineation for all team members. Proposed team members must be on the project until Go-Live date is successfully achieved. Offeror shall document the status of each team member with regard to whether full time or part time and if part time the level of effort provided by these employees. Offeror shall provide resumes for all team members proposed for this project to include subcontractors.

02 PROPOSAL SUBMISSION REQUIREMENTS

A. Submission Instructions

All Offers must be submitted in both electronic (USB Drive only) and hard copy. Proposals shall be submitted in four (4) parts, each in a separate sealed envelope labeled with the Offeror's name and address, the solicitation number and the envelope name as follows:

Envelope 1: Representation Package

Submit an **original** and **one** (1) copy of the following documents in the **Representation Package** envelope:

a. Solicitation Offer and Award Page
b. Representations and Certifications, Section IV
c. LDBE Certification Exhibits as applicable:
   - Exhibit A, Voluntary Efforts to Obtain MBE/WBE Participation
   - Exhibit F, LDBE Certification Application or proof of certification
   - Exhibit G, Application for Joint Venture Eligibility
   - Exhibit H, Request for Waiver
   - Exhibit I, LDBE Unavailability Certification
d. Insurance Liability Provision 15, Section VII
e. Insurance Affidavit, Section X – Attachment 03

The electronic copy of the Representation Package must be submitted in PDF format on the USB Flash Drive within Envelope 4 as part of the Electronic USB Flash Drive Package.

Envelope 2: Price Proposal

Submit an **original** and **one** (1) copy of the following documents in the **Price Proposal** envelope:

a. Price Schedule, Section III
b. Exhibit D, Contract Participation Form

The electronic copy of the Price Schedule must be submitted in its original Microsoft Excel Format on the USB Flash Drive within Envelope 4 as part of the Electronic USB Flash Drive Package. A PDF copy may be included.

Envelope 3: Technical Proposal

Submit an **original** and **nine (9) copies** in the **Technical Proposal** envelope.

a. Do not include any reference to price.
b. Submit on typewritten 8 ½ x 11" plain white paper.
c. Assemble in a three ring binder or staple. No other binding methods are acceptable.
d. Do not exceed fifty (50), double-spaced, single sided pages. Exhibits and samples of previous work are not included in the 50-page limit. Resumes may be included in the exhibit and excluded from the 50 page limit.
e. Address the evaluation criteria in the order they are presented.

The electronic copy of the Technical Proposal must be submitted in PDF format on the USB Flash Drive within Envelope 4 as part of the Electronic USB Flash Drive Package.

Envelope 4: Electronic USB Flash Drive Package

Submit a single USB Flash Drive containing an electronic copy of the following in the Electronic USB Flash Drive Package.

a. PDF of Representation Package
b. Microsoft Excel Format of Price Schedule (PDF may be included)
c. PDF of Technical Proposal

In case of a discrepancy between the hard copy and the electronic copy, the hard copy will take precedence.

B. Format and Instructions for Technical Proposal Preparation

Each Offeror's technical proposal must demonstrate the Offeror's ability to meet all requirements in this RFP. The following information is to be provided in the technical proposals and will be used in evaluating the proposals.

The technical proposal will be limited to a total of fifty (50) pages, not including exhibits, attachments, etc. and will include the following sections in the order listed below.

Cover/Title Sheet

Table of Contents Offerors will include a table of contents that lists section numbers and page numbers. This is not part of the overall page limit.

~~**Section 1 Past Performance and Qualifications**~~

~~**Section 2 Project Understanding**~~

~~**Section 3 Management Plan**~~

Section 1 Past Performance

Section 2 Product Capability

Section 3 Integration Experience

Do not include any Price Proposal information in any of the technical proposal sections.

Proposals that do not include all requested information as required in this RFP, that do not conform to these instructions and that do not acknowledge all amendments to the RFP in accordance with the amendment's instructions, may be deemed nonconforming by the Authority and rejected without evaluation.

Office of Technology (MA-600)

Policy:

Technology Standards – Attachment 06

Metropolitan Washington Airports Authority
1 Aviation Circle
Washington, DC 20001-6000

September 25, 2018

techWORKS
Office of Technology

Metropolitan Washington Airports Authority – Office of Technology Policy			
Title	**ID Number**	**Effective Date**	**Scheduled Review Date**
Technology Standards – Attachment A	600-POL-IT009.10	09/25/2018	June 2019
Related Documents:	Technology Standards Technology Standards Variance Request Form – Attachment B MA-600 IT Change Management Process		

1.0 Introduction

1.1 Point(s) of Contact

Goutam Kundu, Chief Information Officer, (703) 417-8762.
Balaji Karuppiah, Enterprise Architecture Director, (703) 417-8863.
Kevin James, Chief Information Security Officer, (703) 417-8363.
Marcela Bessenyei, IT/Technology Capital Investment Program Manager, (703) 417-1211.
Minchy Shaw, SaaS Operations Director, (703) 417-8347
Robert Mitchell, Technology Operations Director, (703) 417-8869.
Thomas Peifer, Program Support Director, Technical Review Committee Chair (703) 417-3926.
Ispart Barek, Enterprise Architect (703) 417-3935
Technology Service Desk, (703) 417-TECH (8324).

2.0 Overview

This attachment is a subset of the Office of Technology Policy, Technology Standards, which outlines the minimum hardware and software technology standards for the Authority's enterprise environment.

3.0 Purpose

This list represents the standard current Architecture Landscape at the time of revision. Where possible, the following standards represent the target state as planned by the Airports Authority.

SOFTWARE			
Application Standards	**Platform**	**Product**	**Specification**
	Workstations	MWAA Standard Image 32/64-bit V4.2	Adobe Flash Player Active-x 21 Adobe Reader XI 11.0.19 Bomgar Jump client 16.1.1 Cute PDF Professional 3.73 FireAMP Connector 5.0.9 Internet Explorer 11.0.9600 Java 8 Update 77 McAfee E-Policy Agent 5.0.2.188 McAfee VirusScan Enterprise 8.8.07000 McAfee Drive Encryption 7.1.3 (Laptops only) Microsoft Silverlight 5.1.4 Microsoft .net 4.6.1 Microsoft Office Professional Plus 2010 14.0.7015.1000 Oracle Jinitiator 1.3.1.22 (Sunset target for August 2018) SourceTree 1.6.14.0 System Center Config. Mgr. Client 5.00.8239.1203 PowerZip 7.0 Symantec Enterprise Vault Outlook Add-in 11.0.7570 Toad for Oracle 12.1
	SaaS	Human Capital Management Finance, Procurement, Grants, Inventory & Asset Management, Budgeting and Planning Internet Web Analytics Service Management Human Resources Management Identity and Access Management (used for SSO) Endpoint Protection SOA platform / Platform as a Service Mobile Device Management	Workday Drupal 8 Google Analytics Service Now Informatica iPaaS Airwatch CylancePROTECT Knowbe4 – security Awareness Training Sunflower – RFID inventory tracking Microsoft Azure Identity and Access Management (IAM) Okta Identity and Single sign-on

SOFTWARE			
	On-premise / Servers / Development		
		Budgeting and Planning	Oracle Hyperion 11.1.1.3(not recommended though no replacement identified)
		Property and Revenue Management	PROPworks 8.4 Note: Propworks V6 Oracle forms
		Monitoring	Nagios & Cacti
		Intranet	LiveLink Content Server 10 Service Pack 2 (current state) SharePoint 2013 (target state)
		Data Exchange and Message Processor	BizTalk 2009
		Application Development	Microsoft Visual Studio & Eclipse, Oracle Application Framework (not recommended any more though remains for legacy system (Taxi & FM)
		Application Framework	.Net 4.5.2, Drupal 7x, J2EE, PHP 5.4.40
		Application Runtime Environment	Java 7x/8x; .NET 4.5.2; Adobe Air 17.0.0.144
		Web Development	HTML5
		Frontend/JavaScript Library	JQuery v2.1.3, Node.js v0.12.2, Bootstrap 3.3.4, Angular.js v5.1.1
		BI – ETL	Informatica 9.6.1
		BI – Data Warehouse	Oracle 12c
		BI - Reporting	OBIEE 11.1.1.9 28119112 - OBIEE Suite Bundle Patch 11.1.1.9.180717
		BI – Visual Analytics	Qlik Sense
		Emergency Notification	Everbridge Paging System 4.1.0 (vendor hosted)
		Incident Management	Intermedix WebEOC
		Computer Aided Dispatch	Intergraph iCAD 9.1.1
		Event Log Management	Tripwire Enterprise 8.3, Splunkv6.3.3
		Identity Access and Directory Services	Microsoft Active Directory, LDAP, SAML 2.0 and OAuth 2.0, Microsoft Azure IAM
		Intrusion Detection System (ID	SourceFire 6.1.0.5
Antivirus	**Platform**	**Product**	**Specification**
	Workstations	McAfee VirusScan 8.8i or later CISCO AMP CYLANCE	Must be updated with the latest released maintenance pack.

SOFTWARE			
	Servers	McAfee VirusScan 8.8i or later CISCO AMP CYLANCE	Must be updated with the latest released maintenance pack.
Back Office Productivity	**Platform**	**Product**	**Specification**
	Workstations	Office 2010 Professional	Must be updated to the latest service pack (SP).
	Servers	Not Supported	N/A
Backup	**Platform**	**Product**	**Specification**
	Workstations	Not Supported	N/A
	Database	Oracle SQL	RMAN Backup to tape utilizing Netbackup SQL Server Management Studio Maintenance Plan
	Servers	Symantec Netbackup	V8.1 or higher
Database	**Platform**	**Product**	**Specification**
	Workstations	Not Supported	N/A
	Servers	SQL server 2014 and 2016 Oracle Database 12c MySQL	Must be updated to the latest SP. Must be updated to the latest CPU MySQL 5.6.x (or higher)
Operating System	**Platform**	**Product**	**Specification**
	Workstations	Windows 10 Professional, release 1709 or higher Windows 7, 64 bit, latest SP Windows 8.1 update 1 64-bit	Windows 10 Pro is the current standard client operating system. Approval from office of Technology is required before deploying Windows 7 and/ or 8.1 Refer to approved MWAA Windows 10 and 7 installation SOP's for the list of applications included in the base image.
	Servers	Windows Server 2012 R2, latest Update and Windows Server 2016, latest Update Oracle Linux 7 or higher Red Hat Linux 7	Refer to approved MWAA Installation SOP for the list of applications included in the base image.
Queue Management System (QMS)	**Platform**	**Product**	**Specification**
	Workstations	Blue Eye Video	N/A
	Servers	Blue Eye Video	N/A
Source Control	**Platform**	**Product**	**Specification**
	Servers	GIT	Atlassian Bitbucket

SOFTWARE			
System/ Patching Management	**Platform**	**Product**	**Specification**
	Workstations	System Center Configuration Manager 2016 - version 1706 or newer (SCCM 2016) Ivanti EndPoint Security (DEV and PRCSDCA)	N/A
	Servers	Ivanti EndPoint Security	8.5 Update 1
Virtualization	**Platform**	**Product**	**Specification**
	Workstations	Not Supported	N/A
	Servers	VMware vSphere (ESXi) 6.5/6.7, vCenter 6.5/6.7	V6.5/6.7
VPN	**Platform**	**Product**	**Specification**
	Workstations	Cisco AnyConnect secure Mobility Client	3.1.10010
	Servers	Not Supported	N/A
Web Server	**Platform**	**Product**	**Specification**
	Workstations	Not Supported	N/A
	Servers	Internet Information Services (IIS) 8.5 or higher Apache Tomcat 8 or higher Apache 2.4.x or higher Oracle Fusion Middleware Application Server 12c (12.1.3) (target state) Oracle Weblogic Server 12.1.3 (target state) JBoss Application Server WildFly 8.2.0 JBoss EAP 6.4.0(target state)	Refer to approved MWAA IIS installation SOP. Not recommended
Messaging/Email Services	**Platform**	**Product**	**Specifications**
	Workstations	Not Supported	N/A
	Servers	Microsoft Exchange Server 2010 Cisco IronPort Email Security Appliance (ESA) Cisco Ironport Content Security Management Appliance (SMA) Cisco IronPort Email Encryption (EA) TrendMicro ScanMail Enterprise Vault	Service Pack 3 with update Rollup 22 or higher ScanMail 2.5 or newer Enterprise Vault v 12.x or newer

HARDWARE			
Console Switch	**Platform**	**Product**	**Specification**
	Analog Switches	Dell KVM DAV2108 Dell KVM DAV2216	8 and 16 port Analog KVM With rapid rails
	Remote Switches	Dell/Avocent KVM DMPU2016 Dell/Avocent KVM DMPU4032	16 and 32 port digital KVM With rapid rails
	LED Consoles	Dell 1U DKMMLED185 Touchpad, English keyboard, widescreen 18.5" LED	With rapid rails
Network	**Platform**	**Product**	**Specification**
	Switches	Cisco Nexus switches Cisco Catalyst switches: 6500-E, 3850	Information available upon request.
	Routers	Cisco Routers: ASR, 4000, 3900	Information available upon request.
	Access Points	Cisco Aironet access points: 3800, 2800 Cisco Catalyst 3850	Information available upon request.
	Firewall appliance	Cisco ASA: 5585 PaloAlto Firewall	Cisco FTD FPR9K-SM36-FTD-BUN along with FMC FMC2500-K9 foreseen from 2019 once AnyConnect & multiple context is supported Being used for PRCS IAD
Peripherals	**Platform**	**Product**	**Specification**
	Monitors	Dell P2213	22” wide screen monitor HDMI, VGA, and DVI inputs Speaker bar compatible
	Projectors	Dell 1510	2700-3500 lumens HDMI, VGA, and DVI ports
	Scanners	Fujitsu FI-6130	Scans color and monochrome 600 dpi 30 ppm+
Personal Computers	**Platform**	**Product**	**Specification**
	Desktops	Dell GX7010	Minimum requirements: HDMI, DVI, USB ports 8 GB of RAM; i5/i7 Quad core processor Optical drive
	Laptops	Dell Latitude E7240/E7270	Minimum requirements: HDMI, DVI, USB ports 8 GB of RAM; i5/i7 Quad core processor Optical drive
Rack Enclosures	**Platform**	**Product**	**Specification**

HARDWARE			
	24U	APC	With door and slide panels
	42U	APC - AR3300 NetShelter SX 42U Enclosure - Black Black Box RMT3200A	With door and slide panels and APC PDUs
Security Appliances	**Platform**	**Product**	**Specification**
	CISCO Firepower	Web/Content Filtering	Physical Appliance
	CISCO Umbrella	DNS-based Content filtering	DNS-based filtering
	ISE	Cisco Identity Services	Engine 10 Bundle VM SKU version 2.2
	AMP	Advanced Malware Protection (AMP)	The converged applicance FW/IDS with the Cisco FTD FPR9K-SM36-FTD-BUN along with FMC FMC2500-K9 is foreseen from 2019) – Current implementation in WLC & ASA modules awaiting for FTD readiness
	AVC	Cisco Application Visibility and Control (AVC)	
	IPS	Intrusion Prevention System (IPS)	
	IDS	SourceFire Defense Center 1500, SourceFire IDS - 3D7010, 3D7020, 3D7030, 3D7110	
Servers	**Platform**	**Product**	**Specification**
	Standalone	Dell PowerEdge rack mountable servers	Minimum requirements: Redundant power supply, H700 or H300 RAID controller, RAID 1 & RAID 5,6,10 configuration, 2 x physical CPU, 32GB RAM. 5 x year 24/7 support
	Blades	Dell PowerEdge blade enclosure servers	Minimum requirements: Integrated RAID controller, RAID 1 configuration, 2 x physical CPU, 32GB RAM. 5 x year 24/7 support
Storage	**Platform**	**Product**	**Specification**
	Storage Area Networks (SAN)	EMC Symmetrix VMAX Series EMC VNX Series	Minimum requirements: Fiber and SAS (6GBS) channel support, 64GB cache capacity
	Storage Arrays	Dell FC Storage Array PV MD3820F	Minimum requirements: Dual 2G cache controller, 4 x SFP Fiber Channel, dual power controller. 5 x Year 24/7 support
Tape Library	**Platform**	**Product**	**Specification**
	Modular Tape Libraries	Quantum Scalar Series Dell ML6010	Minimum requirements: 4 FC LTO 6 or newer drives
	Tape Libraries	Dell TL4000, Dell TL2000	Minimum requirements: 2 LTO 6 or newer drives. 6 GB SAS
Telecommunications	**Platform**	**Product**	**Specification**
	PBX	Nortel Meridian option 61C Nortel Meridian option 11C Avaya CS-1000	N/A

HARDWARE			
	SBC	SBC ACME 1100	180 call legs capacity candidate product for VoIP program
	ATA	CISCO ATA VG350 Grandstream GXW4248	160 ports capacity candidate product for VoIP program 48 ports capacity candidate product for VoIP program
	VoIP phones	Yealink	Yealink: SIP-T46, SIP-T46G with 4 EXP-40, Konftel 300x-IP, Fax Codec: T.38
Telephones	**Platform**	**Product**	**Specification**
	Analog	AT&T 210 single line set	
	Digital	Nortel M2008, M2616, M3903, M3904	8/16 Button Set w/o Display & w/ Hands-free & Display Digital Set w/ Hands-free & Display
Unified Digital Signage	**Platform**	**Product**	**Specification**
	Content Distribution Platform	StratosMedia	SaaS
	Content Player	Chromebox	1.7 GHz processing speed (minimum), 4 GB RAM (minimum), 16 GB solid state drive (minimum), 802.11 b/g/n dual-band Wi-Fi, USB 3.0 ports, Bluetooth 4.0, SD card reader, OS Version 46.0.2490.82 (or higher)
Wireless	**Platform**	**Product**	**Specification**
	Wireless Controller	CISCO AIR-CT5520-K9	Note: Current embedded Cisco Application Visibility and Control (AVC) considered for Publi Wi-Fi
	AAA/Radius	Cloud-based solution (being procured)	To be updated upon award
	Access Point	CISCO	Information available upon request.
	Pagers	USA Mobility	Mobile Broadband (integrated) GSM based 940.0250 Mhz
	Cell Phones	AT&T Mobility	IMT-2000 Compliant LTE Advanced 1EEE 802.16m or Wireless MAN-Advanced
	Broadband Cards	Verizon Wireless	LTE/HSPA+ LTE/EV-DO GOBI API.GPS
Wireless and Radio Systems	**Platform**	**Product**	**Specification**
	Subscriber Radio	Motorola Portables: APX7000, APX6000, APX6000XE, , APX4000, APX1000, XTS5000, XTS2500, APX8000, APX8500	N/A guidance

HARDWARE			
		Motorola Mobiles: APX7500, APX6500, APX4500, XTL5000 Air-to-Ground Mobiles– Icom A110 and Icom A210 Air-to-Ground Portables – Icom A14, Icom 120, Icom 210	

GUIDING FRAMEWORKS	
Discipline	**Specification/Knowledge Body**
Enterprise Architecture	FEA, Gartner, TOGAF 9.x
Payment Card Security	PCI DSS 3
Project Management	PMI
Service Management	ITIL
System Quality	ISO/IEC 25010
Service Orientation	W3 standards (SOAP, RESTful and/or JSON)
Business process automation	OASIS standard (BPEL)/OMG standard (BPNM)
IAM Interoperability	OASIS SAML2.0
IAM Delegated Access	IETF oAuth2.0
Technology Security	ISO/IEC 2700X/NIST/FISMA/FIPS
Quality Assurance	ISO/IEC 9001
Quality Management	ISO/IEC/IEEE 29119
Security Testing	OWASP
Process Improvement	CMMi
Function Point Analysis	ISO/IEC 19761
Risk Management	COSO
Service Organization Controls	SSAE-16
Accessibility	508/WCAG/ADA
Identification Card	ISO/IEC 14443
Near Field Communication	ISO/IEC 18092
Business Continuity	ISO/IEC 27031
Disaster Recovery	ISO/IEC 24762
Open Systems Interconnection	ISO/IEC 7498
IT Governance	COBIT/ISO/IEC 38500
Cloud Computing	NIST/IEEE
Cryptography	NIST

GUIDING FRAMEWORKS	
QR Code	ISO/IEC 18004
Financial Transaction	ISO/IEC 8583
Integrated Circuit Cards	ISO/IEC 7816