

SECTION 4

# 00318 AMD 4 EXHIBIT B-2 SYSTEM SOLUTION NARRATIVE

## 4.1 INTRODUCTION

Motorola Solutions Inc. (Motorola) is proposing a Conventional P25 radio system solution. As the requirements dictate, the Solution will include repeaters (4), subscriber units (50), console positions (3), control stations (4), and control system (1).

Please refer to the Conventional System Solution diagram included in this section.

The equipment will be assembled and staged in Motorola's CCSi factory prior to field deployment.

## 4.2 SYSTEM OVERVIEW

This proposed P25 Conventional system includes the following items:

- Four (4) GTR 8000 VHF Base Radios
- One (1) Four-channel VHF RF distribution system, including:
  - One (1) Receive Multicoupler
  - Two (2) VHF Milled Window Filters
  - Two (2) VHF Omnidirectional antennas
  - One (1) 4-Channel VHF Transmit Combiner
  - Two (2) RF Surge Protection Devices (SPDs)
  - Transmission Line
- Fifty (50) APX 900 Model 2 Portable Subscribers
- One (1) K-1 (non-redundant) ASTRO conventional core
- Three (3) MCC 7500E Dispatch Consoles
- One (1) GGM 8000 Conventional Channel Gateway, Low Density
- Four (4) APX Consolettes (control stations)
- One (1) VHF control station RF distribution system

### 4.2.1 DESIGN ASSUMPTIONS

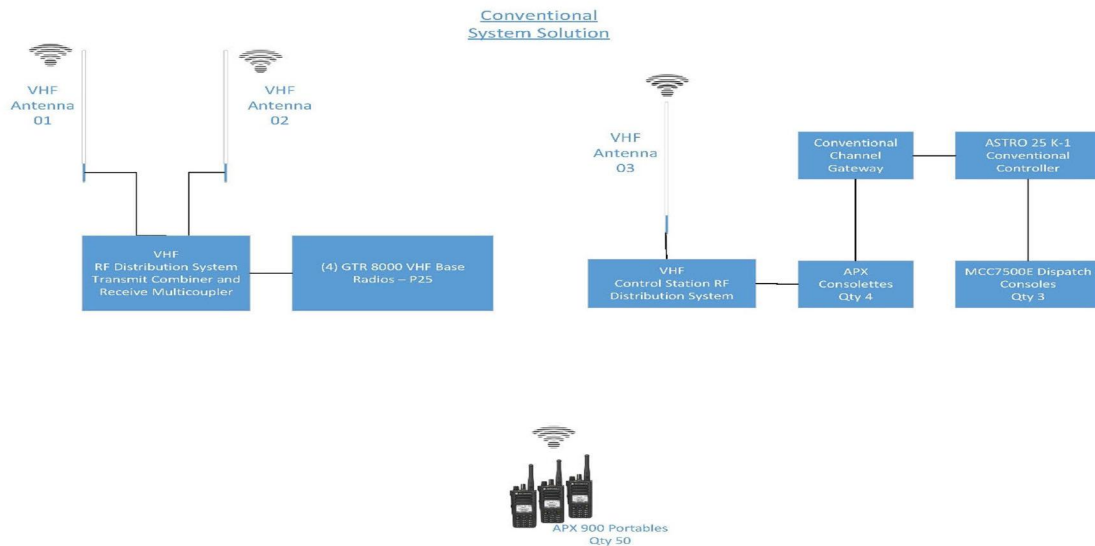
Statement of the proposed design is based on the following assumptions:

- Site antennas and cables not included.



- Backup power/ UPS not included.
- Changes to equipment due to future system design activity during later project phases will be the responsibility of Customer.
- Motorola Solutions is not responsible for interference caused or received by the Motorola Solutions provided equipment except for interference that is directly caused by the Motorola Solutions-provided transmitter(s) to the Motorola Solutions-provided receiver(s).
- Customer will provide:
  - Site AC power
  - Site DC power, if desired.
  - FCC Licensing
  - Site antennas and cables
  - Surge protection, overcurrent protection and backup power.

## 4.2.2 System Diagram



## 4.3 STATEMENT OF WORK

This Statement of Work (SOW) describes the deliverables associated with installing and integrating the system outlined in this submission. The tasks described herein will be performed by Motorola, its subcontractors, and the customer to implement the solution described in the Contract and its Exhibits. It describes the actual work involved in installation, identifies the installation

standards to be followed, and clarifies the responsibilities for both Motorola and Customer during the project implementation. Specifically, this SOW provides:

- A summary of the phases and tasks to be completed within the project lifecycle.
- A list of the deliverables associated with the project.
- A description of the responsibilities for both Motorola and Customer.
- The qualifications and assumptions taken into consideration during the development of this project.

This document is representational and will be customized in scope for each NASPO customer who requests a system proposal from Motorola.

### **4.3.1 MOTOROLA RESPONSIBILITIES**

Motorola's general responsibilities include the following:

- Perform the installation of the Motorola supplied equipment described above.
- Schedule the implementation in agreement with the Customer
- Coordinate the activities of all Motorola subcontractors under this contract.
- Administer safe work procedures for installation.  
Provide Customer with the appropriate system interconnect specifications, including type, connectors, bandwidth, and latency requirements

### **4.3.2 CUSTOMER RESPONSIBILITIES**

Customer will assume responsibility for the installation and performance of all other equipment and work necessary for completion of this project that is not provided by Motorola. General responsibilities for the Customer include the following:

- Provide all buildings, equipment shelters, and towers required for system installation
- Ensure communications sites meet space, grounding, power, and connectivity requirements for the installation of all equipment.
- Obtain all licensing, frequencies, site access, or permitting required for project implementation.
- Provide required system interconnections.
- Customer will provide a dedicated delivery point, such as a warehouse, for receipt, inventory and storage of equipment prior to delivery to the site(s).
- Coordinate the activities of all Customer vendors or other contractors.



### 4.3.3 ASSUMPTIONS

Motorola has based the system design on information provided by NASPO obtained during the RFP process regarding this sample system. As specific requirements and requests from a customer require deviation from our assumptions here, a revised proposal with the necessary changes and adjusted costs may be required. Changes to the equipment or scope of the project after contract may require a change order.

- All existing sites or equipment locations will have sufficient space available for the system described as required/specified by R56.
- All existing sites or equipment locations will have adequate electrical power in the proper phase and voltage and site grounding to support the requirements of the system described.
- All existing towers will have adequate space and size to support the antenna network requirements of the system described.
- Any site/location upgrades or modifications are the responsibility of the customer.
- Any tower stress analysis or tower upgrade requirements are the responsibility of the customer.
- Approved FCC licensing provided by the customer.
- Frequencies for the system shall be provided by the customer which meet the requirements provided by Motorola.
- Approved local, State or Federal permits as may be required for the installation and operation of the proposed equipment are the responsibility of the customer.
- Any required system interconnections not specifically outlined here will be provided by the Customer. These may include dedicated phone circuits, microwave links or other types of connectivity.
- No coverage guarantee is included in this proposal.
- Motorola is not responsible for interference caused or received by the Motorola provided equipment except for interference that is directly caused by the Motorola provided transmitter(s) to the Motorola provided receiver(s). Should the Customer's system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.
- No coverage guarantee is included or implied for this proposal.
- Logging recorder and Archiving Interface Server (AIS) are not included in this design.
- Any third-party interfaces including paging, CAD, 911 and telephony (if applicable) are not included in this proposal.
- Performance bond is not required.
- Prevailing wage is not required.



- Contract terms to be mutually agreed upon.
- Work is performed on non-holidays during normal business hours, Monday – Friday, 8am – 5pm.

#### 4.3.4 RESPONSIBILITIES & DELIVERABLES MATRIX

Motorola Solutions is providing to NASPO the installation and configuration of the equipment outlined in the System Description above. This section delineates the general responsibilities between Motorola Solutions and the customer.

#### 4.3.5 Responsibility Matrix

Tasks	Motorola	Customer
<b>PROJECT INITIATION</b>		
<b>Contract Finalization and Team Creation</b>		
Execute contract and distribute contract documents.	X	X
Assign a Project Manager as a single point of contact.	X	X
Schedule project kickoff meeting.	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
<b>Project Kickoff and Design Review</b>		
Present project scope and objectives.	X	
Review SOW responsibilities and project schedule.	X	X
Present the system design and operational requirements for the solution.	X	
Present installation plan.	X	
Assume responsibility for issues outside of Motorola Solutions' control.		X
Provide minimum acceptable performance as specified by Motorola for customer provided hardware, software, LAN, WAN and internet connectivity.		X
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.		
<b>SYSTEM INSTALLATION</b>		
<b>Equipment Order and Manufacturing</b>		
Create equipment order and reconcile to contract.	X	
Manufacture Motorola Solutions-provided equipment necessary for system based on equipment order.	X	



Procure non-Motorola Solutions equipment necessary for the system.	X	
Deliverable: Equipment procured and ready for shipment.		
<b>System Staging</b>		
Set up and rack the solution equipment.	X	
Power up, load application parameters, program, and test all staged equipment.	X	
<b>Tasks</b>	<b>Motorola</b>	<b>Customer</b>
Perform factory functional acceptance tests of system features	X	
Deliverable: System staged and ready for shipment.		
<b>Equipment Shipment and Storage</b>		
Provide secure location for solution equipment.		X
Pack and ship solution equipment to the identified, or site locations.	X	
Receive solution equipment.		X
Inventory solution equipment.	X	
Deliverable: Solution equipment received and ready for installation		
<b>General RF Installation</b>		
Deliver solution equipment to installation location.	X	
Coordinate receipt of and inventory solution equipment with designated contact.	X	
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control line connection points. Installation performed in accordance with R56 standards and state/local codes.	X	
Deliverable: Equipment installed.		
<b>Console System Installation and Configuration</b>		
<b>Tasks</b>	<b>Motorola</b>	<b>Customer</b>
Install three (3) MCC7500E consoles in the Dispatch Center on existing customer-provided desk space.	X	
Permanently install, cable, and ground equipment in the backroom in customer provided cabinet space.	X	
Perform console programming and configuration.	X	



Deliverable: Console system equipment installation completed.		
<b>SYSTEM OPTIMIZATION AND TESTING</b>		
<b>Tasks</b>	<b>Moto rola</b>	<b>Customer</b>
<b>Functional Acceptance Testing</b>		
Acceptance Test Plan to be reviewed and agreed upon during CDR	X	X
<b>Tasks</b>	<b>Motorola</b>	<b>Customer</b>
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	X	
Witness the functional testing.		X
Document the results of the acceptance tests and present for review.	X	
Review and approve final acceptance test results.		X
Deliverable: Completion of functional testing and approval by Customer.		
<b>PROJECT TRANSITION</b>		
<b>Cutover</b>		
Finalize Cutover Plan.	X	X
Cut over Radio and Console system.	X	
Resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.	X	
Assist Motorola with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist items.		X
Deliverable: Migration to new system completed, and punchlist items resolved.		
<b>Finalize Documentation and System Acceptance</b>		
Receive and approve documentation.		X
Execute Final Project Acceptance.	X	X
Deliverable: All required documents are provided and approved. Final Project Acceptance.		



## 4.4 WARRANTY

## 4.5 ESSENTIAL SERVICES-RF SITES

### 4.5.1 Essential Services Overview

The Essential service package includes the services described below, which will be provided during the 12-month warranty period. Thereafter, Motorola will work with the customer to modify the existing service agreement to include the assets contained in this proposal.

The services included during the warranty period are:

- Service Desk
- Technical Support.
- Network Hardware Repair.
- Self-Installed Security Patches.

These services will be delivered to the State through a centralized team within Motorola's Solutions Support Center (SSC), which operates on a 24 x 7 x 365 basis; and through Motorola's Repair Depot, which will ensure that equipment is repaired to the highest quality standards.

### 4.5.2 Essential Services Descriptions

#### 4.5.2.1 Centralized Service Delivery

Centralized support will be provided by Motorola's support staff, located at our Service Desk and Solutions Support Center (SSC). These experienced personnel will provide direct service and technical support through a combination of Service Desk telephone support, technical consultation and troubleshooting through the SSC, and ongoing network monitoring of the State's system.

Motorola will provide Service Desk response as a single point of contact for all support issues, including communications between the State, third-party subcontractors and manufacturers, and Motorola. When State personnel call for support, the Service Desk will record, track, and update all Service Requests, Change Requests, Dispatch Requests, and Service Incidents using Motorola's Customer Relationship Management (CRM) system. The Service Desk is responsible for documenting the State's inquiries, requests, concerns, and related tickets; tracking and resolving issues; and ensuring timely communications with all stakeholders based on the nature of the incident.

As tickets are opened by the Service Desk, issues that require specific technical expertise and support will be routed to our Solutions Support Center (SSC) system technologists for Technical Support, who will provide telephone



consultation and troubleshooting capabilities to diagnose and resolve infrastructure performance and operational issues. Motorola's recording, escalating, and reporting process applies ISO 90001 and TL 9000-certified standards to the Technical Support calls from our contracted customers, reflecting our focus on maintaining mission-critical communications for the users of our systems.

#### 4.5.2.2 Network Hardware Repair

Motorola's authorized Repair Depot will repair the equipment provided by Motorola, as well as select third-party infrastructure equipment supplied as part of the proposed solution. The Repair Depot will manage the logistics of equipment repair (including shipment and return of repaired equipment), repair Motorola equipment, and coordinate the repair of third-party solution components.

#### 4.5.2.3 Security Management Operations

The proposed Self-Installed Security Patches Service will provide the State with security updates that are pre-tested by Motorola and installed by State personnel. Motorola's dedicated vetting lab will pre-test security updates for the proposed ASTRO 25 system release. When appropriate, Motorola will make these updates available to outside vendors in order to enable them to test each patch, and will incorporate the results of those third-party tests into the updates provided to the State. Once an update is fully tested and ready for deployment in the State's system, Motorola will post it to a secured extranet website and send an email notification to the State. If there are any recommended configuration changes, warnings, or workarounds, Motorola will provide detailed documentation for the State.

