




	Eyak Technology, LLC							Eyak POC: Victor A. Cenname	
	22980 Indian Creek Dr,							703-880-5337 PHONE	
	Suite 400							703-481-0703 FAX	
	Dulles, VA 20166							victor.cenname@eyaktek.com	
	<b>TIGER Catalog Price Sheet</b>							<b>F.O.B.:</b> Destination	
	<b>Motorola OTAR Systems</b>							<b>Terms:</b> Net 30	
	<b>Dated: August 15, 2007</b>							<b>Business Size:</b> ANC / "8(a)"	
	<b>Catalog # 2007-0815-TIGER-Motorola OTAR</b>							<b>Cage Code:</b> 3BS35	
	<b>Catalog Pricing expires June 30, 2008</b>							<b>Tax ID Number:</b> 26-0008977	
								<b>DUNS:</b> 11-271-0947	
								<b>CCR Registered:</b> Yes	
								<b>NAICS CODE:</b>	

Eyak Technology, LLC 22980 Indian Creek Dr, Suite 400 Dulles, VA 20166				Eyak POC: Victor A. Cenname 703-880-5337 PHONE 703-481-0703 FAX victor.cenname@eyaktek.com	
<b>TIGER Catalog Price Sheet</b>				F.O.B.: Destination	
<b>Motorola OTAR Systems</b>				Terms: Net 30	
<b>Dated: August 15, 2007</b>				Business Size: ANC / "8(a)"	
<b>Catalog # 2007-0815-TIGER-Motorola OTAR</b>		<b>TIGER Contract # W912HZ-05-D-0015</b>		Cage Code: 3BS35	
<b>Catalog Pricing expires June 30, 2008</b>				Tax ID Number: 26-0008977	
				DUNS: 11-271-0947	
				CCR Registered: Yes	
				NAICS CODE:	

Eyak Technology, LLC 22980 Indian Creek Dr, Suite 400 Dulles, VA 20166				Eyak POC: Victor A. Cenname 703-880-5337 PHONE 703-481-0703 FAX victor.cenname@eyaktek.com	
<b>TIGER Catalog Price Sheet</b> <b>Motorola OTAR Systems</b> <b>Dated: August 15, 2007</b> <b>Catalog # 2007-0815-TIGER-Motorola OTAR</b> <b>Catalog Pricing expires June 30, 2008</b>		<b>TIGER Contract # W912HZ-05-D-0015</b>		<b>F.O.B.:</b> Destination <b>Terms:</b> Net 30 <b>Business Size:</b> ANC / "8(a)" <b>Cage Code:</b> 3BS35 <b>Tax ID Number:</b> 26-0008977 <b>DUNS:</b> 11-271-0947 <b>CCR Registered:</b> Yes <b>NAICS CODE:</b>	

Eyak Technology, LLC 22980 Indian Creek Dr, Suite 400 Dulles, VA 20166				<b>Eyak POC: Victor A. Cenname</b> 703-880-5337 PHONE 703-481-0703 FAX <a href="mailto:victor.cenname@eyaktek.com">victor.cenname@eyaktek.com</a>																																																																														
<b>TIGER Catalog Price Sheet</b> <b>Motorola OTAR Systems</b> <b>Dated: August 15, 2007</b> <b>Catalog # 2007-0815-TIGER-Motorola OTAR</b> <b>Catalog Pricing expires June 30, 2008</b>		<b>TIGER Contract # W912HZ-05-D-0015</b>		<b>F.O.B.:</b> Destination <b>Terms:</b> Net 30 <b>Business Size:</b> ANC / "8(a)" <b>Cage Code:</b> 3BS35 <b>Tax ID Number:</b> 26-0008977 <b>DUNS:</b> 11-271-0947 <b>CCR Registered:</b> Yes <b>NAICS CODE:</b>																																																																														
<table border="1"> <thead> <tr> <th>Line #</th> <th>Description</th> <th>TIGER CLIN</th> <th>Manufacturer</th> <th>TIGER Contract Price: "Equipment"</th> <th>TIGER Contract Price: "Integration" (Staging, Installation &amp; Optimization )</th> <th>Total Extended Price</th> </tr> </thead> <tbody> <tr> <td colspan="7"><b><u>Maintenance Services 24x7 During Year 4 OTAR Infrastructure Only (no Quantars)</u></b></td> </tr> <tr> <td>009</td> <td>Dispatch Service, Technical Support, Onsite Response, System Survey &amp; Depot Infrastructure Repair</td> <td>1012AC</td> <td>Motorola</td> <td>9,552.33</td> <td></td> <td>9,552.33</td> </tr> <tr> <td colspan="7"><b><u>Maintenance Services 24x7 During Year 5 OTAR Infrastructure Only (no Quantars)</u></b></td> </tr> <tr> <td>010</td> <td>Dispatch Service, Technical Support, Onsite Response, System Survey &amp; Depot Infrastructure Repair</td> <td>1012AC</td> <td>Motorola</td> <td>9,791.14</td> <td></td> <td>9,791.14</td> </tr> <tr> <td colspan="7"><b>NOTES:</b></td> </tr> <tr> <td>1</td> <td colspan="5">This Pricing Catalog is provided in conjunction with the Technical Statement of Work dated August 15, 2007, (see attached)</td> <td></td> </tr> <tr> <td>2</td> <td colspan="5">EyakTek will invoice for Equipment upon shipment of the equipment to the customer site</td> <td></td> </tr> <tr> <td>3</td> <td colspan="5">EyakTek will invoice for Integration upon completion of the FATP and System Acceptance as defined in the Technical Statement of Work</td> <td></td> </tr> <tr> <td>4</td> <td colspan="5">EyakTek will invoice for Maintenance and Warranty Services monthly in arrears</td> <td></td> </tr> <tr> <td>5</td> <td colspan="5">All Products carry the manufacturers standard warranty unless otherwise stated</td> <td></td> </tr> </tbody> </table>						Line #	Description	TIGER CLIN	Manufacturer	TIGER Contract Price: "Equipment"	TIGER Contract Price: "Integration" (Staging, Installation & Optimization )	Total Extended Price	<b><u>Maintenance Services 24x7 During Year 4 OTAR Infrastructure Only (no Quantars)</u></b>							009	Dispatch Service, Technical Support, Onsite Response, System Survey & Depot Infrastructure Repair	1012AC	Motorola	9,552.33		9,552.33	<b><u>Maintenance Services 24x7 During Year 5 OTAR Infrastructure Only (no Quantars)</u></b>							010	Dispatch Service, Technical Support, Onsite Response, System Survey & Depot Infrastructure Repair	1012AC	Motorola	9,791.14		9,791.14	<b>NOTES:</b>							1	This Pricing Catalog is provided in conjunction with the Technical Statement of Work dated August 15, 2007, (see attached)						2	EyakTek will invoice for Equipment upon shipment of the equipment to the customer site						3	EyakTek will invoice for Integration upon completion of the FATP and System Acceptance as defined in the Technical Statement of Work						4	EyakTek will invoice for Maintenance and Warranty Services monthly in arrears						5	All Products carry the manufacturers standard warranty unless otherwise stated					
Line #	Description	TIGER CLIN	Manufacturer	TIGER Contract Price: "Equipment"	TIGER Contract Price: "Integration" (Staging, Installation & Optimization )	Total Extended Price																																																																												
<b><u>Maintenance Services 24x7 During Year 4 OTAR Infrastructure Only (no Quantars)</u></b>																																																																																		
009	Dispatch Service, Technical Support, Onsite Response, System Survey & Depot Infrastructure Repair	1012AC	Motorola	9,552.33		9,552.33																																																																												
<b><u>Maintenance Services 24x7 During Year 5 OTAR Infrastructure Only (no Quantars)</u></b>																																																																																		
010	Dispatch Service, Technical Support, Onsite Response, System Survey & Depot Infrastructure Repair	1012AC	Motorola	9,791.14		9,791.14																																																																												
<b>NOTES:</b>																																																																																		
1	This Pricing Catalog is provided in conjunction with the Technical Statement of Work dated August 15, 2007, (see attached)																																																																																	
2	EyakTek will invoice for Equipment upon shipment of the equipment to the customer site																																																																																	
3	EyakTek will invoice for Integration upon completion of the FATP and System Acceptance as defined in the Technical Statement of Work																																																																																	
4	EyakTek will invoice for Maintenance and Warranty Services monthly in arrears																																																																																	
5	All Products carry the manufacturers standard warranty unless otherwise stated																																																																																	
<b><u>BANK WIRE INFORMATION</u></b> SunTrust Bank Vienna, Va EFT ABA#055002707 WIRE ABA#061000104 ACCOUNT # 1000004888896		<b><u>REMIT TO:</u></b> Eyak Technology 22980 Indian Creek Dr, Suite 400 Dulles, VA 20166		<b><u>For Billing Questions Contact</u></b> Terri Cochran Ext 411 Fax (703) 481-0703 <a href="mailto:cochran@eyatk.com">cochran@eyatk.com</a>																																																																														

## **TIGER Catalog Price Sheet**

**#2007-0815-TIGER-Motorola OTAR**

---

**Motorola OTAR Solution**

**TECHNICAL SOW & PRICE CATALOG**

---

Prepared By:



Eyak Technology, LLC  
Victor A. Cennane, PE,  
Vice President, Communications Services  
22980 Indian Creek Dr, Suite 400  
Dulles, VA 20166

Tele 703-481-0050  
Mobile 703-283-6186



*Eyak Technology, LLC  
22980 Indian Creek Dr, Suite 400  
Dulles, VA 20166*

## **TABLE OF CONTENTS**

<b>1. TECHNICAL OVERVIEW .....</b>	<b>3</b>
1.1 KEY MANAGEMENT FACILITY OVERVIEW .....	3
1.2 CLIN OVERVIEW .....	4
1.3 CONVENTIONAL KMF INFRASTRUCTURE .....	5
1.4 OPTIONAL ITEMS .....	9
<b>2. STATEMENT OF WORK .....</b>	<b>11</b>
2.1 IMPLEMENTATION SERVICES .....	11
2.2 SYSTEMS ENGINEER .....	12
2.3 STANDARDS OF WORK.....	16
2.4 SUBSCRIBER INSTALLATION AND PROGRAMMING.....	19
2.5 CUTOVER PLANNING .....	19
2.6 OPTIMIZATION.....	20
2.7 FUNCTIONAL ACCEPTANCE TEST PLAN .....	21
2.8 SYSTEM ACCEPTANCE .....	21
2.9 SYSTEM DOCUMENTATION .....	22
2.10 TRAINING (OPTIONAL) .....	22
2.11 RESPONSIBILITIES.....	23
2.12 PRICING ASSUMPTIONS .....	28
2.13 WARRANTY .....	29
2.14 SI PROVISIONS.....	29
2.15 FIRM-FIXED PRICE .....	30
2.16 PERFORMANCE BILLING MILESTONES .....	30
<b>3. WARRANTY .....</b>	<b>31</b>
3.1 SYSTEM MAINTENANCE SERVICE .....	31
3.2 ON-SITE FIXED EQUIPMENT RESPONSE AND REPAIR .....	32
<b>4. EQUIPMENT AND SERVICES PRICING .....</b>	<b>34</b>

## 1. TECHNICAL OVERVIEW

### 1.1 KEY MANAGEMENT FACILITY OVERVIEW

For Catalog #2007-0815-TIGER-Motorola-OTAR, EyakTek is proud to offer Motorola's P25-compliant OTAR and encryption for telecommunications sites as specified in ANSI/TIA 102AAAA and ANSI/TIA 102AAAD.

With Motorola's P25 OTAR solution, new encryption keys are encrypted and transmitted to a subscriber upon request, or at the command of the key custodian from a key management center. Motorola's OTAR approach uses the data pipe components of its ASTRO 25's Integrated Voice and Data (IV&D) capabilities to transfer key information from the key management system to the subscriber radios. As a result, subscribers can be securely re-keyed anywhere within the coverage area of the proposed system, eliminating the need for the radio to be physically brought to the key custodian.

Motorola's P25 encryption is validated to meet FIPS 140-2 Security Requirements for Cryptographic and Modules. Verification of Motorola's certificate of compliance with NIST FIPS 140-2 can be found at the following website: <http://csrc.nist.gov/cryptval/140-1/1401val.htm>.

The Over-The-Air Rekeying (OTAR) data application is the most significant security enhancement that Motorola provides. OTAR will provide all the features of multikey (multiple keys) and allows for re-keying of mobiles and portables remotely over the RF channel.

The Key Management Facility (KMF) is the essential management controller for the Association of Public Safety Communications Officials (APCO) Project 25 OTAR system. The controller is a distributed computer network consisting of a Microsoft Windows server, up to ten (10) Microsoft Windows clients, one or more Encryption Module Controllers (EMC), and the appropriate software suite. The KMF formulates and originates the OTAR messages and acts as the key manager for the system. The KMF server provides the following primary functions:

- Maintains all KMF Operator Accounts and Privileges.
- Maintains the OTAR Event Log.
- Encrypts and decrypts all inner and outer layer Key Management Messages.
- May create Key Material using a random number generator
- Maintains Key Material in the Key Kettle.

Maintains the Entity and Relationship Database including units, secure talk groups and keys.

Executes all Key Management Operations including the formulating and routing of all Key Management Messages.

The KMF Client provides the following primary functions:

- Key manager (Operator) interface to OTAR and Key Management Services.
  - ▶ The access point for local and or remote KVL 3000 key uploads and downloads.
  - ▶ Provides access to the KMF System Administration.

## 1.2 CLIN OVERVIEW

EyakTek's OTAR Catalog provides the following line items.

CLIN	Description	Includes
001	Conventional OTAR System	Key Management Facility, Fixed Network Equipment, (1) Co-Located Conventional Repeater w/ antenna system
001A	(1) Additional Remote Site (optional)	With 001, provides a total of (2) Conventional Repeaters w/ antenna systems (1 co-located, 1 remote)
001B	(2) Additional Remote Sites (optional)	With 001, provides a total of (3) Conventional Repeaters w/ antenna systems (1 co-located, 2 remote)
001C	(3) Additional Remote Sites (optional)	With 001, provides a total of (4) Conventional Repeaters w/ antenna systems (1 co-located, 3 remote)
001D	(4) Additional Remote Sites (optional)	With 001, provides a total of (5) Conventional Repeaters w/ antenna systems (1 co-located, 4 remote)
002	Conventional OTAR System	Key Management Facility, Fixed Network Equipment, (1) Remote Conventional Repeater w/ antenna system
002A	(1) Additional Remote Site (optional)	With 002, provides a total of (2) Remote Conventional Repeaters w/ antenna systems
002B	(2) Additional Remote Sites (optional)	With 002, provides a total of (3) Remote Conventional Repeaters w/ antenna systems
002C	(3) Additional Remote Sites (optional)	With 002, provides a total of (4) Remote Conventional Repeaters w/ antenna systems
002D	(4) Additional Remote Sites (optional)	With 002, provides a total of (5) Remote Conventional Repeaters w/ antenna systems





CLIN	Description	Includes
003	Recommended Spares Kit	Provides Field Replacement Units and other spares for QUANTAR station, RNC, WNG, DIU, and Modem
004	On-Site Training	Provides in-field user training on KMF Operations
005	Maintenance during Warranty Period	Maintenance on OTAR system, not including QUANTAR(s)
005A	Maintenance Year Two	Maintenance on OTAR system, not including QUANTAR(s)
005B	Maintenance Year Three	Maintenance on OTAR system, not including QUANTAR(s)
005C	Maintenance Year Four	Maintenance on OTAR system, not including QUANTAR(s)
005D	Maintenance Year Five	Maintenance on OTAR system, not including QUANTAR(s)

**The following sections address each of these CLINs in further detail.**

### **1.3 CONVENTIONAL KMF INFRASTRUCTURE**

The basic conventional OTAR system will operate on a single conventional channel in the UHF or VHF frequency band. The ASTRO Integrated Voice and Data (IV&D) subsystem enables data messages to be exchanged between mobile data terminals and a central computer using radio frequency (RF) wireless communications. The ASTRO IV&D subsystem provides packet data, radio terminal-to-Fixed Network Equipment (FNE) and FNE-to-radio terminal only communications. A Radio Network Controller, the RNC3000™ and a Wireless Network Gateway (WNG) are also required.

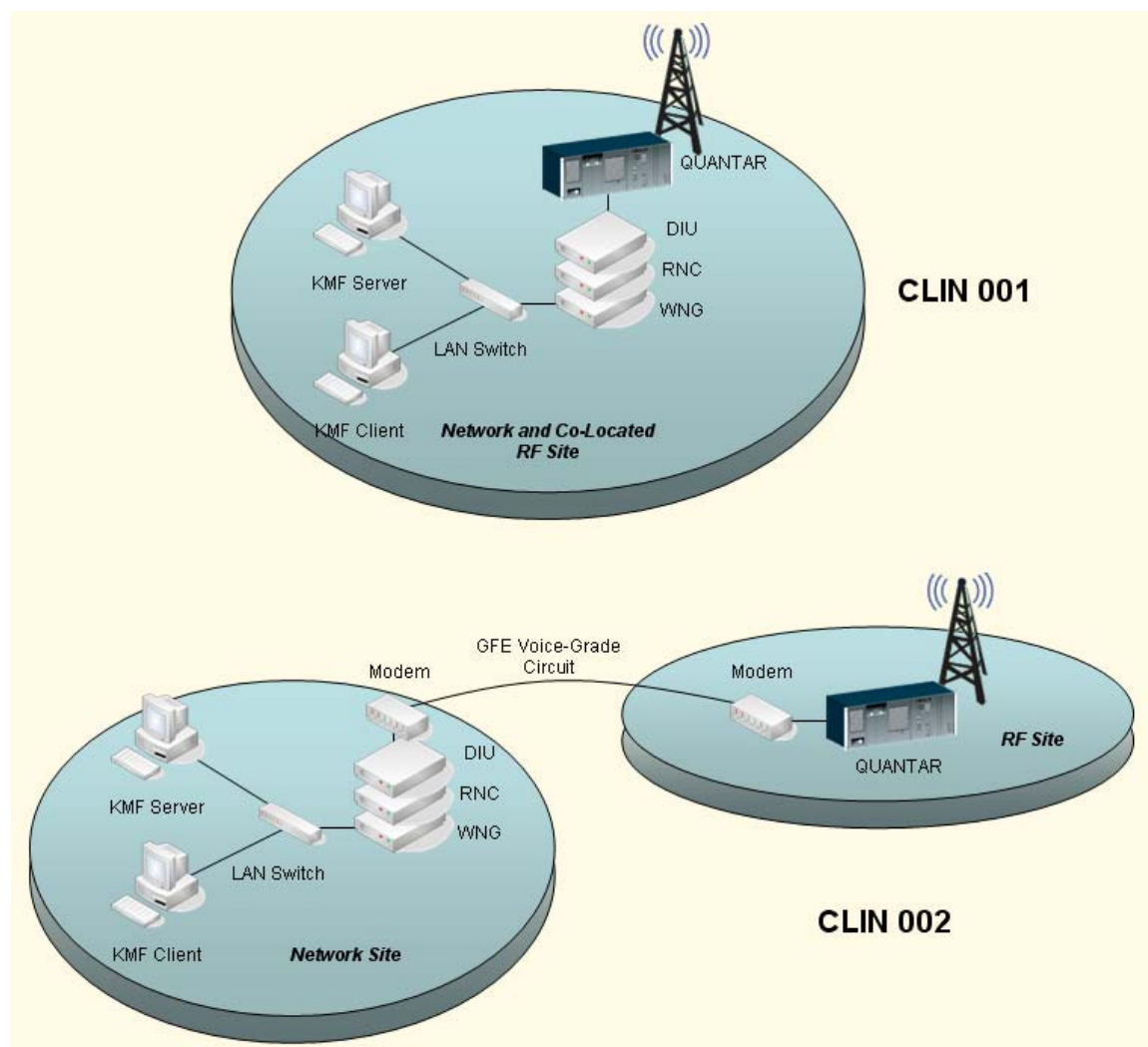
The RNC3000 is the ASTRO radio system's data controller. The RNC tracks current active users and site registration information, formats data messages for transmission, provides tables for data site steering, and provides basic statistics through the RNC console or host computer. Data is sent to the RNC from the Digital Interface Unit (DIU). In a voting scenario, the comparator selects the best-received data message signal and forwards it to the DIU. The DIU then passes that signal to the RNC3000.

The Wireless Network Gateway is a software platform designed to link wireline data networks to Motorola RF networks. The WNG provides (APCO) Project 25 standard Internet Protocol (IP) routing between the wireline network and the wireless subsystem. The WNG also provides detailed statistics and alarm information to monitor operation and loading to support audit, diagnostic and optimization activities, which can be viewed



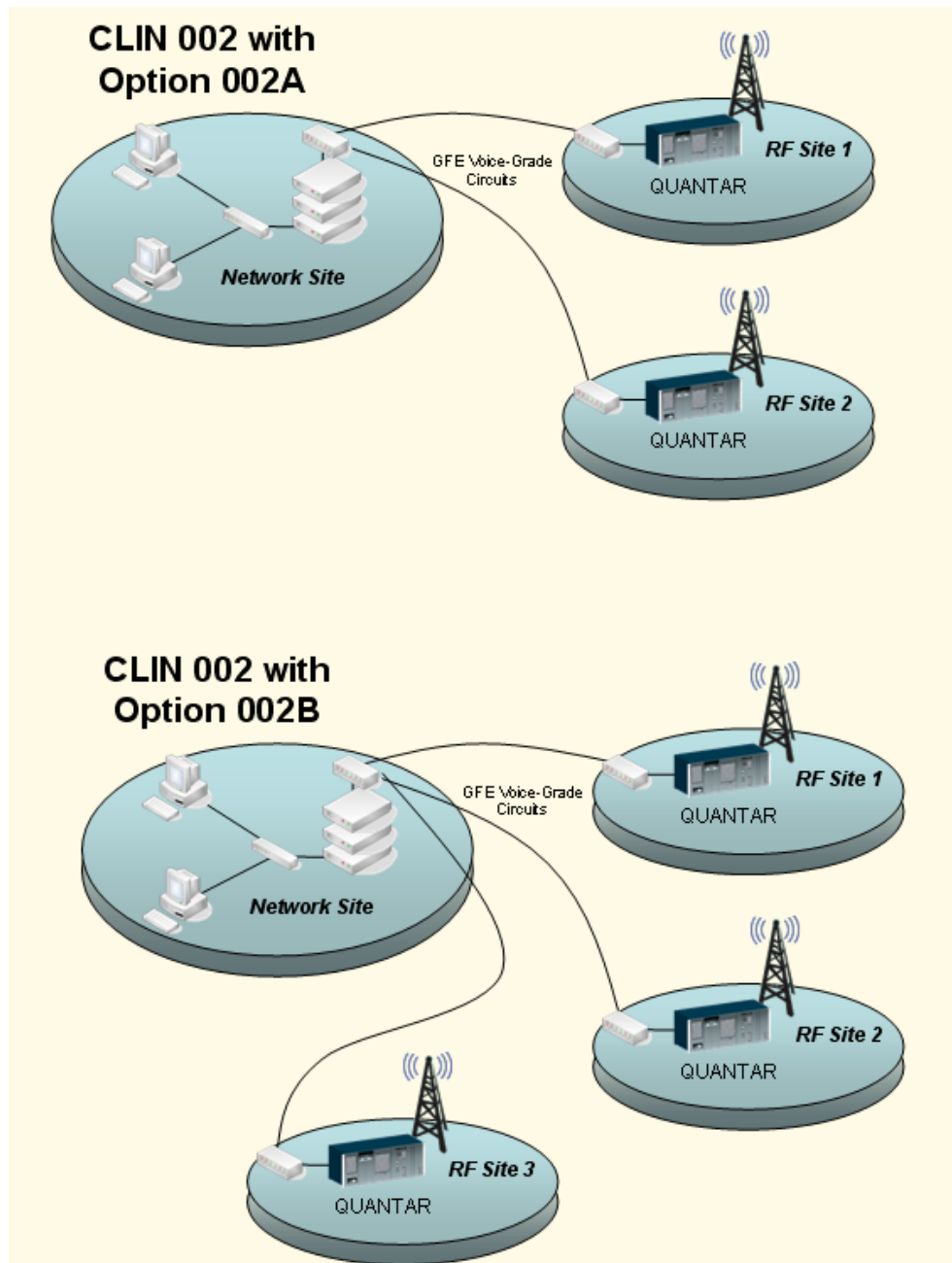
directly via the WNG console. The RNC3000 is connected via standard Ethernet to the WNG, which is then connected to the host network.

The basic conventional OTAR infrastructure consists of a network component (KMF server and client) and an RF component (single repeater site).



If a wider coverage area is required, Motorola is proposing options to expand the number of RF sites supported by the network component. The RNC will track user affiliation across multiple sites, allowing for wide-area mobility. Operationally, users will be

required to manually switch channels between sites to obtain re-key commands, however the system is expandable up to 64 RF sites if required. Examples of this scalability are shown as follows.



**Figure 1: System Scalability Overview**



Each of these additional RF sites will require an additional frequency pair.

## **1.4 OPTIONAL ITEMS**

EyakTek is proposing a suite of options to compliment the Conventional solutions in this proposal.

### **003: Recommended Spares Kit**

This option provides Field Replacement Units for QUANTAR and the Radio Network controller, as well as spare hardware for the Wireless Network Gateway, Digital Interface Unit, and modem.

### **004: On-Site Training**

#### **ASTRO 25 Integrated Voice & Data 6.x/7.x Secure Communications Workshop**

##### **Duration**

5 days

##### **Target Audience**

System Managers, Technical System Managers, System Technicians, and other Application Users.

##### **Course Description**

This workshop describes planning, installation, configuration, operations, and troubleshooting of secure communications within the ASTRO 25 Integrated Voice and Data (IV&D) system.

##### **Prerequisites**

Completion of the following courses or equivalent experience:

- ACT100 – Bridging the Knowledge Gap
- NST762 – Networking Essentials in Communication Equipment



- Completion of ACS71200-E: ASTRO Integrated Voice and Data System Overview, and a passing score on the post-test

### **Course Objectives**

- Describe the implementation of Secure Communications in the ASTRO 25 IV&D system.
- List the purpose and function of the encryption keys.

Describe how supported calls are transmitted in a secure mode.

List the security precautions that must be considered for all Secure Communications devices.

Describe the role of the Key Management Facility (KMF) Client.

Describe the use of management windows in configuring the KMF.

Describe how to perform administration procedures within the KMF submenus.

Describe the role of the Key Variable Loader (KVL).

Discuss the different diagnostic and troubleshooting tools and how to use them.

### **Benefits to You**

- Be able to implement secure communications in an ASTRO 25 IV&D system.
- Increase efficiency by using the different diagnostic and troubleshooting tools.

## 2. STATEMENT OF WORK

### 2.1 IMPLEMENTATION SERVICES

The implementation phase of a project lifecycle begins with the ordering of equipment and services and continues through system staging, installation, optimization, testing and ends with training and documentation. EyakTek and Motorola stay committed to its customers through every stage of the implementation lifecycle.

#### 2.1.1 Project Manager

An expert Project Manager will act as your single point of contact to coordinate a team of engineers, technologists, and specialty resources, working closely with your team to meet your expectations. Our highly skilled teams of professionals will use the industry's best practices, tools and technologies to ensure your system is implemented with the highest degree of quality.

The project manager will monitor all field activities to be conducted directly or indirectly by EyakTek and Motorola including subcontractor work, quality review of all installation, optimization, testing, and warranty activity, performing on-site inspections as professional judgment dictates.

The project manager will also monitor all activities to be conducted directly by Motorola personnel including the following:

- Developing and managing system milestones and schedules.
- Assisting the System Engineer and coordinating with the government during the final design review of the system.
- Creating a project implementation plan with input from the government and maintaining the plan by comparing it to project milestones during the life of the project.
- Attending, coordinating, and assisting during Staging and in-plant system acceptance testing as well as on-site coverage acceptance testing.
- Supervising all installation activities.
- Assisting Motorola field technical personnel and coordinating with the government representatives during the optimization, checkout, and on-site testing of the system.
- Creating a detailed cutover plan with input from the government and managing the migration from existing communications to the new system.

Implementing and managing the process of migration planning, system startup and transition to service.

Following the successful completion of testing, the project manager will coordinate the smooth transition from the system-implementation phase to the maintenance-support phase of the system making the necessary introductions and supplying the proper phone and contact information.

## **2.2 SYSTEMS ENGINEER**

EyakTek will utilize Motorola systems engineers resources to insure the best solutions. The systems engineers are responsible for all phases of the design development, ensuring that the most suitable architecture has been chosen for the government. They will oversee all design developments during implementation through the on-site testing phases. A systems engineer, who is dedicated specifically to federal customers, will be assigned to work closely with you and the EyakTek Project Manager to ensure strict adherence to design specifications during the project implementation. EyakTek will provide the following Systems Engineering services:

- System architecture design and development.
- Implementation support.
- Engineering support during the functional acceptance testing.
- Final system documentation.
- Coverage design by developing coverage predictions and verifying RF coverage performance (this can be purchased through a separate CLIN as needed).

### **2.2.1 Schedule**

Within 180 days after receipt of an acceptable delivery order with approved frequencies, EyakTek will stage, ship, install, optimize, and perform an on-site coverage acceptance testing (if purchased), and have the system operational.

### **2.2.2 Deliverable Services Summary**

Provided below is an estimated completion schedule for the services to be provided to the customer under the provisions of this statement of work.





**Table 1: Deliverables / Milestones Estimated Completion Schedule**

<b>SI DELIVERABLES / MILESTONES</b>	<b>ESTIMATED COMPLETION IN DAYS AFTER RECEIPT OF ORDER (ARO)</b>
<b>Order Equipment</b>	<b>30</b>
<b>Receive all Equipment at Motorola's FSO</b>	<b>60</b>
<b>Start System Documentation</b>	<b>60</b>
<b>Stage, Integrate, Test System</b>	<b>90</b>
<b>Ship Equipment to Site</b>	<b>105</b>
<b>Conduct On-Site Inventory</b>	<b>120</b>
<b>Conduct On-Site Installation</b>	<b>135</b>
<b>Perform On-Site Optimization</b>	<b>150</b>
<b>Perform On-Site System Testing</b>	<b>165</b>
<b>Perform Cutover</b>	<b>170</b>
<b>Perform RF Coverage Testing (if purchased)</b>	<b>180</b>
<b>Customer Final Acceptance</b>	<b>180</b>
<b>Deliver Final Documentation</b>	<b>210</b>

### **2.2.3 Order Tracking**

The project manager will monitor the equipment order, including the manufacturing and delivery functions, which are early indicators of project schedule adherence. The project manager will take action as required to keep the project on schedule. The intricate processes involved in expediting equipment shipment include coordinating Motorola product groups and non-Motorola (drop-ship) suppliers, packing equipment after Staging (explained later) and shipment consolidation. The coordination of these functions results

in a complete system being assembled and inspected during the Staging process, thus reducing installation time in the field.

#### **2.2.4 Staging**

EyakTek and Motorola realize that the most efficient way to begin the system implementation process is to integrate all system components as part of the manufacturing process, prior to the shipment to the government. This process is called Staging or Preshipment Integration and takes place at Motorola's Customer Center for Solutions Integration (CCSi) facility in Schaumburg, Illinois. This facility provides the crucial first step in the assembly, integration, configuration, programming, testing, and documentation of all Motorola radio communications systems.

To provide the necessary sensitivity to the needs and security concerns of our federal government customers, Motorola's Federal Systems Organization (FSO) has private facilities where dedicated program managers, technicians, and engineering personnel of the CCSi ensure accurate order placement and inventory control to build and Stage your system from approved site drawings, exactly as it will be installed at its final destination.

Cables will be customized to their specified lengths and major components are configured and programmed based on the government's specific engineering design and feature requirements. The Federal Systems Organization staff will work with the project manager, engineer, product groups and quality assurance personnel to verify system operation and functionality before the customer representatives are invited to be present.

The project manager and engineer, along with Federal Systems Organization staff and the government's personnel, perform in-plant acceptance test planning to ensure that the system is functional per the designed parameters before the system is approved and shipped to the government.

System Staging allows a complete system to be assembled and inspected before it is shipped to the field and includes the following processes:

1. Inventory management, including the complete accountability for all Motorola-manufactured and third-party equipment, utilizing a barcode recording system.
2. Development of the system installation manual including equipment layout drawings, interconnection documentation, and all programming information.
3. Custom fabrication of cables and connectors based on equipment layout drawings.



4. System assembly as it will appear at the government's final location.
5. Initial equipment programming and level setting.
6. Complete system feature and functionality testing.
7. Generation of a software inventory and version list of all software shipping with the system along with the documentation of key equipment jumper settings.
8. Generation of a serial number list of all major hardware components in the system.

A limited number of the government's personnel are invited to witness and participate in the system test at the Federal Systems Organization facility during the Staging process, with the government being responsible for travel and per diem expenses (If this is desired, please consult the project manager). In conjunction with the project manager and systems engineer, system Staging personnel will provide the government with a briefing and will answer any questions about the system's operation and capabilities.

## 2.2.5 Equipment Shipping

After system Staging, cabinets and racks remain assembled to facilitate rapid system installation in the field. System equipment is packed on a site-by-site basis and all rack-mounted equipment is crated before shipping. Every effort is made to ensure that all components, and cables arrive at the government's site in the same condition they left the Schaumburg, IL Staging facility. The care used in handling this type of sensitive communications equipment is typical of the overall attention to quality that EyakTek and Motorola place on all aspects of their service delivery.

## 2.2.6 On-Site Equipment Installation Activities

After the equipment is delivered, and within 30 days from notification by the contracting officer (or designated representative) that site preparation has been completed, the project manager will commence on-site equipment installation. If site preparation is completed before equipment is delivered, installation activities will commence as soon as possible, no later than thirty days from delivery. The project manager will monitor all integration activities including the installation, interconnection, and testing of equipment as proposed in the system equipment list.

## 2.3 STANDARDS OF WORK

All equipment provided, and the installation of system equipment will comply with the most current requirements specified in:

- The 'Uniform Building Code'
- Motorola's 'Standards and Guidelines for Communication Sites' (R56), which contains technical and experiential guidance for RF site design, fabrication, and installation
- The National Fire Protection Association's 'National Electric Code'
- Other applicable federal codes and ordinances

### **Note:**

The specifications contained in the above references will be used for all equipment and services associated with this proposal. EyakTek and Motorola will not be responsible for upgrading any existing equipment, shelters or equipment rooms, systems, or subsystems to these standards unless specifically stated herein. All work related to the equipment and services proposed herein will adhere to the specifications noted above and shall be performed in a manner consistent with the highest quality workmanship and commercial practices.



### 2.3.1 R56 Standards

Motorola's '*Standards and Guidelines for Communication Sites*' (R56) prescribes standards that represent the best commercial practices for safe, high quality, and efficient site development and installation. Motorola takes pride in the fact that many other corporations use R56 guidelines for communications site development.

The R56 manual is updated regularly and provides guidelines and requirements for the development of RF sites and the installation of communications equipment, infrastructure, and facilities. The following provides a more detailed summary of the requirements and guidelines presented in Motorola's '*Standards and Guidelines for Communication Sites*' (R56).



These published standards draw from numerous sources, including ANSI, FAA, IEEE, Mil Standards, NEMA, NFPA, TIA, EIA, OSHA and UL. The major subjects on which R56 provides detailed information are as follows:

R56 REQUIREMENTS AND GUIDELINES	
<b>Safety</b>	<b>Site Acquisition</b>
<b>Site Design and Development</b>	<b>RF Site Building Design and Installation</b>
<b>External Grounding</b>	<b>Internal Grounding</b>
<b>Power Sources</b>	<b>Transient Voltage Surge Suppression</b>
<b>Minimizing Site Interference</b>	<b>Equipment Installation</b>

### **2.3.2 Installation Plan**

In order to facilitate a smooth and expedient installation with minimal disruption to normal operations, the project manager will develop an installation plan for the installation of fixed network equipment based on an understanding of your organizational requirements. This installation plan will be discussed and reviewed with you prior to equipment delivery and can be changed or modified by the mutual agreement of the customer designated representative and the project manager.

### **2.3.3 Field Activity Overview**

The project manager will oversee and supervise all field activities. This supervision entails maintaining contact with subcontractor(s) and monitoring the quality of their work performance. This supervision also includes, but is not limited to, the quality review of all installation, optimization, testing, and punch-list resolution.

EyakTek and Motorola will perform all work and tasks required to integrate and optimize the system including adherence to applicable manufacturers' recommendations during the installation of the system. The project manager is responsible for all tasks assigned to subcontractors including those listed below:

- Ensuring that installations are performed in accordance with federal codes and ordinances
- Ensuring the proper disposal of all debris generated from installation activities
- Ensuring that all installations are performed in accordance with Motorola's '*Standards and Guidelines for Communication Sites*' (R56)
- Providing all grounding from new equipment installations to the government-provided single-point ground (meeting R56 standards) at all sites

### **2.3.4 On-Site Equipment Inventory**

Before system installation, an on-site inventory is conducted. This inventory is accomplished by the project manager in conjunction with the customer personnel and is a milestone in the system installation plan. This inventory will initiate follow-up action by the project manager to locate, repair, or replace any damaged or missing equipment, if necessary. The project manager will address any discrepancies and facilitate resolutions in a manner that will minimize or preclude any delay in system implementation.

## **2.4 SUBSCRIBER INSTALLATION AND PROGRAMMING**

Under this statement of work, EyakTek and Motorola have no installation or programming responsibilities related to consolettes, mobiles, or handheld subscriber units.

### **2.4.1 Fixed Network Equipment Installation**

The System Description section of this proposal provides a listing of all major equipment and the sites at which this equipment will be installed.

## **2.5 CUTOVER PLANNING**

We consider many factors in developing an optimal cutover process. Among them are the following:

- Security, site preparation, coordination with customer personnel, frequency issues, and subscriber programming must all be carefully considered.
- A cutover plan must encompass the planning and coordination necessary to transition assets and users over a predetermined period.
- A cutover plan must take into consideration the critical tasks of local users and ensure that their mission is not compromised during cutover.
- Sensitivity to interoperability issues with local emergency service and other agencies must be maintained and will be closely examined prior to cutover.

The project manager will work closely with the customer during the implementation process to fully understand normal operations so a minimally disruptive cutover can be achieved. A final cutover plan will be created and agreed upon by EyakTek, Motorola and the customer and will be incorporated into the installation plan.

## 2.6 OPTIMIZATION

System Optimization occurs when the Federal Systems Technologists of the Motorola Optimization Team perform the final adjustments of the equipment for optimal operation and functionality. The Optimization Team is an organization of highly trained Motorola technical personnel, whose role in the field is to perform the installation, optimization, troubleshooting, and testing of any Motorola equipment or system. The optimization Team, working in conjunction with the Motorola project manager and systems engineer, will provide the technical support necessary to tune and adjust system equipment to its peak operational capability.

Upon the completion of equipment installation, an audit for compliance with Motorola's '*Standards and Guidelines for Communication Sites*' (R56) quality standards will be performed. Deficiencies will be documented and reported to the Motorola project manager who will then take the necessary corrective action. After this audit, Motorola's optimization team will perform the following:

1. Make final adjustments to the Key Management Facility, Wireless Network Gateway, Server, DIU(s), QUANTAR Station(s) and Workstation(s), as required.
2. Document software and firmware versions of boards in all applicable equipment provided as part of this project.
3. Verify that all software has been properly installed and configured on the Key Management Facility, Wireless Network Gateway, Server, DIU(s), QUANTAR Station(s) and Workstation(s).
4. Set required audio levels.
5. Correct R56 deficiencies related to the current system installation (This does not include pre-existing conditions for which Motorola is not responsible).
6. Verify all infrastructure programming and code plugs, and print out programming parameters, as applicable.
7. Verify the integrity of the modems for the remote console operator positions and set levels accordingly.
8. Test system readiness prior to the acceptance test.



9. Communicate with EyakTek regarding technical issues, as required.
10. Red-line system manual “As-Built” documentation, as required.

Following the fine-tuning and inspections completed during Optimization, the project manager, in conjunction with the government, will perform a final system *Installation Configuration Audit*. This audit will compare the actual installation configuration to the “red-lined” drawings developed by the Optimization Team. Any variances will be documented and delivered in an electronic report no later than 30 days after the acceptance test. Motorola’s Federal Systems Organization will also receive a copy of the report to ensure that the final documentation reflects the “As-Built” configuration.

Throughout the optimization process, the optimization team will note any abnormalities and recommend solutions to the project manager. The optimization team will also document all system levels, programming, and configurations, which are provided in the final system documentation. Upon completion, a fully functional system will be available for use.

## 2.7 FUNCTIONAL ACCEPTANCE TEST PLAN

The detailed Functional Acceptance Test Plan (FATP) will be created in a joint effort and with mutual agreement between EyakTek, Motorola and the customer after Task Order Award and prior to system implementation. The functional acceptance test is conducted at the completion of the optimization process. It is anticipated that an authorized representative of the government will be present during the testing period to confirm each of the acceptance action items.

## 2.8 SYSTEM ACCEPTANCE

The system shall be considered accepted upon the successful execution and completion of all pre-approved test plans or when the system is placed into beneficial use for its intended purpose, whichever occurs first (see note below).

**Note:**

**“Beneficial use” means use of the equipment or system, or any subsystem thereof, for its intended purpose. This excludes use for the express purposes of training or testing before system acceptance. The use of the equipment for its intended purpose shall be deemed to have occurred when the government commences to use and rely on the equipment for operational purposes.**



## 2.9 SYSTEM DOCUMENTATION

EyakTek and Motorola recognize that supporting system documentation is important to the government. Accordingly, Motorola's systems integration process has been designed to provide accurate and organized system documentation. This documentation is furnished in a comprehensive system manual that includes, but is not limited to, the following:

- System block diagrams
- Site floor plans
- Cabinet/rack diagrams
- Description of system functionality
- Programming templates (as required) for products tested
- Specific test results from pre-shipment integration and testing
- Point-to-point wiring charts
- Cabling charts
- Interconnection cable description and inventory
- Printout of equipment parameters (i.e., programming configuration)
- Unique product jumpering information
- Inventory (with serial numbers and installation location references)

Motorola will provide the preliminary documentation for use in the field during the assembly, installation, optimization, and testing of the system. Throughout the various implementation phases, "red-lined" changes will be made to the preliminary documentation as required. After system acceptance, this "red-lined" documentation will be sent back to the Federal Systems Organization where final, updated documentation will be prepared. The final documentation will be incorporated into a final "As-Installed" documentation set and will be sent to the government no later than 15 days after final system acceptance.

## 2.10 TRAINING (OPTIONAL)

Proper training is as important as any piece of equipment and ensures that the system purchased, functions at its optimum level. It is recommended that the courses described in the following table, Recommended Training Plan, be made available to personnel who



will use the new system. Other courses are available through Motorola's Worldwide Learning Services (WLS) and can be reviewed at the WLS website [www.motorola-wls.com](http://www.motorola-wls.com).

**Table 2: Recommended Training Plan (Optional)**

Course	Target Audience	No. of Sessions	Duration (days)	Location	Date	No. of Attendees
ASTRO 25 Integrated Voice & Data 6.x/7.x Secure Communications Workshop	Technicians & System Managers	1	5	US	TBD	12
Course Synopsis:  This workshop describes planning, installation, configuration, operations, and troubleshooting of Secure Communications within the ASTRO 25 Integrated Voice and Data (IV&D) System.						

## 2.11 RESPONSIBILITIES

The purpose of the following is to clearly define EyakTek's/Motorola's and the government's system implementation responsibilities based upon our best understanding of system requirements and the services to be provided by EyakTek. These responsibilities are documented herein to avoid ambiguities and ensure that the customer and EyakTek and Motorola share a common understanding of all conditions and responsibilities.

### 2.11.1 EyakTek & Motorola Responsibilities:

- Verify the integrity of government-provided microwave links, T1 circuits, fiber links, and phone lines.
- Install system equipment as listed in the system equipment list.
- Ground system equipment as defined in Motorola's '*Standards and Guidelines for Communication Sites*' (R56).
- Install antennas and associated transmission lines as identified in the system equipment list.
- Ground antenna lines as defined in Motorola's '*Standards and Guidelines for Communication Sites*' (R56).
- Install and test required system networking equipment as identified in the System Description and the system equipment list.
- Perform R56 audits and configuration audits at all system infrastructure sites after installation is complete.



- Set system levels, optimize, and perform on-site acceptance testing of the system.
- Develop and coordinate cutover plan activities, as required.
- Develop and provide system documentation.

**Table 3: EyakTek & Motorola Responsibilities by CLIN**

CLIN	EQUIPMENT DESCRIPTION
<b>001</b>	<p><b>Conventional OTAR System - Includes Key Management Facility, Fixed Network Equipment and One (1) co-located Conventional Repeater with Antenna system</b></p> <p><i>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 1 Repeater</i></p> <p><i>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 1 Repeater with Antenna System</i></p> <p><i>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 1 Repeater with Antenna System</i></p> <p><i>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 1 Repeater with Antenna System</i></p>
<b>001A</b>	<p><b>♦ One (1) Additional Site (optional) - With 001, provides a total of two (2) Conventional Repeaters with Antenna Systems (1 co-located, 1 remote)</b></p> <p><i>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 2 Repeaters</i></p> <p><i>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 2 Repeaters with Antenna Systems</i></p> <p><i>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 2 Repeater with Antenna Systems</i></p> <p><i>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 2 Repeater with Antenna Systems</i></p>
<b>001B</b>	<p><b>♦ Two (2) Additional Sites (optional) - With 001, provides a total of three (3) Conventional Repeaters with Antenna Systems (1 co-located, 2 remote)</b></p> <p><i>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 3 Repeaters</i></p> <p><i>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 3 Repeaters with Antenna Systems</i></p> <p><i>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 3 Repeaters with Antenna Systems</i></p> <p><i>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 3 Repeater with Antenna Systems</i></p>
<b>001C</b>	<p><b>♦ Three (3) Additional Sites (optional) - With 001, provides a total of four (4) Conventional Repeaters with Antenna Systems (1-co-located, 3 remote)</b></p>



CLIN	EQUIPMENT DESCRIPTION
	<p>Successfully complete Acceptance Testing Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 4 Repeater</p> <p>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 4 Repeaters with Antenna Systems</p> <p>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 4 Repeaters with Antenna Systems</p> <p>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 4 Repeaters with Antenna Systems</p>
001D	<p><b>♦ Four (4) Additional Sites (optional) - With 001, provides a total of five (5) Conventional Repeaters with Antenna Systems (1 co-located, 4 remote)</b></p> <p>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 5 Repeaters</p> <p>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 5 Repeaters with Antenna Systems</p> <p>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 5 Repeaters with Antenna Systems</p> <p>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 5 Repeaters with Antenna Systems</p>
002	<p><b>Conventional OTAR System - Includes Key Management Facility, Fixed network Equipment and One (1) Remote Conventional Repeater with Antenna system</b></p> <p>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 1 Repeater</p> <p>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 1 Repeater with Antenna System</p> <p>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 1 Repeater with Antenna System</p> <p>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 1 Repeater with Antenna System</p>
002A	<p><b>♦ One (1) Additional Site (optional) - With 002, provides a total of two (2) Remote Conventional Repeaters with Antenna Systems</b></p> <p>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 2 Repeaters</p> <p>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 2 Repeaters with Antenna Systems</p> <p>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 2 Repeater with Antenna Systems</p> <p>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 2 Repeater with Antenna Systems</p>
002B	<p><b>♦ Two (2) Additional Sites (optional) - With 002, provides a total of three (3) Remote Conventional Repeaters with Antenna Systems</b></p> <p>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 3 Repeaters</p>



CLIN	EQUIPMENT DESCRIPTION
	<p>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 3 Repeaters with Antenna Systems</p> <p>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 3 Repeaters with Antenna Systems</p> <p>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 3 Repeater with Antenna Systems</p>
<b>002C</b>	<p><b>♦ Three (3) Additional Sites (optional) - With 002, provides a total of four (4) Remote Conventional Repeaters with Antenna Systems</b></p> <p>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 4 Repeater</p> <p>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 4 Repeaters with Antenna Systems</p> <p>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 4 Repeaters with Antenna Systems</p> <p>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 4 Repeaters with Antenna Systems</p>
<b>002D</b>	<p><b>♦ Four (4) Additional Sites (optional) - With 002, provides a total of five (5) Remote Conventional Repeaters with Antenna Systems</b></p> <p>Successfully complete Acceptance Test Plan (ATP) at the end of staging prior to system shipping to facility for KMF, FNE and 5 Repeaters</p> <p>Complete the Installation of the Transmit and Receive Antennas, combiners, multicoupler cables and connectors for KMF, FNE and 5 Repeaters with Antenna Systems</p> <p>System installation, optimization and successful completion of in-field ATP for KMF, FNE and 5 Repeaters with Antenna Systems</p> <p>Final documentation to include: As-Installed System ROM, Inventory, software and versions installed, ATP (in-factory), ATP (in-field), Installation Configuration Audit Report for KMF, FNE and 5 Repeaters with Antenna Systems</p>
<b>004</b>	<b>Optional On-Site Training – Provides in-field user training on KMF operations</b>
<b>006</b>	<b>Perform RF Coverage Testing</b>

The following listed responsibilities should be fulfilled in accordance with the specifications documented in Motorola's 'Standards and Guidelines for Communication Sites' (R56).

### 2.11.2 Customer / Government Responsibilities:

- Provide all site access, site maps, escorts as required, site perimeter security fences, buildings, equipment shelters, towers, antenna-mounting space on

existing towers, adequate space for the system equipment, primary electrical power at all sites.

- Provide and assist in verifying the integrity of all connectivity by microwave links, T1 circuits, fiber links, and telephone lines, as required.
- Provide Motorola with all audit and inventory information with regard to existing RF infrastructure to include any RF, network, control and/or dispatch equipment currently operational.
- Conduct any required environmental impact assessments.
- Obtain and provide authorized frequencies concurrent with the delivery or purchase order.
- Obtain and provide all zoning approvals, necessary permits, and lease agreements as required, at all sites and locations.
- Uninstall and remove existing system antennas, cables, and equipment, as required.
- Furnish and install all necessary electrical work such as power, HVAC, AC and/or DC circuits and outlets, circuit breakers, and main service protectors.
- Provide UPSs and backup generator, or other suitable sources of emergency power at all system equipment locations.
- Provide exterior and internal grounding systems at all system equipment shelters and buildings.
- Provide system equipment warehousing, as required.
- Provide six system-capable radios with keypads for the factory Staging acceptance test and the field acceptance test (applicable to CLINS 001 – 002D).
- Ensure a service phone is available at all sites.



Questions regarding the responsibilities listed above can usually be answered by reviewing Motorola's '*Standards and Guidelines for Communication Sites*' (R56).

## 2.12 PRICING ASSUMPTIONS

EyakTek and Motorola have made various assumptions in the development of the described SI services and the pricing of those services. If these assumptions are not correct, the services required to implement this system will have to be re-priced. The assumptions made are as follows:

- We assume that the customer is responsible for site acquisition, site development, and site preparation; therefore, this proposal does not include modifications, upgrades, or repairs to any existing equipment, site civil work, tower construction, or building installations or renovations that may be required unless specifically noted herein. EyakTek can provide a separate proposal for all or part of the services and equipment required for site acquisition, development, and preparation, if requested to do so.
- In order to meet the proposed schedule, all government-furnished (GF) materials and customer responsibilities identified in this proposal, including but not limited to, GF system connectivity lines and GF site preparation must be provided and ready for installation of the system within 60 days after receipt of an acceptable order with approved frequencies.
- We assume that sites are readily accessible by road, and that specialized transportation or installation equipment is not required for this project. EyakTek, if necessary, can provide a separate proposal for specialized transportation and installation equipment needed for site access due to inclement weather and/or adverse road conditions.
- Pricing is based upon EyakTek, Motorola or subcontract personnel not requiring special security clearances. If security clearances are required, the price may have to be adjusted.
- Pricing is based upon the assumption that installation work will be performed during normal business hours, Monday through Friday, 8 a.m. to 5:00 p.m., excluding holidays observed by Motorola.



## 2.13 WARRANTY

The Motorola standard parts and equipment warranty normally begins upon shipment of each item from the factory. However, with the purchase of System Integration Services (consisting of Engineering Design, Staging, Program Management Services, and Final System Optimization), as provided within this submittal, the parts and equipment warranty will begin upon the first occurrence of any one of the following:

- The successful completion of the system test
- The beneficial use of the system by the government has commenced
- Six months have transpired since shipment of the item from the factory

Motorola's warranty covers equipment supplied by Motorola only. Warranty services will include repair service during normal business hours, Monday through Friday, excluding holidays observed by Motorola. Service is provided through an authorized Motorola Service Station (MSS). Equipment that becomes damaged resulting from improper installation or grounding by any party other than Motorola, or a Motorola subcontractor, that is, not installed in accordance with Motorola's '*Standards and Guidelines for Communication Sites*' (R56), will be excluded from Motorola's warranty.

## 2.14 SI PROVISIONS

1. The customer will provide written notification to the EyakTek designated project manager 30 days before scheduled installation stating that all site preparation requirements have been completed. Failure to complete site preparations and notify the EyakTek project manager may cause a delay in the installation schedule. Proper written notification is required before EyakTek or Motorola will send its installation or optimization teams to the field. Any delays caused by the government may require a modification to the contract to incorporate a revised installation schedule and/or a revised price.
2. EyakTek will not be responsible for installation delays caused by inclement weather, non-Motorola equipment delivery and vendors, or delays caused by the government.
3. EyakTek assumes no liability for RF interference caused by unknown sources. Motorola's engineering designs and coverage predictions are based on known parameters, such as, the type, model, and capacity of the installed equipment, physical inspections, and the terrain of the desired coverage areas. Motorola will not be responsible for interference caused by RF

transmissions that were unknown to EyakTek or Motorola before creating the system design.

4. Any system testing that the customer desires, which is not specified when the acceptance test plan is formulated, is subject to negotiation.
5. Should previous installation or construction work preclude EyakTek or Motorola from adhering to *R56* standards, the customer will be notified in writing.
6. Based on the current understanding of requirements, the attached equipment list identifies the equipment required to implement the proposed system. If the government desires to supply substitute equipment, EyakTek must approve said equipment as being compatible with the overall system design and integrity. Motorola's warranty covers equipment supplied by Motorola only.
7. If a contract modification is required based on decisions made or directives given by the government at the system Project Review meeting, the original schedule proposed herein may be delayed.

1)

## **2.15 FIRM-FIXED PRICE**

The prices for the services described herein, are provided in the pricing section. These services are based upon an uninterrupted daily work effort (for activities conducted on-site) without any delays due to site access difficulties or inclement weather.

Please understand that this price incorporates all services described herein. For the price to remain valid, the scope of work *cannot* be divided into separate procurements.

## **2.16 PERFORMANCE BILLING MILESTONES**

EyakTek will invoice for both Equipment and Implementation Services as follows:

EyakTek will invoice for Equipment upon shipment of the equipment to the customer site

EyakTek will invoice for Integration upon completion of the FATP and System Acceptance as defined in the Technical Statement of Work

EyakTek will invoice for Maintenance and Warranty Services monthly in arrears



### **2.16.1 Maintenance and Warranty Services**

Motorola will invoice for Maintenance and Warranty Services monthly, in arrears.

## **3. WARRANTY**

Purchases under this Contract Catalog carry Motorola's one-year manufacturer's standard commercial warranty to correct possible defects in materials and workmanship on equipment provided in this response

### **3.1 SYSTEM MAINTENANCE SERVICE**

#### **3.1.1 Infrastructure**

In addition to the standard warranty, EyakTek is offering Motorola's plan for system maintenance 24 hours per day, 7 days per week, including holidays, on the OTAR systems proposed in this submittal.

EyakTek is providing pricing for annual preventive and corrective maintenance services for the base year (warranty year) and four years beyond the expiration of the base year. The base year will commence upon system acceptance and will end at the completion of one year (twelve months). Each option year period shall be for twelve (12) months each and shall commence at the completion of the preceding year providing that the base year period plus the four (4)-option year periods do not exceed five (5) years total.

In the event of an emergency, Motorola will respond via telephone within one hour of notification by an authorized Customer representative. Motorola's telephone technical support staff is available 24 hours per day, 7 days per week, including holidays.

Motorola's maintenance offering provides 4-hour response time on major system failures, 33% of the system down, i.e., Severity 1. For minor system failures, i.e., Severity 2, Motorola will respond within 8 hours of notification. Motorola will respond to non-emergency, i.e., Severity 3, issues within 24 hours of notification during normal business hours.

See the Tables 4 for clarification of Response Times and Severity Levels:

**Table 4: Response Times and Severity Levels**

SEVERITY LEVEL	REMOTE TELEPHONE TECHNICAL SUPPORT RESPONSE TIMES	ON-SITE TECHNICAL RESPONSE TIME	PROBLEM TYPES
Severity 1*	Within 1 hour from receipt of notification*	Within 4 hours from receipt of notification*	Mission Critical - Major system failure – 33 percent of system down
Severity 2**	Within 4 hours from receipt of notification**	Within 8 hours from receipt of notification**	Significant system impairment not to exceed 33% of the system down
Severity 3**	Within next business day	Within 24 hours from receipt of notification**	Intermittent system issues - Information questions-Upgrades/ Preventive Maintenance- This level is meant to represent a minor issue that does not preclude use of the system, sub-system, product, or critical features.

\* Applicable 24 hours per day, 365 days a year

\*\* During standard business hours (8:00 a.m. – 5:00 p.m. local time, Monday through Friday)

### 3.2 ON-SITE FIXED EQUIPMENT RESPONSE AND REPAIR

Motorola will provide all qualified personnel, test equipment, standard service vehicles, tools, material, supervision, and other items necessary to perform troubleshooting, repair, preventive maintenance, and all operational checks and adjustments.

**Infrastructure Repair** provides the repair of Motorola equipment. Equipment such as boards and power supplies are shipped to Motorola's Infrastructure Depot Operation (IDO) located in Elgin, IL. At the discretion of Motorola, third-party infrastructure may be sent to the original equipment manufacturer or third-party vendor for repair. If third-party infrastructure is no longer supported by the original equipment manufacturer, EyakTek may replace equipment with a comparable/compatible or like equipment, when possible. Service and testing are performed at the component level by a highly trained technical staff, utilizing state-of-the-art automated test equipment and post repair system testing when applicable.

It will be the responsibility of customer to purchase and provide an adequate quantity of fully functional spares or Field Replaceable Units (FRUs) for all equipment to be serviced under this statement of work. Spare units will be serviced at no additional charge. The spares are to be stored in an area that is accessible 24 hours per day, 7 days per week, including holidays so that Motorola can restore the system as quickly as possible.

An operational check of the repaired equipment will be made following completion of any repair actions. Unless covered by Motorola warranty, or other original manufacturer's warranty, Motorola shall not be liable for major repairs or replacement of the following specific items: defective batteries, ferrite devices, generators, antenna transmission lines, antennas, duplexers, combiners, multi-couplers, towers, and tower lighting. Motorola is not liable for equipment that has become defective or damaged due to physical or chemical misuse or abuse from causes such as lightning, power surges, or liquids.

### **3.2.1 Preventive Maintenance Inspection (System Survey and Analysis)**

As part of the maintenance service and to ensure the customer's OTAR communication system is operating efficiently and functioning at the original manufacturer's specifications, an annual System Survey and Analysis is conducted that includes system testing, alignment checks, and equipment cleaning procedures. The System Survey and Analysis schedule will be coordinated with customer to ensure minimal impact on routine operations. Preventive maintenance activities shall be documented and available for review at an annual lifecycle services review. The review will be scheduled at a mutually agreeable time for customer and EyakTek.

### **3.2.2 Telephone Dispatch/Dispatch Operations Service**

Motorola's Dispatch Service is available 24 hours per day, 7 days per week including holidays, and provides a central point of contact for all system service requests. Dispatch Operations will dispatch appropriate service personnel and provide call management by tracking the progress of all service calls to completion. Dispatch Operations will retain a detailed account of the customer's equipment that includes performance history, location and site access requirements, and the contacts of the selected service facilities that have been contracted to perform service. Upon notification by customer, Dispatch Operations will open a Customer Service Request (CSR) to track all service activities reported. The toll-free number for Dispatch will be provided upon system acceptance.

### **3.2.3 Replacement Boards and Modules**

A list of recommended replacement boards and spares has been provided and is included as an option. Customer is responsible for storing the spares in an area that is accessible to



Motorola 24 hours per day, 7 days per week including holidays. Motorola will maintain the spares when the system is covered under warranty or maintenance. Under a maintenance agreement, the MSS will replace the damaged board and package it and send it to Motorola's Infrastructure Depot Operations in Elgin, IL for repair. After repair, the board will be returned to the field equipment location.

### **3.2.4 Access to Technical and Manufacturing Resources (Technical Support)**

The Technical Support team has direct connectivity to the Motorola development engineering groups who were directly responsible for the design of the communications system software and equipment.

Technical Support provides centralized telephone support for issues that require a high level of communications expertise or troubleshooting on infrastructure equipment on a 24 hour per day, 7 days per week basis, including holidays. The toll-free number for the Technical Support team will be provided on the acceptance of the Motorola trunking communications system.

## **4. EQUIPMENT AND SERVICES PRICING**

See the TIGER Catalog Price Sheet for complete pricing.