Scott County, Iowa
Rock Island County, Illinois
Public Safety Radio System

Request for Proposals for a
Two County-Wide Simulcast 700/800 MHz P25 Trunked Radio System

RFP Issue Date: January 8, 2018

Issued by:

Scott County and Rock Island County QCARSC
(Quad Cities Area Radio System Committee)

Mandatory Pre-proposal Meeting and Site Visits

Tuesday, January 23, 2018 at 9 a.m. with site tour following till mid-afternoon

Proposal Due Date

3 p.m. CDT on Thursday, April 26, 2018

Prepared by:

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1. PROPOSAL SUBMITTAL OVERVIEW

1.1. DUE DATE, SUBMISSION REQUIREMENTS AND REVIEW TIMELINE

1.1.1. Proposals will be due no later than **3 p.m. CDT on Thursday, April 26, 2018.**

1.1.2. Proposals in hard copy form must be received at the Scott County and Rock Island County Quad Cities Area Radio System Committee hereafter identified as QCARSC by the due date to be considered.

1.1.3. One (1) signed original, two (2) paper copies and an electronic copy of the proposal shall be sent to:

QCARSC – Denise Pavlik, Director
Scott Emergency Communications Center
1100 E. 46th St.
Davenport, IA 52807

One copy of the proposal and an electronic copy shall be sent to QCARSC's consultant;

Elert & Associates
Attn: John Thompson
15672 Highview Drive
Apple Valley, MN 55124

1.1.4. Proposal organization shall be as described in Section 6.2.

1.1.5. The packages must be marked:

Scott County and Rock Island County 800 MHz Radio System

1.1.6. QCARSC will not accept submissions submitted by electronic mail, telegraph, or facsimile. QCARSC is not responsible for delays or losses caused by the U.S. Postal Service or any other carrier or delivery service. Proposals submitted after the submission deadline will be returned unopened and not considered.

1.1.7. Proposals are to be prepared on standard 8.5" by 11" paper. Foldouts containing charts, spreadsheets, and oversize exhibits are permissible. The pages shall be placed in a binder with tabs separating the major sections of the submission as defined in Section 6.2.

1.2. TIMELINE

RFP issued	Monday, January 8, 2018
Mandatory Pre-proposal conference and site tour of dispatch centers and EOC	Tuesday, January 23, 2018 at 9 a.m.
QCARSC Pre-proposal Conference, Response to Questions and Addendum	Tuesday, January 30, 2018
Final Questions due NLT	Tuesday, February 27, 2018
QCARSC Response to Final Questions and Final Addendum	Thursday, March 15, 2018
Proposals due NLT	3 p.m. CDT on Thursday, April 26, 2018
Proposal review period	May-June 2018
Negotiations with selected vendor	TBD, may begin late June 2018
Goal of contract award	July 2018 dependent on negotiation progress, legal review and **QCARSC** authorization.

1.3. MANDATORY PRE-PROPOSAL CONFERENCE AND TOUR

A mandatory pre-proposal conference and tour of the Scott Emergency Communications Center will be held as per the timeline: Address: **1100 E. 46th St., Davenport, IA 52807**. Upon completion of this meeting and tour of the SECC, the group tour will move to the dispatch centers in Rock Island County, Illinois.

1.3.1. Before or after the meeting and tour of the four locations proposers are invited to conduct their own tour of the possible radio repeater sites and any other locations deemed appropriate.

1.3.2. Anyone wishing to receive answers to questions raised at this conference and future correspondence concerning the project shall email the POC to register as described in Section 1.4.1.

1.4. QUESTIONS

1.4.1. A proposer/respondent will register by sending an email to the point of contact (POC), John Thompson (john.thompson@tncg.com), who is the lead technical consultant on the project with the following information.

- Full Name of primary contact
- Firm Full Name
- Email address
- Business address
- Telephone #

1.4.2. Questions can be asked verbally at the pre-proposal conference and site visit or until the end of the questioning period. All questions, including those asked at the mandatory pre-proposal conference and site tour shall be submitted in writing (email submission is acceptable) to the designated POC. All registered vendors will be provided with all submitted questions and responses via email. Similar questions may be consolidated for response purposes.

1.4.3. Although accurate, verbal answers to questions posed at the pre-proposal conference should not be considered the official **QCARSC** position or answer unless it is received in writing.

1.4.4. An attempt will be made to issue an official consolidated response to questions within 5 business days of the last date/time for questions.

1.4.5. Proposers shall not contact staff from any Scott County and Rock Island County participant agencies and shall direct all questions and inquiries to the designated POC, John Thompson, Elert & Associates, via email:

john.thompson@tncg.com

END OF SECTION

2. PROJECT SCOPE

2.1. OWNERSHIP AND/OR PARTNERSHIP OPTION

Scott County and Rock Island County **(**the **OWNER)** is open to the system acquisition via intergovernmental agreements, direct purchase or some form of partnership with another governmental body or private entity resulting in a P25 trunked radio system as defined herein.

2.1.1. Ownership and operation of a system by the two counties and local municipalities who may form a single entity.

2.1.2. System leased from a proposer with either leased or owned subscriber radios.

2.1.3. Public/Private model where the costs are shared.

2.1.4. Where feasible and offered, each of the counties may elect ownership vs. a public/private partnership/lease arrangement.

2.1.5. It is the plan for the five metro areas making up what is defined as the Quad Cities (Davenport and Bettendorf in Iowa, and Rock Island, Moline and East Moline in Illinois) to acquire the updated P25 radio system being requested via this RFP and associated award.

2.1.6. All Scott County public safety radio users plan to adopt the P25 platform and utilize the new P25 infrastructure for communications.

2.1.7. Rock Island County (not including county metro areas) may, depending on the cost, elect to opt out of project thus a negative deduct for that extended coverage is being requested.

2.1.8. All proposals received that include partnering options in any form in whole or in part will be considered

2.1.9. Proposers offering any form of partnership shall describe how the partnerships would work to the advantage of Scott County and Rock Island County.

2.1.10. Within the proposal for a partnership, entire costs for the system, its operation and extended services shall be presented and cost savings outlined.

2.1.11. If a partnership arrangement is offered any services created by this partnership and shared with other possible users shall be noted and expanded upon to allow the leadership of this initiative understand all advantages to the proposer.

2.2. LEASED OPTION

2.2.1. If this solution is offered in whole or in part the Proposer will own and operate the entire system or portions of the proposed system with either no out of pocket cost to the Owner or a fixed sum as an initial payment.

2.2.2. The Proposed leased solution shall include all infrastructure of the radio system and associated interconnect with radio consoles, loggers and subscriber radios which would otherwise have been owned and maintained by the Owner.

2.2.3. The leased radio system option shall be offered over a minimum ten (10) year period and include full maintenance support and upgrade expectations of an owned radio system.

2.2.4. All costs for towers, sites, generators and other required infrastructure shall be part of the lease with ownership of the infrastructure by the Proposer through the life of the project.

2.2.5. All costs including insurance, utility, site leases and management costs shall be part of the lease making the system fully operational via an upfront one-time buy-in plus an annual fee to be paid at the beginning of each year by QCARSC.

2.2.6. Based on the fact users in Scott County and Rock Island County may elect to own vs. lease, QCARSC is open to seeing a hybrid option where one entity owns the entire system and the other users lease services.

2.2.7. As an option, it is also feasible QCARCS is willing to own the Scott County and Quad Cities metro area while Rock Island County leases their portion of the expanded coverage.

2.3. UNDERSTANDING OF PROJECT OUTCOMES

2.3.1. The project ultimately is to have the services of a 700/800 MHz P25 trunked radio system, backhaul and console system, plus replacing the present analog VHF paging system and all interoperability base stations, and antenna systems serving Scott County and Rock Island County.

2.3.2. The system as proposed shall have the highest reasonable level of interoperability possible with the State of Iowa 700 MHz P25 Phase 2 system and the SARA Group 800 MHz Phase 1 and Phase 2 systems (Johnson County, Linn County, Dubuque County, Polk County and Iowa County to-date).

2.3.3. The base station repeater sites will have developed by the selected contractor with a mix of owned (to be developed greenfield sites) and commercial leased tower sites. See Appendix 8 for a list of sites the County has identified as possible for review though it is up to the proposer to identify location options to meet coverage requirements.

2.3.4. The repeater sites and dispatch interconnect backhaul system shall be developed with MPLS-based network hardware (or equal meeting FIPS 140-2) and it is highly desired the digital microwave offering be established as ring thus providing a highly reliable backhaul system.

a) Note: The State P25 700 MHz and the SARA Group systems all make use of MPLS.

b) Note: The Quad Cities owned fiber optic network today supports the interconnection of its dispatch consoles to the present EDACS radio system core located in Marshalltown, Iowa.

2.3.5. If accepted as an alternate, **OWNER** would like to be provide with the capability of supporting smart phones with direct interoperability to the proposed P25 trunked radio system.

2.3.6. All site designs are expected to include backup generators and DC power to insure continued operation in the event of a catastrophic loss of power in the area.

2.3.7. Proposer shall make every effort to consider any technology capable of reducing the footprint on towers thus recuing long term lease/**OWNER** costs.

2.3.8. All civil work consisting of constructing and/or preparing towers, acquiring/ installing equipment shelters and generators shall be the responsibility of the Owner and thus will be bid separately from the contract resulting from this RFP except in a lease scenario where the Proposer/Contractor would be entirely responsible.

2.3.9. It should be noted there are multiple dispatch centers to be outfitted, including two in Scott County and three in Rock Island County with these centers today using multiple platforms of radio consoles today and sharing voice logging.

2.3.10. The entire project final design and development is anticipated to begin ASAP after award and extend through completion/cutover.

2.3.11. The proposed system shall be fully tested, commissioned and all users trained in its operation prior to cutover.

2.3.12. All specifications contained within this document shall be followed by the Proposer thus creating a turn-key approach project than meets all defined and dictated performance expectations.

2.3.13. The proposer shall also offer 9 years (Y2 through Y10) of extended maintenance and upgrade services to begin upon completion of the first year of 100% warranty.

2.4. REQUEST FOR PROPOSAL

2.4.1. The intent of this document is to provide information to allow qualified respondents to provide proposals for this two county P25 Trunked Land Mobile Radio System including all necessary controllers, backhaul, network, alarm, monitoring, power plant, installation, tests, commissioning and training.

2.4.2. Other requirements of the respondent and response include needed interoperability with neighboring public safety radio systems, voice logging, interface with interface to existing 911 systems, county-wide paging system upgrade and assist with the development of tower sites.

2.4.3. Proposed pricing for all items will use the pricing form provided with this RFP though if further explanation is desired and separate proposer generated form can be also provided though only the numbers on the RFP form will be used for comparative purposes.

2.4.4. This will be a Turn-Key solution.

2.5. PRIMARY AND ROCK ISLAND COUNTY OPT OUT SOLUTIONS

2.5.1. The offered solution shall serve the entirety of Scott County in Iowa and Rock Island County in Illinois including enhanced coverage in the metro areas of the Quad Cities.

2.5.2. As an alternative to this primary proposal, Rock Island County may elect to be dropped from the coverage.

2.5.3. It is every intention the Scott County and the metro areas of this County and that of Rock Island County will be acquired initially with the option whereby Rock Island County may be added within the next 2-3 years based on funding.

2.5.4. It is expected the Proposer will develop a system design for the entire area of the two counties per the requirements and then to offer the option of removing base station sites that are not required to serve the area defined in Section 2.5.3.

2.6. COUNTY-WIDE RADIO SYSTEM INTERESTS AND REQUIREMENTS OVERVIEW

2.6.1. The following county, municipal and other radio communications interests shall be accounted for in the proposed system.

Note the agencies identified in italic and with an "*" are part of the Opt Out areas of Rock Island County.

Law	Fire	EMS
Bettendorf Police - SC	Bettendorf Fire - SC	Bennett Ambulance - SC
Blue Grass Police - SC	Blue Grass Fire - SC	Durant Ambulance - SC
Buffalo Police - SC	Buffalo Fire - SC	Medic EMS - SC
Davenport Police - SC	Davenport Fire - SC	Wheatland Ambulance - SC
Eldridge Police - SC	Dixon Fire - SC	Advanced Medical Transport – RI/SC
Le Claire Police - SC	Donahue Fire - SC	*Andalusia Ambulance - RI
McCausland Police - SC	Durant Fire - SC	Coyne Center Ambulance - RI
Princeton Police - SC	Eldridge Fire - SC	Medic Ambulance – RI/SC
Scott County Sheriff - SC	Le Claire Fire - SC	Genesis Ambulance - RI
Walcott Police - SC	Long Grove Fire - SC	Rock I City EMS
Rock Island Arsenal Police - RI	Maysville Fire - SC	Moline City EMS
*Coal Valley Police - RI	McCausland Fire - SC	MED-Force Helicopter RI /SC
East Moline Police - RI	New Liberty Fire - SC	
Hillsdale Police - RI	Princeton Fire - SC	

Hampton Police - RI	Riverdale Fire - SC	
Law	**Fire**	**EMS**
Milan Police - RI	Walcott Fire - SC	
Moline Police - RI	*Andalusia Fire - RI	
* Rock Island County Sheriff - RI	RI Arsenal Fire - RI	
Rock Island Police - RI	*Blackhawk Fire - RI	
Silvis Police - RI	*Carbon Cliff Fire - RI	
Scott County Conservation	*Cordova Fire - RI	
QC Metropolitan Enforcement Group	*Coal Valley Fire - RI	
	*Coyne Center Fire - RI	
	*East Moline Fire - RI	
	*Hampton Fire - RI	
	*Hillsdale Fire - RI	
	*Illinois City Fire - RI	
	Moline Fire - RI	
	*Orion Fire - RI	
	*Port Byron Fire - RI	
	*Reynolds Fire - RI	
	*Rock Island Fire - RI	
	*Silvis Fire - RI	

Other Radio System Users	
Bettendorf Transportation Dept.	Augustana College Police
East Moline Public Works	Bettendorf Community Schools
Long Grove, City of	Blackhawk College Police
Cedar County Public Health	Center for Alcohol & Drug Services
Dewitt Community Hospital	Genesis Medical Center
Hampton School District	Genesis Health Center-Silvis Campus
Iowa Dept. of Public Health	Johnson County EMA
Mercy Clinton	Louisa County EMA
Metropolitan Airport Authority	Moline Building and Grounds
Moline Fleet Dept.	Moline Municipal Services
Moline Parks Dept.	Moline Public Utilities Dept.
Moline Public Works	Moline Sanitation Dept.
Muscatine County EMA	Scott County Heath Dept.
* *Rock Island Co ESDA*	Scott Co EOC
Scott County Engineer's Office	Scott Co Facility & Support Serv.
US Coast Guard	Scott Co Mun District & EMA
Unity Point Health	Silvis City Hall
Village of Milan	Unity Public Health
ZNA-Unity Point Health Trinity	Unity Point Trinity Muscatine
	Visiting Nurse Association

2.6.2. At a minimum, a portable on-the-hip radio and pager coverage shall be provided throughout the entire defined area though with a higher density of coverage within the metro areas of the Quad Cities plus any community with a population >500 utilizing repeater sites as required and recommended by the Proposer. (See list of defined metro area later in this document.)

2.6.3. Respondents shall provide comprehensive proposals addressing all aspects of the requirements, with the Contractor (selected vendor) responsible for all contracted work (not including civil work such as shelters, generators or towers and site development).

2.6.4. Assuming repeater site development (civil work) is required, the awarded radio system contractor shall provide needed technical information to the County's consultant designer to allow bidding for any new towers, modification of existing towers/sites, shelters, back-up generator power, grounding, etc. assuming an owned system.

2.6.5. Respondents shall submit a system design proposal for the radio system, analog VHF paging / repeater systems, microwave/fiber backhaul, backup systems, radio consoles, logging and interoperability control-base stations plus subscriber equipment in accordance with the specifications contained within this RFP and/or adopted as a part of the contract.

2.6.6. It is desired offered designs make use of the 800 MHz and VHF channels currently licensed by the cities/counties plus any additional frequencies needed to meet capacity and/or cutover requirements though options using 700 MHz for radio will be considered.

2.6.7. Designs offered must include, as a minimum, a description of how the system proposal will provide the based on 95% reliability in 95% of the areas as defined.

- On the hip portable operational coverage for Scott County and Rock Island County plus one mile around this area.
- On-the-hip portable operational coverage for all system users in residential buildings within the coverage boundary of Scott County and Rock Island County assuming 8 dB building loss.
- On-the-hip portable operational coverage for all system users in small commercial buildings within the coverage boundaries of the Quad Cities (five metro areas) plus all communities with a population greater than 500 (assume 15 dB building loss).
- If Rock Island County opts out of the radio system then:
    - Outdoor coverage for portables only extends one mile past the defined metro areas of that county.
    - No in building portable coverage is expected beyond the defined metro areas located in the county.

2.6.8. Other alternative designs to meet the needs as outlined may also be offered and shall include sufficient information to make an informed decision.

2.6.9. As an alternate, the offering of support for smart phones access to the P25 radio system is requested with coverage based on the supporting cellular vendor.

2.6.10. Project final design, testing, commissioning, construction and management shall be the responsibility of the selected radio system contractor

2.7. TRAINING FOR COUNTY/CITY STAFF

2.7.1. Proposer shall offer a training program for the various agencies utilizing the radio system where the offered program is not generic but rather focuses on the user's needs.

2.7.2. Direct group training of dispatchers and dispatch supervisors.

2.7.3. Radio terminal users train the trainers and user groups.

2.7.4. Alarm monitoring subsystem operation for supervisors.

2.7.5. Logging/Recording subsystem operation.

2.8. SYSTEM ACCEPTANCE TESTING AND COMMISSIONING

All systems and subsystems as provided under the contract shall be fully verified for proper operation and shall be commissioned as per the directions of the design and agreed to by **OWNER** and its consultant with this requirement for whatever the solution offered.

2.9. DOCUMENTATION OF ALL SUPPLIED SYSTEMS

All systems and subsystems as provided under the contract shall be included in the written documentation plan as supplied by the contractor.

END OF SECTION

3. PROJECT OVERVIEW

3.1. RADIO SYSTEMS OVERVIEW

3.1.1. The new radio system shall utilize standards-based P25 Phase 1 and/or Phase 2 protocols for its operation though if Phase 1 is proposed then system channels shall be capable of being upgraded by software to Phase 2 operation. As previously stated, there is the expectation of:

a) The radio system designed to serve all of Scott County and Rock Island County.

b) If Rock Island County opts out, the radio system and paging system would only be expected to serve all of Scott County and only the metro areas of Rock Island County.

c) Public safety users are expected to be dispatched by their respective dispatch center with integrated dispatch consoles connected directly to trunked radio system via microwave and incorporating control stations as backup.

d) The dispatch centers in the metro area of Rock Island County (RICOMM and Milan/QComm911) have Harris Symphony consoles interconnected via a city owned fiber optics network.

e) The Dispatch Center serving Rock Island County (RICO) has recently renovated their center but continue to use their Zetron Integrator radio consoles though it is connected only to its own VHF radio system.

3.1.2. The proposed paging systems are expected to be enabled to be activated via all dispatch centers with zones related to each agency's area.

3.2. NEW SYSTEM DESIGN, SITE CONNECTIVITY AND INTEROPERABILITY

3.2.1. The proposed radio system (including all subsystems) is anticipated to be a new-build from bottom up with likelihood of all new repeater sites located where they best serve the defined areas.

3.2.2. It is envisioned simulcast technology be employed for the Quad Cities metro area and separate simulcast zones for the remainder of each county.

3.2.3. All inter-site backhaul connectivity shall be offered which is to be IP-based microwave or metro owned fiber optics where it is available.

3.2.4. The microwave and network components shall utilize some form of IP traffic separation that meets FIPS 140-2 requirements such as MPLS thus supporting secure traffic other than the radio system such as FirstNet, computer aided dispatch, NG911, etc.

3.2.5. Interconnectivity with the P25 800 MHz SARA Group of counties (Harris system), the State of Iowa ISICS 700 MHz Phase 2 P25 system and the State of Illinois STARCOM21 P25 system is expected.

3.2.6. An alarm and monitoring system shall be an integral part of the design allowing for remote sensing of all elements of the radio, microwave, network, DC power, AC power, fuel levels and environmental issues of the sites.

3.2.7. Due diligence must be considered mandatory to insure the system's addressing and fleet mapping of talk groups do not negatively impact the operation of the proposed Scott County and Rock Island County radio system or neighboring systems.

3.3. COMPREHENSIVE RESPONSES

3.3.1. For the radio system infrastructure responses, Proposers shall offer an all new P25 trunked radio system infrastructure, microwave backhaul, network hardware, any needed interface to the proposed dispatch console system, logging system, redundant central control equipment and all interfaces.

3.3.2. All required elements beyond the actual hardware to develop and offer a completed and operational system shall be included in the offer thus making the system "turn-key" to **OWNER.**

3.3.3. A final detailed design for the system will be required to be completed after award.

3.3.4. Any necessary site civil and new tower work shall require a public works bid and the specifications/bidding for this civil/structural work will be by others with input by the awarded Contractor.

3.3.5. Except for the site civil and structural needs, all other elements of the work shall be considered final costs as proposed with change orders only accepted due to changes or modifications in site locations or due to changes outside the control of the selected contractor and contractors design.

3.3.6. Respondents shall factor in to the timeline a reasonable amount of time for site acquisition and site development as based on an average of time required for past projects of this type.

3.3.7. Training of staff should be included per Section 12.

3.3.8. As a part of the response the proposer shall develop and offer a complete one (1) year 100% warranty (parts and labor) plus a nine (9) year extended maintenance and support plan per Sections 0 and 15.

3.4. COORDINATION WITH CUSTOMERS CONSULTANTS

3.4.1. The selected Radio Systems Contractor is required to be responsive to and collaborate with Elert & Associates and the selected civil/structural engineering consultant on behalf of Scott County and Rock Island County.

4. INSTRUCTIONS TO PROPOSERS

Responders are required to provide a point by point response to each sub-section indicating one of the following:

- **"Proposed solution is compliant"**
- **"Proposed solution is non-compliant"**
- **"Proposed alternate solution is offered"**

If you wish to take an exception or if your solution is partially compliant but not fully compliant, please note that and explain the details in your response.

Issues of non-compliance will be analyzed and evaluated for impact. Significant issues of non-compliance will negatively affect a Proposers overall evaluation and may be deemed to make the proposed solution and design unacceptable for consideration.

For any other Section of this RFP, there will be an assumption that the Proposer intends to fully comply unless an exception is clearly noted.

4.1. DEFINITIONS

Consultant	Refers to Elert & Associates.
Construction Engineering Consultant	Refers to engineering firm retained by **QCARSC** to develop bid specifications for all civil, structural and site construction work.
Contractor	This term refers to a Proposer who has been awarded a contract for work and thus when the word is in this RFP the work as Contractor will be delivered after award.
Contract Manager	Refers to the two designated Scott County and Rock Island County project managers.
DAQ	Delivered Audio Quality
Documents	The complete package of Proposal and Contract Requirements.
Greenfield	This term defines a new site where there is no tower or any equipment in place by any organization.
Engineer	Civil/Structural engineer, a designed retained by OWNER to develop a design and specifications for bidding tower, shelter and generator plus associated site development.
Owner/Customer	Public safety agencies serving the Scott County Iowa and Rock Island County Illinois area who have formed a committee to oversee the project and named **QCARSC.**

Proposal	The document received by the Counties from a responder expressing the desire to provide the radio system and services as specified in the RFP at a given price. An expression indicating a desire to provide the radio system and equipment proposed by the Proposer at a given price.
Proposer	This word defines a responder to this RFP and thus will define in their response what is being delivered.
Proposal Bond	A financial guarantee that the Proposer will carry out a contract at the Proposal price upon award of the Proposal, and, if required, post the appropriate performance and payment bonds, providing financial assurance that the Proposal has been submitted in good faith.
Vendor/Proposer/ Respondent	A firm or individual that submits a proposal to provide the radio system and equipment requested by the RFP.
QCARSC	Refers to the Quad Cities Area Radio System Committee (**QCARSC**). This committee has the duty to oversee the project and make decisions for the owners.
Qualified Vendor	A Proposer that meets the qualifications as described in Section 7.5.
RFP	Request for Proposal.
Selected Vendor, Contractor or Radio System Contractor	A Proposer that scores highest in the best value criteria and is chosen, approved by the Counties for negotiation purposes and resulting in a contract.
Selection Committee	Scott County and Rock Island County Public Safety Management personnel and Elert & Associates
Successful Contractor	Refers to the Radio Systems Contractor awarded the contract for the work. See item 1 of Scott County and Rock Island County Terms and Conditions.
System	The term system describes the complete end-to-end solution offering a means of radio terminal users to have voice communications with dispatch, among each other and with mutual aid personnel as based on the radio technology capability.
System Failure	If a radio terminal user is not capable of voice communications in a covered area due to any failure of the radio chain from terminal to terminal or dispatcher, then a failure exists of the system. The following criteria is used to determine the level of failure. • Minor – Any failure That does not impact coverage and capacity no more than 25%. • Major – Any failure that impacts coverage and capacity no more than 50%. • Catastrophic – Any failure that requires backup procedures and equipment to be activated for operation.

Turn-key	The term turn-key refers to the provision of a complete radio communications system as defined by the RFP that at completion and acceptance is ready for immediate use. The civil work is being completed outside the scope of the radio communications system project but the Selected Vendor will be responsible for the operational specifications and oversight of the civil construction activity assuring compliance of this work.
Work	The provision of products and/or services to meet the requirements specified in these documents.
30-Day Test Period	Upon completion of the commissioning and coverage testing and when Vendor states the system is ready for use testing, the 30-day use period by a non-public safety group shall begin to allow Owner to become satisfied the system is ready for final cutover. This use shall not be considered beneficial use.

4.2. EXAMINATION OF SITE AND DOCUMENTS

Proposers shall examine all documents and shall visit the site(s) and record their own investigations during the mandatory pre-proposal conference. Proposer shall be aware of all conditions under which the work is to be performed, including the work site(s), the structure(s), the obstacles that may be encountered and all the conditions of the sites. This includes the time of completion and all relevant matters that may affect the work or the Proposal process.

4.3. PROCUREMENT POLICY

All aspects of this Request for Proposals will be in accordance with the Scott County Property Purchase Policy.

4.4. PUBLIC ANNOUNCEMENT AND SELECTION PROCESS

It is the policy of the Counties to publicly announce all requirements for supplies, materials, equipment, services, and construction and to negotiate such contracts based on demonstrated competence and qualifications and past performance with existing contracts as determined in prequalifying procedures. In the procurement of supplies, materials, equipment, services, and construction, the Counties shall request firms to submit a statement of qualifications and performance data. All information submitted in response to the Request for Proposals shall constitute a Public Record upon award of this contract.

As previously noted: All site construction work associated with towers shall be considered a Public Works Project and shall follow bidding rules of the respective county (Scott County and Rock Island County). The Counties will retain their own engineering firm to develop necessary specifications, drawings and bid documents.

4.5. QUESTIONS

Inquiries concerning any aspect of this RFP and contract award shall be submitted to the following contact person in writing via email:

John Thompson
Elert & Associates Email: john.thompson@tncg.com

Telephone calls will not be accepted. All written questions will receive written responses. The last date for receipt of written questions will be on the date indicated in Section 1. Responses to questions will be issued by the Consultant on behalf of the Counties.

4.6. ECONOMY OF PREPARATION

Submissions shall be prepared as simply and economically as possible while providing straightforward and concise delineation of the Proposer's capabilities and intent to satisfy the requirements of the RFP. Technical literature about the Proposer's products shall be included, but the emphasis of the submission shall be on completeness and clarity regarding the chosen solution or solutions. To expedite the evaluations, it is essential that specifications and instructions contained in this document be followed as closely as possible. Additional information that may be helpful to the evaluation process, but is not specifically requested in this RFP, may be included as an Appendix in the Proposer's response.

4.7. PRICING INFORMATION

4.7.1. No reference to proposal pricing shall appear in the proposal in any Tab per the instructions in Section 6 except for Tab 9.

4.7.2. Any portion of the proposal referencing pricing shall reference the Pricing Matrix and the cell or range of cells only.

4.8. SUBMISSION SIGNATURE

Each submission shall be signed by a principal of the Proposer's firm or another person who is fully authorized to act on behalf of the Proposer.

4.9. MODIFICATION OR WITHDRAWAL OF SUBMITTED PROPOSAL

Unauthorized conditions, limitations, or provisions attached to a submission may cause its rejection. No oral, telephonic, or facsimile (FAX) submissions or modifications will be considered. The only submissions that will be considered are those that are hand

delivered or delivered to QCARSC via the Scott Emergency Communications Center Director by US Mail, UPS, FedEx or another similar carrier. Electronic copies of the submission are to be included with the hard copy original.

Proposals will remain subject to acceptance for a minimum of 90 days after the due date of the proposal submission opening. Each Proposer so agrees in submitting a Proposal. Any such modification, withdrawal, or cancellation shall be submitted in writing to QCARSC via the Scott Emergency Communications Center Director at the address contained in Section 4.18 herein.

Prior to the time and date designated for receipt of submissions, no submission may be released or physically withdrawn, but any submission may be modified, canceled, or withdrawn by written notice to **OWNER** at the place designated in Section 1.1.3. Such notice shall be in writing with the signature of original Proposer. The updated Proposal shall be mailed and received on or before the date and time set for receipt of submissions, and shall be so worded as a replacement for the previous submission. Written withdrawal or cancellation by Proposer of a submission prior to the Proposal opening will nullify the submission. However, the original submission shall not be physically returned to the Proposer until after the time for receipt of the submissions.

Withdrawn or canceled Proposals may be resubmitted up to the time designated for the receipt of submissions, provided that the resubmitted Proposal is in conformance with this RFP.

4.10. ADDENDA

OWNER reserves the right to add, change, or delete any provision or statement in the RFP at any time prior to the Proposal due date. If it becomes necessary to revise any part of the RFP, addenda to the RFP will be provided to all Proposers who received a copy of the RFP. To ensure receipt of RFP addenda, prospective Proposers shall register with **OWNER** by sending an email to the contact person listed in this RFP. The email shall include the following information:

A. In the subject line: **Prospective Proposer for Scott County and Rock Island County County-Wide Simulcast 800 MHZ Radio System.**

B. Name of designated contact person for prospective Proposer.

C. Name of firm.

D. Email address.

E. Telephone contact number.

F. The above furnished information will be utilized to send any addenda electronically via email.

4.11. EXTENSION OF TIME

QCARSC reserves the right to extend the Proposal due date.

4.12. RIGHT TO WITHDRAW RFP

OWNER reserves the right to withdraw, cancel, and/or amend, in part or entirely, this RFP for any reason and at any time with no liability to any prospective Proposer for any costs or expenses incurred relating to the RFP or otherwise.

4.13. CONTACT BETWEEN PROPOSER AND OWNER

All contact between the Proposer and **OWNER** will be directed to the person designated in Section 4.5. No information provided verbally, or by any other personnel, will be considered binding. All Proposers must use this written document, its addenda, its attachments and information obtained at the Proposer conference as the sole basis for their submission. If a Proposer makes contact or attempts to contact any county employee after the Proposer Conference and prior to award, unless authorized by the listed contact person, QCARSC reserves the right to reject the Proposer's response.

4.14. GRATUITIES AND KICKBACKS

It shall be unethical for any person to offer, give, or agree to give any elected official, employee or former employee, or for any elected official, employee or former employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer for employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the contents of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceedings or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore.

It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a Contractor's subcontractor under a contract to the Contractor or a higher tier Contractor's subcontractor or any person associated therewith, as an inducement for the award of a subcontract, or order.

4.15. NON-APPROPRIATION OF FUNDS

Notwithstanding anything contained in this contract to the contrary, no Event of Default shall be deemed to have occurred under this contract if adequate funds are not appropriated during a subsequent fiscal period during the term of this contract to enable the counties to meet their obligations hereunder, and at least thirty (30) days written notice of the non-appropriation is given to Contractor.

4.16. INTERPRETATION OF DOCUMENTS

If any Proposer contemplating submission of a Proposal response is in doubt as to the true meaning of any part of the Proposal, the Proposer may submit to the Counties, at the address noted in Section 4.5, a written request for an interpretation thereof. Replies to

inquiries will be published in the form of addenda to the Proposal if in the sole determination of the Counties it would benefit all potential Proposers. Proposers shall rely only on the Proposal specifications, instructions in the Proposal, any Proposal addenda that may be issued in preparing and submitting a Proposal response and information contained at the Proposer Conference.

4.17. AMERICANS WITH DISABILITIES ACT COMPLIANCE

Regarding the performance of work under this contract, Contractor agrees that no qualified individual with a disability, as defined by the Americans with Disabilities Act, shall, by reason of such disability, be excluded from participation and the benefits of services, programs, or activities, including employment, or be subjected to discrimination.

4.17.1. Contractor is specifically notified that it is subject to all employment requirements listed under Title I of the Americans with Disabilities Act by virtue of its contract with **QCARSC** as a public entity.

4.17.2. Contractor is specifically notified that it is subject to federal requirements to assure participation and access to public facilities, programs, and activities under Title II of the Americans with Disabilities Act by virtue of its contract with **QCARSC**, a public entity.

These requirements mandate separate or special programs or reasonable modification of existing programs, services, and activities without surcharge to disabled individuals as long as safety is not compromised. The Contractor shall provide a similar notice to all its subcontractors.

4.18. ERRORS

Shall the Proposer believe that an error appears in the RFP documents, Proposer shall notify QCARSC in writing, at the address noted in Section 4.5, no later than the closing date for questions.

END OF SECTION

5. PROPOSAL CONDITIONS

5.1. PUBLIC RECORD

Public safety agencies in Scott County and Rock Island County abide by the laws of their respective states (Iowa and Illinois).

5.2. AWARD

While QCARSC (**OWNER**) may ultimately decide to enter into a contract with the person or firm with which **OWNER** can make the most satisfactory arrangement for meeting its needs, **OWNER** is not obligated to award any contract or respond to Proposals submitted, nor is it legally bound in any manner whatsoever by the submission of a Proposal.

5.3. OWNERSHIP OF MATERIALS SUBMITTED

All material submitted becomes the property of the QCARSC and will not be returned.

5.4. MATERIALS AND SERVICES

5.4.1. The complete system including but not limited to radio communications system, logging recorder system, supporting network, alarm system and microwave portion of project shall be offered as a "turn-key" Proposal which should be taken to mean change orders will only be accepted for action due to changes required not under the control of the Contractor shown to be unknown at the time of initial project negotiation.

5.4.2. The civil and structural portion of the project will be completed by others though assistance from the awarded Contractor shall be offered to assist **OWNER** and their civil/structural engineer to bid in a manner that follows state statutes for Public Works construction unless **OWNER** accepts a proposal involving a suitable partnership arrangement that includes sites that do not require direct construction costs paid by **OWNER**.

5.4.3. All materials and products provided shall be new and unused, with full manufacturer's warranties.

5.4.4. Materials and products shall be based on the functional and performance requirements in this document.

5.4.5. Proposer shall provide additional system components typically and reasonably required to make the system operational even though not specifically indicated.

5.4.6. Submitting Proposer is assumed to have a clear understanding of project.

5.5. PROPOSERS' COSTS

OWNER shall not be responsible for any costs incurred by Proposers relating to this RFP. Proposers shall bear all costs associated with Proposal preparation, submission, attendance at the Proposer conference and site survey, and any other activity associated with this RFP or Proposal preparation.

5.6. MISSING INFORMATION

Proposer is responsible for obtaining any information that is not supplied in this RFP, but found to be necessary in providing a complete and responsive submission. The RFP has been written with every effort to be as complete as possible, but the Proposer assumes responsibility for any missing information, especially with regard to existing frequencies, sites and equipment. It is the Proposer's responsibility to ask appropriate questions and to participate in the Pre-proposal Conference and Site Visits.

5.7. ACCEPTANCE AND REJECTION OF PROPOSALS

OWNER reserves the right to accept or reject Proposals on each item separately or as a whole, to reject any or all Proposals without penalty, to waive informalities or irregularities, and to contract as the best interests of the counties may require in order to obtain the system, equipment and services that, in their judgment, best meets the needs of the counties as expressed in this RFP.

5.8. USE OF PROPOSAL IDEAS

OWNER reserves the right to use any or all Proposer design or service ideas presented. Selection or rejection of the submission does not affect this right.

5.9. PRE-PROPOSAL CONFERENCE AND SURVEY OF SITES

The Consultant with **OWNER** will conduct a mandatory Pre-Proposal conference and mandatory site tour to answer questions on the RFP and the information contained therein. See Section 1 for date, time and location. All interested Proposers must attend this conference. The conference will consist of a short RFP presentation, a question/ answer period and a tour of the current dispatch centers and any owned radio sites. NOTE: Proposals from Respondents who do not attend the pre-proposal conference will not be considered.

5.10. SITE AVAILABILITY

Proposers shall consider existing county and city listed municipal and other defined sites and properties. Non-City/County owned facilities may be included by Proposer, but any realistically estimated rental or lease costs must be clearly stated in Proposer's response to the RFP.

NOTE: It is advised Proposer shall carefully review any proposed sites with a visual inspection and/or contact with the site owner prior to listing any site for the offered proposal.

5.11. PRICING VALIDITY

Proposers must clearly state how long RFP pricing is valid. The pricing must be valid for at least 90 days for the radio system and three years for subscriber terminal devices.

5.12. SHIPPING, STORAGE AND INSURANCE

Proposal pricing shall be FOB destination. All shipping, handling, storage and insurance costs associated with moving and storing manufactured equipment from the Contractor's location(s) to the location of installation shall be included in the Proposer's response to the RFP. In the event there is a need for temporary storage of equipment, **OWNER** will work with the Contractor to secure places where storage can take place.

NOTE: It is assumed the Contractor will be responsible to have any needed insurance and security of equipment of the storage location in not owned by one of the cities or counties represented by **QCARSC.**

5.13. SUBCONTRACTORS

If the submission represents offerings to be provided by different firms or other organizations, the contract will be solely with the Contractor (Selected Vendor), who will be required to assume responsibility for the total project. Any proposed subcontractors will be subject to OWNER approval.

5.14. PERFORMANCE STANDARDS

If awarded the contract, the Contractor warrants and agrees to use its best efforts to perform all services in accordance with the contract terms and in accordance with generally accepted professional standards. The prospective Contractor further warrants and agrees that it shall employ whatever resources are necessary to meet the requirements specified in such contract.

5.15. CONSTRUCTION LICENSES AND PERMITS

The Contractor shall be required to obtain any necessary construction licenses and permits and shall comply with all Federal, State, and local laws, codes, and ordinances without cost to **OWNER.**

5.16. FCC LICENSING

The Contractor shall work with the **OWNER** to obtain/modify FCC licenses for the radio system though each of the county's staff will handle the actual licensing with the FCC of the radio channels. Contractor is responsible for all aspects of licensing the microwave channels.

5.17. PROPOSAL BOND

Each Proposal shall be accompanied by a separate envelope containing an acceptable Proposal Bond or check to the Scott County's Purchasing Authority and a copy of the Proposer's license or certificate of renewal issued by the Iowa Secretary of State and the Illinois Secretary of State. The Bond shall be payable to the Scott County's Purchasing Authority in an amount equal to five percent (5%) of the full amount of the Proposal, executed by the Proposer as principal and by a Surety, authorized to do business in the State of Iowa and State of Illinois thus meeting the requirements of the Request for Proposal, conditioned that if the principal's Proposal is accepted and the contract awarded to the principal, the principal, within fifteen (15) days after Notice of Award, shall execute a contract in accordance with the terms of the RFP and Proposal Bond as required by law and regulations and determinations of Scott County.

5.18. PERFORMANCE AND PAYMENT BONDS

The Contractor may be required to produce a performance bond and a payment bond each in the amount of 100 percent of the value of the contract at the time of award at no additional cost to the Owner. The bonds must be furnished within 10 days of award, if requested. If it is determined a bond is not required the cost of the bond will be deducted from the proposed price.

5.19. INSURANCE

The Contractor or anyone providing services herein shall be required to comply with insurance provisions contained in the contract.

5.20. SUBMISSION OF CONTRACT DOCUMENTS

Within **fifteen (15)** days after receipt of contract award and receipt of the contract forms, the successful Proposer(s) shall execute two duplicate originals and return them to QCARSC. Such contract shall be prepared by QCARSC and the contract terms shall be consistent with this RFP (and any and all addenda thereto and all material attached to and made a part of the RFP), the terms of the Proposal as such terms are finally accepted by QCARSC, as well as all other provisions that QCARSC agrees may be included in the contract.

5.21. FAILURE TO EXECUTE CONTRACT

QCARSC reserves the right to award to another Proposer(s) if the successful Proposer fails to execute and return the contract (two duplicate originals) within **fifteen (15)** days after receipt of said award notification. The re-award to another Proposer shall be in addition to any other right or remedy available to QCARSC under this RFP, contract law, statute, and/or in equity.

5.22. CHANGE ORDERS

The scope of the services to be performed under this Contract may be amended or supplemented by mutual written agreement between the parties to the Contract. This amendatory provision shall not operate to prevent **OWNER** from exercising its reserved right to establish reasonable time schedules of and for any of the work or services to be performed by Contractor hereunder, nor to cancel any of the services not performed at the time notice is given to Contractor of the cancellation of such services or portion of the work to be performed hereunder.

5.23. NON-WAIVER OF DEFAULTS

Any failure by QCARSC to enforce or require the strict keeping and performance of any of the terms and conditions of the contract shall not constitute a waiver of such terms and conditions, nor shall it affect or impair the right of QCARSC to avail itself of such remedies as may be available for any breach of the contract terms and conditions.

END OF SECTION

6. CONTENT OF PROPOSAL

6.1. PREPARATION OF PROPOSAL

6.1.1. Proposers shall submit their Proposals in both hard copy and electronically. Hard copy submissions must consist of one original and three (3) copies in binders or hard bound documents complete with required submittals plus any additional information included by the Proposer. Two electronic submissions of the Proposal shall also be provided including all required submittals in PDF format.

6.1.2. Tab 9: Cost Submittal – Owned, Partnership or Leased pricing will be placed in a sealed 9" x 12" envelope and marked "Pricing". The sealed envelope shall include the printed Pricing Matrix and the electronic copy in MS Excel in the .xls or xlsx file format and any other pricing information Proposer feels is necessary.

6.1.3. Electronic copies shall be submitted via CD or USB thumb drive with thumb drive preferred.

6.1.4. No email submissions will be accepted.

6.1.5. The Proposer must submit with their Proposals all catalogs, drawings, specifications, descriptive information, and other details of equipment or materials included in its submission, including manufacturer and model number in this specification, so that the Consultant may determine the merits of the various designs. Failure to comply may be cause for rejection. Equipment data sheets and other external documents included with the hard copy submission may be included as part of the electronic copies on CD or thumb drive. However, if they are not included, an informational note shall be placed into the electronic submission advising that they appear in the hard copies but not in the electronic copy.

6.1.6. Submittals must contain the signature of an authorized agent empowered to bind the Proposer in a contract. The original hard copy submission must contain original signatures and be labeled accordingly.

6.2. REQUIRED SUBMITTALS WITH PROPOSAL RESPONSE

Proposers shall submit their documents with tabs identified by the letters listed below.

TAB 1: Letter of Transmittal (limited to one page) - Briefly state the Proposer's understanding of the services/system to be provided and a positive commitment to perform the services as defined in the RFP. The officer of the Proposer's company or a designated agent empowered to contractually bind the firm shall sign each Proposal and any clarification to the Proposal.

TAB 2: Firm Experience - Include a description of the organization submitting the Proposal, including its size, organization, legal status (corporation or partnership, etc.), major type of activity or areas of work, and its recent (past five years) experience in the design, delivery, installation, optimization and commissioning of similar P25 simulcast trunked system projects for public safety agencies. Identify the individual(s) in your firm who are anticipated to be involved in key roles if your firm is selected and briefly explain their role and relevant background and experience.

TAB 3: References - Provide at least five references of recent clients that have completed a similar project. The reference must include the name, telephone number, address, and email address of a person who may be contacted and who has direct knowledge of your firm's capabilities and past performance. Also include a brief description of the project, including the start and completion dates.

TAB 4: Demonstration/Proof of Proposer's Financial Stability - Formal certification on Proposer's stationery signed by the owner or authorized officer of the company indicating the proposing firm is not subject to a currently pending bankruptcy in any form, nor are there any current intentions of filing any type of bankruptcy proceedings. In the event a Proposer has or is considering filing bankruptcy of any type, formal certification will take on the form of a written explanation of such filing, complete with history and current status.

TAB 5: Statement of Compliance for Insurance - Provide a Statement that Proposer will meet all insurance requirements as stated in Section 21 if selected as an equipment and services provider.

TAB 6: Response to Requirements - The Proposer must include a point-by-point response for each numbered and lettered item in this Request for Proposal. The Proposer shall indicate understanding and compliance or take exception and explain the reason for each item. Additional system descriptions and/or drawings that further describe the capability of the Proposer's offering are encouraged.

TAB 7: Details of Proposed Solution – A narrative of the solution proposed including high level site diagrams of the proposed solution showing network connectivity, redundant systems and representative diagrams of site equipment and space requirements. This description shall include complete written description of the offering with a global list of major elements, diagrams showing interconnection of the major elements, description of requirements related to shelters, power, HVAC, antennas and towers for each site. Narrative shall also include preliminary engineering details, RF signal level ratio / delay spread used to meet BER requirements, propagation predictions, delay spread predictions acceptance testing procedures, proposed coverage test procedure and cutover procedures. This section shall also be used as a place to point out the efforts made to reduce the long term costs to the OWNER such as tower loading, minimizing sites, local support services and meeting all requirements as set forth.

TAB 8: Implementation Plan and Schedule - The Proposer shall provide an implementation plan and schedule that minimally includes:

A. Major Task/Phase
   i. Detailed design phase proposed beginning and end dates
   ii. Interface with **OWNER**'s Consultants (technical and civil)
   iii. Site/tower expectations
   iv. Parts, ordering and delivery of equipment
   v. Factory Acceptance Test
   vi. System installation plan
   vii. System programming and testing
   viii. System Optimization
   ix. System commissioning
   x. System Technical Training
   xi. System Operator Training
   xii. System acceptance testing
   xiii. 30-day burn-in and validation
   xiv. Transition/Cutover
   xv. Customer acceptance
   xvi. System documentation
B. Start date, finish date and duration of each task/phase
C. Responsibilities (Proposer and Owner/agency)
   i. Overall project management (Contractor)
   ii. Overall project coordination (Consultant)
   iii. System build through commissioning (Contractor)
   iv. Site acquisition (Owner)
   v. Site/tower development (Owner)
D. Dependencies
   i. Initial verification of selected sites by photos or other means
   ii. FCC licensing and Regional Planning Committee approval
   iii. Site power requirements
   iv. Antenna location on towers
   v. Microwave path issues

E. Deliverables

i. Detailed Design Report/Drawings

ii. Factory Acceptance Test/Results

iii. Commissioning Test/Results

iv. Fully operating radio system w/ subscriber units programmed

v. All punch list items completed

vi. Final documentation

TAB 9: PRICING Cost Submittal – Owned, Partnership or Leased System

OWNED or PARTNERSHIP SYSTEM - The Proposer shall provide a complete breakdown of costs by item as described in the attached pricing matrix and using this matrix as a submittal. No other pricing formats will be accepted. A cost for each sub-item shall be included for all equipment if stated. If an item is to be furnished at no charge, the item shall be marked "No Cost" or "Included". In addition to the total system cost, and other requested cost data, any optional or additional recommended equipment or services costs shall be listed. **OWNER** desires to know the entire cost of operation for the first 10 years after acceptance. Year One 100% warranty plus nine (9) years of extended maintenance support. If a partnership option is offered further breakdown of how this is proposed shall be included as a part of the submittal.

LEASED SYSTEM - The Proposer shall provide a complete breakdown of costs and how **OWNER** would be expected to pay for the solution offered. The attached pricing matrix may, if desired, may be used as a submittal though is not required as the proposer may elect to use their own format. **OWNER** desires to know the entire cost of operation for the first 10 years after acceptance. Year One 100% warranty plus nine (9) years of extended maintenance support as an annual cost over a ten (10) year period for a lease arrangement.

TAB 10: Additional Work - Include a list of items including hourly installation costs to be charged to **OWNER** in the event additional work is required beyond the scope of service stated. **OWNER** must authorize any additional work in writing before additional costs may be incurred.

TAB 11: Change Orders – It shall be understood that due to the complexity of the project and some of the unknowns that change orders will be necessary with the major one occurring at the time of the detailed design review when sites are known and believed to be securable. Proposer shall place a statement to that effect signed by offer acknowledging the requirement.

TAB 12: Exceptions – If exceptions to any item of any part of any section of this Request for Proposal are taken, they must be clearly identified as exceptions. The stated exceptions and any alternatives offered must be included in the Proposer's response. Submission of a Proposal indicates acceptance by the Proposer of the conditions

contained in this Request for Proposal, unless clearly and specifically noted in the Proposal submitted and confirmed in the contract between the Commission and the Proposer (Contractor) selected. The Commission may decide to accept or reject any of the alternatives. If an exception is not taken and a contract signed the Contractor shall be responsible to provide at no additional cost to the Commission any portion or piece of equipment not specifically included in their proposal needed to meet expected performance. Taking an exception to a stated requirement may not automatically reduce evaluation points, rather the results of the exception on system expected performance may result in evaluation point adjustments.

TAB 13: Complete Alternative Solution – If Proposer elects to offer any complete alternative solution then it shall include a brief response to the differences of the stated performance expectations as outlined, a high-level block diagram, coverage expectations and complete price matrix to be considered thus making the alternative a standalone proposal.

TAB 14: Specification sheets - (Include spec sheets for infrastructure components, terminals, etc.)

TAB 15: Sample Contract, Terms and Conditions – Proposed contract for **OWNER** to consider.

END OF SECTION

7. BEST PROPOSAL SELECTION

7.1. PROPOSAL RECOMMENDATION

Selection Committee - Elert & Associates, with input from participating agencies, will make a recommendation to the **OWNER**. The **OWNER** shall have final decision-making authority regarding award of any and all contract(s) resulting from this RFP.

7.1.1. Proposals will be reviewed for compliance with the specifications and criteria within the RFP and any addendums.

7.1.2. Proposals will also be reviewed for completeness, organization, clarity and conciseness. Extraneous information not responsive to the RFP is discouraged.

7.2. CONDITIONS OF THE SELECTION PROCESS

7.2.1. Criteria Compliance - **OWNER** reserves the right to determine, in its sole and absolute discretion, whether any aspect of a Proposal satisfactorily meets the criteria established in this RFP.

7.2.2. Submission of Alternatives - Although this RFP specifies minimum requirements for completion of the Project and shall be responded to in all respects, Proposers are invited and encouraged to submit alternatives that may be of interest to the County from an operational, timing, financial and/or long-term upgrade point of view. (See TAB 13 description)

7.2.3. Additional Information Requests - **OWNER** reserves the right to request additional information from Proposers during any phase of the Proposal evaluation process. During the evaluation and selection process, **OWNER** may require the presence of Proposer's representatives to make presentations and answer specific questions. Notification of any such requirements will be given as necessary.

7.2.4. Conditions of Award - **OWNER** may elect not to award a contract solely based on this RFP, and will not pay for the information solicited or obtained. The information obtained will be used in determining the alternative that best meets the needs of the County.

7.3. EVALUATION PROCESS

7.3.1. **Full RFP Review - OWNER** and its consultant will review the functional, technical, and proposer requirements in each valid proposal received.

7.3.2. **Points** - Points will be given in each of four categories (see 0) based on the initial response submitted. If additional information is requested **OWNER** may adjust the points given but will not impact the category point total for the Cost category.

7.4. EVALUATION CRITERIA

This is the form **OWNER** will use to evaluate each proposal.

Evaluation Criteria	Evaluation Method
POINT-BASED CRITERIA	**Possible Points**
INSTALL/SUPPORT	**25**
TECHNICAL MERIT	**30**
PROPOSER EXPERIENCE, QUALIFICATIONS and QUALITY of RESPONSE	**20**
TEN YEAR SYSTEM and OPERATIONAL COST	**25**
SUBTOTAL	**100**
EXCEPTIONS –	**Deduct** 1-5 points each depending on potential impact on Owner and/or additional duration of contract negotiations.
ERRORS OR MISSING INFORMATION IN RESPONSE -	**Deduct** 1-5 points each
TOTAL	

7.4.1. **Proposer's Ability to Both Install and Support System after Installation -** This evaluates pre- and post-installation support and service and local presence. Site visits and reference checks may be utilized for this evaluation. Proposers will be evaluated on their ability to execute the project on time with minimal interruptions to the agencies involved. Support after installation will be at least half of the points as the proposer will be expected to become the primary entity providing extended maintenance and services.

7.4.2. **Technical Design Merit** - The technology evaluation shall use criteria such as compliance to standards, development and execution environments, application architecture, extensibility, scalability, and integration. A review of submitted proposal and overview design provided as a part of submittal will be key. Has the proposal expressed in sufficient detail enough information to provide **OWNER** a reasonable understanding as to how the system requirements will be met.

7.4.3. **Proposer's Experience, Qualifications, Quality of Response & Financial Viability** - Proposals will be evaluated on the firm's track record in fielding similar technology systems, the firm's financial capabilities and has the proposal followed the requested response organization.

7.4.4. **Cost** - Costs will be evaluated for initial and ongoing costs. The financial evaluation will be based on the total (life cycle) cost of the system. The costs used will be those provided in the Proposer's response to this RFP and as established by **OWNER** for hardware/software and system operation plus care in site selection/design as to number of leased sites, greenfield sites and makeup of antennas including footprint on the towers. **OWNER** reserves the right to adjust cost submissions to reflect factors that, in **OWNER's** judgment, would result in more accurate cost comparisons of submitted proposals.

7.5. PROPOSER QUALIFICATIONS

Proposer/Respondent will be considered a Qualified Vendor if the following qualifications are met:

7.5.1. Proposer shall be certified to install the system being proposed and have a minimum of three years' experience in the application, installation, and testing of the proposed systems and equipment with a successful record of at least three systems matching the complexity/size having been completed in the last five years.

7.5.2. Supervisors and all installers assigned to the installation of the proposed system or any of its components shall have factory certification from each equipment manufacturer thus proving they are qualified to install and test the provided products.

7.5.3. All installers assigned to the installation of this system or any of its components shall have a minimum of two years' experience in the installation of the proposed systems.

7.5.4. Proposer (or proposer's subcontractor) shall hold all necessary valid licenses and certifications for the work being performed as described.

7.5.5. Proposer to be a direct seller of the offered major system components thus being authorized to do warranty service on the proposed system.

7.5.6. Proposer offers an acceptable solution for supporting the installation after acceptance via the extended maintenance plan proposed.

7.5.7. Proposer has the needed test equipment that has been recently calibrated to be used in the set up and on-going maintenance of the proposed system.

7.5.8. Proposer maintains a support facility and trained technical staff allowing service personnel to easily be dispatched to the County and arrive on-site within two hours of being called for assistance.

7.5.9. Proposer meets the financial requirements to develop, acquire, install and offer the long-term support requested by **OWNER** for the system being proposed.

END OF SECTION

8. GENERAL PROVISIONS

8.1. PROJECT MANAGEMENT

The Contractor shall appoint a Contractor's Project Manager and a backup to the PM who will be the main point of contact regarding the project for **OWNER** and the Consultant.

The Proposer's Project Manager is responsible for the following:

8.1.1. The successful completion of the contract in a timely manner.

8.1.2. The work and performance of all employees and subcontractors that have been hired by the Contractor.

8.1.3. Direct interface with **OWNER** selected site construction contractor by assuming role of project management.

8.1.4. Completing and submitting all required submittals and documentation.

8.1.5. Attending all project coordination meetings as may be required by the Owner and/or Consultant. The Contractor is responsible for taking minutes of these meetings and distributing copies to all participants. At a minimum, there is expected to be a kickoff meeting, bi-monthly update meetings and a closeout meeting.

8.1.6. Coordination with the Owner's consultants and engineers to ensure smooth flow of work and on-time project completion.

8.1.7. Providing a monthly written progress update report to OWNER and Consultant.

8.1.8. Reporting all unexpected conditions and problems that may result in delay or expense to the Owner and Consultant immediately upon discovery.

8.2. IMPLEMENTATION PLAN / SCHEDULE

8.2.1. The Contractor must develop a realistic implementation plan that will include, at a minimum, the following elements:

- Significant Tasks
- Start date, finish date, and duration of each task
- Responsibilities
- Dependencies
- Deliverables
- Estimated Completion Date

8.2.2. When accepted and approved by **OWNER**, the implementation plan shall be the documentation for measuring contract performance and progress, and as such, shall become a contract document to which the Contractor shall adhere.

8.2.3. The Proposer shall provide an initial proposed Implementation Plan with their submission.

8.3. DELAYS AND EXTENSIONS OF TIME

8.3.1. If the Contractor is delayed at any time in the performance of the contract by written and mutually agreed to changes in the contract, labor disputes, fire, flood, or other natural disasters, unusual delay in transportation, adverse weather conditions not reasonably anticipated, unavoidable casualties, or any other causes beyond the Contractor's reasonable control and without fault or negligence of the Contractor, then the Contract Manager may, but shall not be required to, extend the contract time or performance dates or times for such reasonable time as the Contract Manager may determine.

8.3.2. A claim for extension will not be allowed unless the Contractor, not later than the end of the **OWNER's** second business day following the day on which the claim arises, shall have informed the Contract Manager —by telephone or fax—about the full details of the cause(s) necessitating such a claim. Within six (6) calendar days following any such telephone call or facsimile, the Contractor shall also email each of the **OWNER's** contact personnel a communication specifying in detail the cause(s) of the delay. The communications shall be sent to the address stated at the top of said cover sheet.

8.3.3. Contractor's failure to comply with the above procedures shall constitute waiver of any claim for an extension of time.

8.3.4. The herein provisions will not preclude **OWNER** from canceling or terminating the contract regardless of any act or event beyond the Contractor's reasonable control, as aforesaid, provided **OWNER** shall have given the Contractor thirty (30) days prior written notice of **OWNER's** intention to so cancel or terminate, and that during said period, the Contractor shall have failed to cure such delay or failure in performance.

8.4. SUSPENSION OF WORK

8.4.1. **OWNER** shall have the right to suspend the work, or any part thereof, for non-compliance, for refusal to carry out the requirements of the agreement, or for public safety reasons.

8.4.2. The Contract Manager shall provide written notice to Contractor regarding the reason or reasons for such suspension. Work shall be suspended until the reason for the suspension has been corrected.

8.5. EXTENSION

8.5.1. Unless otherwise provided in the contract documents, the contract period may be extended for additional periods with the mutual consent of **OWNER** and the Contractor. Each approved extension period shall be governed by the original contract terms.

8.5.2. If **OWNER** wishes to extend the contract, the Contract Manager will so advise the Contractor before expiration of the contract or any extension period.

8.6. SURVIVORSHIP

8.6.1. All transactions executed pursuant to the authority of this Contract shall be bound by all the terms, conditions, price discounts, and rates set forth herein, notwithstanding the expiration of the initial term of this Contract or any extension thereof.

8.6.2. The terms, conditions, and warranties contained in this Contract that by their sense and context are intended to survive the completion of the performance, cancellation, or termination of this Contract shall so survive.

8.6.3. The terms of the sections titled Software License, Disputes and Remedies, Warranty, and Indemnification shall survive the termination of this Contract.

8.7. TAXES

8.7.1. As the parties recognize that the **OWNER** is a nonprofit entity exempt from payment of sales taxes pursuant to Iowa Statutes, Section 77.54(a), the **OWNER** (not the Contractor) shall be responsible for any and all Iowa Sales or Use Taxes (if any are imposed) on any direct purchases of materials or supplies made by the **OWNER.**

8.7.2. As the parties recognize that the **OWNER** is a nonprofit entity exempt from payment of sales taxes pursuant to Illinois Statutes and Iowa Statues the **OWNER** (not the Contractor) shall be responsible for any and all Iowa or Illinois Sales or Use Taxes (if any are imposed) on any direct purchases of materials or supplies made by the **OWNER.**

8.7.3. Proposals shall include all Iowa Sales and Use Taxes in effect at the time the proposal is submitted for taxable items which are not purchased directly by the Owner. Proposers who are uncertain as to what items are subject to tax, or who require further explanation or clarification, are requested to contact the Iowa Department of Revenue and Illinois Department of Revenue.

8.8. CLEANING UP

The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by its operations.

8.9. APPLICATIONS FOR PAYMENT

Applications for payment may be in the form of the Contractor's standard invoice. The application shall contain the order/contract number, an itemized list of commodities or services furnished, the description of each item occurring in the contract documents, the RFP item number for each item, the delivery point, and the date of shipment. Invoices for any service or commodity not identified in the contract will be disallowed.

Payment Schedule

8.9.1. **First Payment** – Contractor may invoice **OWNER** for an amount not to exceed 15% of the value of the contract for Scott County and Rock Island County Radio System upon contract execution.

8.9.2. **Detailed Design Review** – Upon acceptance of the system detailed design as provide by the Contractor which include site recommendation **OWNER** shall accept an invoice in the amount of 10% of the project proposed amount thus equating to a total of 25% invoiced to date.

8.9.3. **Factory Acceptance Test** –This test shall constitute a milestone for the project but it shall not be considered a payment point in the contract.

8.9.4. **Shipment** - Contractor may invoice **OWNER** for an amount not to exceed 25% of the value of the contract for Radio System upon shipment of all equipment. Partial equipment invoice may be accepted only if prior authorization by **OWNER's** Project Manager. This equates to 50% of the project invoiced to date.

8.9.5. **Conditional Acceptance** - Contractor may invoice **OWNER** for an amount not to exceed 35% of the value of the contract for the Radio System upon attaining Conditional Acceptance. Conditional Acceptance is considered as the time when all systems have been installed, are operational and testing completed allowing for the 30-day test to begin. This the total amount invoiced to date will be 85%.

8.9.6. **Final Acceptance** - Contractor may invoice **OWNER** for the remaining contract amount having not been previously invoiced per the value of the contract for Scott County and Rock Island County Radio System only upon attaining 100% Final Acceptance and cutover to the new radio system.

8.10. PAYMENTS

8.10.1. Payments under this contract will be made in the manner provided by law for payments of claims and/or invoices. (Payment of invoices is governed by Iowa Statute.)

8.10.2. No payment shall constitute an acceptance of any commodities or services not in accordance with the requirements of the contract.

END OF SECTION

9. SOFTWARE LICENSE AND COPIES

9.1. SOFTWARE LICENSE

OWNER shall have the right to make at least two (2) copies of any system or equipment level software for backup and archival purposes. **OWNER** may transfer the software within their respective business operation.

9.2. ENHANCEMENTS, UPGRADES, AND NEW VERSIONS OF SOFTWARE

The Contractor agrees to provide to **OWNER**, at no cost, prior to and during installation and implementation, any software enhancements, upgrades, replacements, and/or new versions of the software.

Throughout the warranty period and as long as Contractor is providing extended maintenance, Contractor shall notify **OWNER**) of the availability of enhancements, upgrades, replacements, and newer versions of the software and, within thirty (30) days, supply **OWNER** with the enhancements, upgrades, replacements, and new version. The enhancements, upgrades, replacements, and new version will be provided to **OWNER** without charge during the extended maintenance period. The Contractor will provide free updated documentation in the form of new revision manuals or changed pages to current manuals consistent with the original documentation supplied and reflecting the changes included in the software. The Contractor shall provide Bug Status Reports specifying all known, outstanding bugs in the new software versions. The information shall be updated periodically as new information and workarounds become known. The Contractor shall also provide free installation (as part of the warranty and maintenance program, procedures, and any installation program required by the installation.

Reauthorization Code: If a reauthorization code must be keyed in by Contractor for the licensed software to remain functional upon movement to another computer system, Contractor shall provide the reauthorization code to **OWNER** within one (1) business day after receipt of **OWNER's** notice of its machine upgrade or movement.

END OF SECTION

10. COMMODITIES AND SERVICES

10.1. QUALITY STANDARDS

10.1.1. All commodities and work shall be of good quality, free from faults and defects, and in conformance with the contract documents. All commodities and work not conforming to these requirements may be considered defective. If required by **OWNER**, the Contractor shall furnish satisfactory evidence as to the kind and quality of commodities and work.

10.1.2. Commodities shall be subject to inspection by **OWNER** within a reasonable time after delivery to **OWNER**. Defective commodities may be returned to the Contractor at the Contractor's expense.

10.1.3. Commodities must be compatible with the equipment and/or system in the environment in which it will be utilized.

10.1.4. If a commodity not in current manufacture is specified by **OWNER**, Contractor warrants that such commodity shall be given the warranty that accompanied the commodity when it was in current manufacture. Contractor further warrants that with respect to such commodity, that Vendor, for at least five years (or such other period of time as may be specified by **OWNER** from the date of the contract, shall keep and maintain a sufficient supply of parts, supplies, accessories, and all other items reasonably necessary to assure the high reliability and efficient operation of the commodity. Contractor further warrants that in the event the necessary parts, etc., are not available to maintain the commodity, it shall, at no cost to **OWNER**, promptly replace the commodity with one that is in compliance with the contract documents and is Vendor's then current version.

10.2. SUBMITTALS

No portion of the work requiring submission of a shop drawing, manufacturer's literature, test data, or other information or a sample shall commence until the submittal has been approved by **OWNER**.

10.3. MATERIAL DATA SAFETY SHEETS

If so requested by the Contract Manager, or if so stated elsewhere in the specifications, the Contractor may be required to submit to **OWNER** a completed Material Data Safety Sheet (or other acceptable data) for each item proposed. Failure to submit this form upon request may result in rejection of the Proposal.

END OF SECTION

11. PRODUCT: HARDWARE AND SOFTWARE

11.1. NEW

The Contractor warrants to **OWNER** that all commodities will, unless otherwise specified, be new and the manufacturer's latest design of the commodity presently in production and sold to customers and that such commodities and services furnished under this contract are in conformance with contract documents and that commodities are of merchantable quality and fit for the purpose for which they are intended and sold.

11.2. TITLE

The Contractor warrants that title to all commodities, materials, and/or equipment covered by an application for payment will pass to **OWNER** upon receipt of payment by the Vendor, free and clear of liens, claims, security interests, or encumbrances, and that no commodities, materials, and/or equipment covered by an application for payment in which an interest therein or an encumbrance thereon is retained by the seller.

END OF SECTION

12. TRAINING AND SUPPORT

12.1. STAFF TRAINING

12.1.1. Four individual county staff have been selected to receive technical training on the system sufficient to allow these individual counties to have a high-level understanding of the workings of the system and for them to offer user the first call for assistance. They are not expected to be technicians.

12.1.2. A Train-the-trainer program shall be developed and delivered for 4-5 separate groups of users focusing on the operation of the mobiles and portables with three sessions assuming different fleet map programming to accommodate the various agencies: Fire (city and rural), Law (Sheriff and Police) and non-public safety user.

12.1.3. A separate training program shall be delivered eight (8) times to dispatchers and assigned staff, if necessary to accommodate the various shifts of workers with all training to be offered locally at the Scott Emergency Communications Center.

12.2. SUPPORT

12.2.1. The system is expected to be technically supported by a local vendor who will be required to offer the second level of reactive and first level proactive support for the system. This local vendor shall have manufacturer certified technical personnel housed within no more than a one-hour drive from the Quad Cities metro area who can deliver the support.

12.2.2. The expected support must include 24x7x365 monitoring and local response to reported failures.

12.2.3. An agreement is expected to be reached for this extended level of support for normal operational support and services during the entire life of the project by **OWNER.**

END OF SECTION

13. SYSTEMS TESTING, ACCEPTANCE, AND CERTIFICATION SUMMARY

13.1. FACTORY ACCEPTANCE TEST (FAT)

13.1.1. Contractor shall perform a factory acceptance test of the entire radio system being supplied including all subsystems.

13.1.2. The test shall also include programmed portables of the models being acquired for this project.

13.1.3. A complete report of the system testing at the Factory Acceptance Test shall be made available to **OWNER** for review.

13.1.4. **OWNER** and/or **OWNER's** Consultant shall be invited to travel to the location of the testing to witness the system as having been set up to demonstrate its operation and readiness to ship to **OWNER** for installation.

13.1.5. The cost for travel and per diem of **OWNER's** staff and consultant to attend the testing shall be borne by **OWNER** and thus not included in the Proposers response.

13.2. EQUIPMENT INSTALLATION AND COMPONENT/SYSTEM TESTING

13.2.1. It is understood all equipment will be shipped from the factory to a local to-be-determined location where it will be held until being moved to the various sites.

13.2.2. Until the equipment has been installed at its selected site the ownership and thus responsibility of these system shall remain with the contractor and not transferred to **OWNER.**

13.2.3. Promptly after delivery to the defined site hardware and software, modules and/or components, Contractor shall commence to install said equipment and software.

13.3. COMPONENT AND SYSTEMS TESTING AND NOTIFICATION OF READINESS

13.3.1. Contractor shall promptly and successfully conduct all its own testing procedures on all hardware and software.

13.3.2. Contractor shall then allow Consultant and/or **OWNER** to randomly select up to two sites for the tests to be redone to be validated.

13.3.3. Contractor shall provide written notice the system has been installed and all components have been tested and is ready for Preliminary Acceptance testing.

13.3.4. Testing documentation shall be turned over to Consultant for review.

13.4. COVERAGE TESTING

13.4.1. As soon as the system is ready for coverage testing and the testing period is agreeable to **OWNER**, the Automated Drive Test shall be completed with results turned over to **OWNER** for review.

13.4.2. Upon completion of the Automated Drive Test the In-Building Audio Test shall be scheduled with the **OWNER** to be completed followed by the results of this test being turned over to the **OWNER** for review and acceptance.

13.5. PROJECT CERTIFICATION / ACCEPTANCE TESTING/OPERATIONAL TRAINING

13.5.1. After Contractor's successful completion of its system testing procedures, Contractor shall successfully conduct its certification testing procedure on the system delivered hereunder to determine whether all such hardware and software together operate in a manner meeting certification criteria.

13.5.2. All operator training shall be conducted initially for the pilot user group and dispatch center personnel thus allowing the 30-day system test to begin.

13.5.3. No final certification or acceptance testing signoff will occur until such time as a user interface to user interface from terminal to terminal and terminal to dispatcher is shown to work without error.

13.5.4. The **OWNER's** Project Certification testing shall begin within fifteen (15) business days following its receipt of Contractor's written notice of successful completion of the installation of the system and all its tests and training in connection therewith has been completed. The project certification testing will be conducted at the repeater sites in order to determine whether (1) the system performs in accordance with the functions, specifications, and description established using Contractor documents; (2) the system can be effectively utilized in the Owner's environment; (3) the system meets all functional requirements as described in this RFP, especially the tests described in Section 29.

13.5.5. For this Certification Test a selected small group (no more than 5% of total users) of users and dispatch shall be cutover on the system to conduct actual daily use thus conducting a proper operational test of the system though under less than full load.

13.5.6. The Certification Test will be considered successful if the equipment operates successfully in compliance with these specifications for a total of thirty (30) consecutive days with a major failure requiring the 30-day period to start over and minor failure possibly stopping the 30-day clock until repairs have been made.

13.5.7. Written notification will be furnished to the Contractor if any item or function is determined unacceptable to **OWNER**. The Contractor will then have three (3) days to correct or replace the defective item and notify **OWNER** that all such errors have been remedied. **OWNER** will have three (3) additional

working days to recommence the aforesaid certification test. This process will be repeated if necessary until the equipment meets the aforesaid 30-consecutive-day test, and **OWNER** notifies the Contractor in writing of Project Certification.

13.5.8. However, if the test results are not accepted hereunder within 120 working days after Vendor's initial written certification to **OWNER** of the readiness of the certification testing, **OWNER** shall have the right and option, following ten (10) days' advance written notice to Contractor (during which period the Contractor shall have the right to cure by full performance of the certification test obligations), to declare Contractor to be in default, and **OWNER** may exercise any or all of its full spectrum of remedies, including but not limited to cancellation and rescission of this agreement and place a claim on the Performance Bond.

13.5.9. Upon contract cancellation by **OWNER** due to the Contractor's breach or default, **OWNER** shall have the right to notify the Surety of a claim on the Performance Bond claim return the system at the Contractor's sole cost (Contractor being fully responsible to perform all services necessary for the shipping thereof). Contractor shall promptly refund to **OWNER** the full amount of any payments made to the Contractor pursuant to these specifications less the amount of any depreciation, based on a five-year period. **OWNER** reserves the right to apply the aforesaid testing and acceptance procedure to subsequent installations and new releases of equipment and software.

13.6. POST PROJECT CERTIFICATION AND BENEFICIAL USE

13.6.1. At the end of successful operation of this pilot group for 30 days cutover to all other users shall be initiated and this shall begin Beneficial Use and the one-year warranty.

13.6.2. **OWNER** shall operate the complete system of all channels in the normal course of their business operation.

13.6.3. **OWNER** will verify that the system satisfies the System Acceptance Test, warranty maintenance standards, and adequate training of its staff for the operation of the system under normal business operation.

13.6.4. If the system is found to be unacceptable to the Owner in that it does not meet expectations, written notification will be made to the Contractor with the Contractor responding in writing to **OWNER** describing it's intended solution.

13.6.5. The Contractor and **OWNER** shall attempt to reach an agreement as to the solution before any legal action is begun.

END OF SECTION

14.100% Warranty of Complete Supplied System

There is the expectation by the **OWNER** that a local technical support company will be named and given the responsibility of supporting the P25 trunked system through the warranty period and this company will have trained and certified technicians who will offer nearly immediate assistance.

14.1. Warranty Offered

14.1.1. The warranty offered does not begin until the system is fully complete and 100% operational and accepted by **OWNER** with the understanding the "system" is the complete operating chain from user interface of the radio terminal to the user interface of the radio terminal and dispatch console operator.

14.1.2. The warranty offered by the Contractor shall be in addition to any manufacturer's standard warranty that may apply or any warranty provided by law.

14.1.3. The Contractor shall provide a system equipment (all supplied electronics) and subscriber terminal warranty that shall start at the date of system acceptance and extend to at least one (1) year after the date of project acceptance by **OWNER**. Due to testing and cutover timing, it shall be understood this could be longer than one year for some portions of the system and/or terminal equipment.

14.1.4. **OWNER** does not expect to have to pay any additional costs during this one-year warranty period if the failure is determined to be with any component or subsystem and assuming the failure is not from an outside force such as weather or manmade cause.

14.2. 100% Warranty Parts and Labor

14.2.1. The 100% warranty shall include on-site parts and all necessary travel and labor to troubleshoot, setup and replace items under the warranty including replacement of any defective parts in a timely manner.

14.2.2. All labor and travel associated with troubleshooting and replacement of parts/components, any system re-tuning or alignment because of replacing those parts, spare parts and modules, and all recommended preventative maintenance activities shall be provided without cost to **OWNER** during the one-year warranty period.

14.2.3. One-year warranty start date for all end user equipment will be agreed upon for ease of administration.

14.2.4. Any individual item of equipment covered by this procurement experiencing more than three failures for reasons not external to itself during the warranty period shall be replaced with new equipment meeting specifications, at no cost

to the Owner. If the equipment is considered to be critical, the Contractor shall replace it within twenty-four (24) hours after receipt of notification from the Owner. A new warranty period for the item identical in length and terms to the foregoing warranty period shall commence on the date of replacement of any such item.

14.2.5. Contractor shall correct or replace the equipment or provide the services necessary to remedy any programming error, malfunction, or other problems in connection with the hardware, software, firmware, documentation, etc. Calls reporting problems will always be made to the Vendor. When return calls are made (either to gather more data or to prescribe corrective actions), the first such return call shall arrive from a person trained and qualified to diagnose and resolve the general type of difficulty reported within two (2) hours of the report of trouble. Vendor's initial response to remedy errors, malfunctions, or problems, whether identified by the County, another user of comparable equipment, or any other person, shall not exceed two (2) hours.

14.2.6. Contractor, when attempting to resolve a problem of substantial difficulty or magnitude, shall use its best efforts to proceed with diligence and good faith to affect a remedy in a timely and efficient manner.

14.2.7. Contractor shall dispatch a Field Engineer to the County upon request by the Contract Manager. The Field Engineer must arrive on site within four (4) hours from the time the call was placed by the Contract Manager. The Field Engineer dispatched must be trained and certified on the installed systems.

14.2.8. In the case of an emergency service request by the Contract Manager, the Field Engineer must arrive on site within two (2) hours from the time the call was placed to begin diagnosis of the reported problem. Emergency Service is defined as a major system failure where a piece of equipment has failed causing the County to operate on its back up channels or when more than half of its dispatching consoles fail at any one of the dispatch centers. A loss of a single channel or a single dispatch console does not constitute an emergency service request.

14.2.9. Contractor shall maintain duplicates of all radio system software and documentation thus being locally available and able to be delivered and on site at the County within four (4) hours of request by the Contract Manager or if required by the dispatched Field Engineer.

14.2.10. In the case of an emergency service request, the above system software and documentation shall be delivered and on site within two (2) hours of request by the Contract Manager or if required by the dispatched Field Engineer.

14.2.11. Contractor shall attach a schedule of the activities necessary for the proper functioning of their equipment (a recommended maintenance schedule), the titles and frequencies of any reports **OWNER** will be expected to produce for the Contractor, and the types and probable extent of the activities with which the County will be expected to assist the Contractor in remedial maintenance efforts.

14.2.12. Contractor shall in good faith support and resolve problems with connectivity to the equipment in accordance with the maintenance and support provisions of this document. If Contractor determines the problem lies with other manufacturers' equipment, then the Contractor shall work cooperatively with the County and such other manufacturers to identify and resolve the problem.

14.2.13. Contractor must provide a complete description of its routine and preventive maintenance schedule.

14.2.14. Preventive maintenance shall be scheduled as frequently as is recommended by the manufacturers of the equipment's various components though no less than once at the end of the warranty period. The **OWNER** will schedule preventive maintenance with the Contractor and any subcontractors involved. In no case will preventive maintenance be scheduled to put any aspect of the system out of operation without prior approval.

14.2.15. Contractor must provide support on all hardware and software components 24 hours per day, 7 days a week and as such shall have multiple layers of backup personnel trained to provide this level of service.

14.2.16. Contractor must provide one toll-free telephone number to call for all hardware and software maintenance/support problems.

14.2.17. For security purposes, the system shall be password access-protected. In addition, any modems attached to the equipment shall be password access-protected and shall dial back to the Contractor's support personnel having requested access to the County's equipment.

14.2.18. All costs associated with delivering to and from the **OWNER** any software and/or hardware required as the result of malfunctioning equipment shall be provided at no additional expense to the **OWNER**. Such cost items shall include but not be limited to the following: troubleshooting, transportation, packaging, crating, delivery, installation, de-installation, component handling, and insurance.

14.2.19. If any communication circuits, equipment, or software needed specifically for maintaining or monitoring the system, these circuits and components shall be identified in detail, with costs placed in the pricing matrix.

14.3. TELEPHONE SUPPORT

14.3.1. Contractor shall provide the **OWNER** a monthly allowance of a minimum of ten (10) hours of remote telephone support at no additional charge during the twelve (12) month warranty following final acceptance.

14.3.2. The allowance may be used for assistance and advice on the operation and functions of the equipment, for help with diagnostics and other problem determination procedures, and for advice and assistance in problem situations.

14.4. REQUIRED SPARE PARTS

14.4.1. Proposer shall detail what their anticipated cache of spare parts will be to support typical warranty period and extended service period.

14.4.2. As the system is expected to be designed and implanted with full redundancy of the system controller and voting system with dual networks this design shall be taken into account when determining the list of spares recommended.

14.5. RIGHT TO LICENSE WARRANTY

Contractor warrants to **OWNER** the Contractor is the lawful owner of the software or, to the extent it is not the lawful owner, that it has all rights necessary for it to license all software to the County under the terms of this agreement. Contractor warrants that the software will not violate or in any way infringe on any patent, copyright, trademark, trade secret, or any proprietary or other right of a third party.

14.6. SOFTWARE PERFORMANCE WARRANTY

14.6.1. It shall be understood this is a user interface to user interface software warranty that includes all Contractor supplied system components.

14.6.2. A failure of software/code that renders a piece of equipment unusable even temporarily requiring rebooting or restarting shall be considered a failure just as if it were a hardware failure employing the same remedies of resolution.

14.6.3. Contractor warrants to **OWNER** for a period of one (1) year after **OWNER's** acceptance of the software, and thereafter, provided **OWNER** is receiving software support services from Vendor, the software shall be substantially free from programming errors and will conform to the specifications, functions, descriptions, standards, and criteria set forth in this agreement (including the acceptance testing criteria), its exhibits and attachments, the Proposal, and any other system software specifications.

14.6.4. Contractor hereby warrants that the support services (a) will be performed in a good and workmanlike manner, consistent with industry standards, and (b) will be performed by adequately trained and experienced personnel.

14.6.5. In terms of any equipment or 3rd party software purchased by **OWNER** from the Contractor, the Contractor warrants that (a) such items shall be ordered new from Contractor's supplier(s) and will include the manufacturer's standard end warranty, which shall be assignable to **OWNER**; and (b) Contractor shall pass through to Owner all equipment and applicable third-party software manufacturers' assignable end warranties that shall apply to **OWNER**. If the equipment and applicable third-party software warranty is not assignable, Contractor shall deliver notice prior to purchase of said equipment by **OWNER**. If the equipment and third-party software warranty is not assignable, Owner may elect not to purchase the equipment and third-party software from Vendor.

14.6.6. Contractor warrants that all software licensed hereunder does not contain any disabling code (defined as a computer code designed to interfere with the normal operation of the software or **OWNER's** hardware or software) or any program routine, device, or other undisclosed feature, including but not limited to a time bomb, virus, software lock, drop-dead device, malicious logic, worm, Trojan horse, or trap door that is designed to delete, disable, deactivate, interfere with, or otherwise harm the software or the **OWNER's** hardware or software—except for software limitations on the number of permitted concurrent versions where applicable—in the applications, architectural software, or custom programming as delivered as of the delivery date of such items, which would, without **OWNER's** intervention, alter, destroy, or inhibit the system or **OWNER's** use of the data or the system within the scope of any applicable license(s) under this agreement, nor is it Contractor's intention that any subsequently delivered updates and releases contain any such disabling code or key lock or provide transactions through any interfaces with the intent to inhibit use of other systems.

14.6.7. Contractor warrants to **OWNER** that Contractor has used its best efforts to scan for viruses within the software.

14.6.8. During the warranty period, the Contractor shall provide and install any firmware or software upgrades offered by the manufacturer of the radio sub system, microwave subsystem, call logging subsystem and alarm subsystem at no additional cost to **OWNER**.

END OF SECTION

15. EXTENDED MAINTENANCE / SUPPORT

The expectation of the **OWNER** is their system will be provided total technical support locally by a fully trained and manufacturer certified support company to offer immediate assistance when a problem occurs with the proposed solution.

15.1. INITIAL RESPONSE TO CALLS FOR ASSISTANCE AND SYSTEM MONITORING

15.1.1. The extended maintenance plan as offered to **OWNER** for the radio system and all supplied subsystem elements shall be proactively responded to when contact has been made by any of the dispatch centers as problem occur.

15.1.2. The company providing technical support shall also be expected to remotely monitor the everyday functionality of the radio and system and all subsystems and to respond a necessary thus working towards minimal down time.

15.2. PAYMENT FOR EXTENDED MAINTENANCE/SUPPORT

15.2.1. Payments for said support and maintenance period shall be due and payable on an annual basis at the beginning of the year support is to be provided.

15.2.2. Proposers shall include costs covering the first ten (10) years of system and equipment ownership beginning with the end of 100% warranty period thus effectively Year 2 – Year 10 which may be extended beyond the period under agreement of Contractor and **OWNER.**

15.3. SYSTEM MAINTENANCE AND SYSTEM UPDATES

15.3.1. At **OWNER's** option Contractor shall provide extended maintenance, additional support, and enhancements in connection with all hardware and software thus inclusive of the radio system, the network system, microwave system, alarm system and DC power plant system.

15.3.2. Extended Maintenance is defined as providing all required routine and emergency services labor and travel necessary to keep the radio and microwave system not only operating but operating in like new condition.

15.3.3. System Updates is defined as providing a minimum of every other manufacturer' offered software and/or firmware update including any required hardware changes to maintain the proposed system with the latest features.

15.3.4. During the extended maintenance term, Contractor shall supply and install any and all updates, enhancements, improvements, or modifications to the equipment (hardware, firmware and software) at no additional charge to **OWNER** beyond what is proposed in the extended maintenance support offering.

15.3.5. Contractor's initial response to remedy errors, malfunctions, or problems, whether identified by the **OWNER** or the Contractor's monitoring of the system shall not exceed two (2) hours.

15.3.6. During the extended maintenance term, the Contractor shall correct or replace the equipment or provide the services necessary to remedy any programming error, malfunction, or other problems in connection with the hardware, software, firmware, documentation, etc.

15.3.7. Calls reporting problems will always be made to the Vendor. When return calls are made (either to gather more data or to prescribe corrective actions), the first such return call shall arrive from a person trained and qualified to diagnose and resolve the general type of difficulty reported within two (2) hours of the report of trouble, not counting hours outside the maintenance hours herein set forth.

15.3.8. Contractor, when attempting to resolve a problem of substantial difficulty or magnitude, shall use its best efforts to proceed with diligence and good faith to affect a remedy in a timely and efficient manner.

15.3.9. Contractor shall dispatch a Field Engineer to the County upon request by the Contract Manager. The Field Engineer must arrive on site within four (4) hours from the time the call was placed by the Contract Manager. The Field Engineer dispatched must be trained and certified on the installed systems.

15.3.10. In the case of an emergency service request by the Contract Manager, the Field Engineer must arrive on site within two (2) hours from the time the call was placed to begin diagnosis of the reported problem. Emergency Service is defined as a major system failure where a piece of equipment has failed causing the County to be forced to operate on its back up channels or when more than half of its dispatching consoles fail at any one of the dispatch centers. A loss of a single channel, talk-group or a single dispatch console does not constitute an emergency service request unless it is a paging channel or subsystem.

15.3.11. Contractor must have duplicates of all the **OWNER's** software and documentation locally available. This shall be delivered and on site within four (4) hours of request by the Contract Manager or if required by the dispatched Field Engineer.

15.3.12. In the case of an emergency service request, the above system software and documentation shall be delivered and on site within two (2) hours of request by the Contract Manager or if required by the dispatched Field Engineer.

15.3.13. Contractor shall attach a schedule of the activities necessary for the proper functioning of their equipment (a recommended maintenance schedule), the titles and frequencies of any reports that the **OWNER** will be expected to produce for the Contractor, and the types and probable extent of the activities with which the **OWNER** will be expected to assist the Contractor in remedial maintenance efforts.

15.3.14. Contractor shall in good faith support and resolve problems with connectivity to the equipment in accordance with the maintenance and support provisions of

this document. If Contractor determines the problem lies with other manufacturers' equipment, then the Contractor shall work cooperatively with the County and such other manufacturers to identify and resolve the problem.

15.3.15. Contractor must provide the **OWNER** with new versions of the standard equipment at then-current rates, upon request and when made generally available.

15.3.16. Contractor must provide a complete description of its routine and preventive maintenance schedule.

15.3.17. Preventive maintenance shall be scheduled as frequently as is recommended by the manufacturers of the equipment's various components though no less than once per year.

15.3.18. The **OWNER** will schedule preventive maintenance with the Contractor and any subcontractors involved.

15.3.19. In no case will preventive maintenance be scheduled to put any aspect of the system out of operation without the **OWNER's** prior approval.

15.3.20. Contractor must provide support on all hardware and software components 24 hours per day, 7 days a week and as such shall have multiple layers of backup personnel trained to provide this level of service.

15.3.21. Contractor must provide one toll-free telephone number to call for all hardware and software maintenance/support problems.

15.3.22. For security purposes, the system shall be password access-protected. In addition, any modems attached to the equipment shall be password access-protected and shall dial back to the Contractor's support personnel having requested access to the **OWNER's** equipment.

15.3.23. All costs associated with delivering to and from the **OWNER** any software and/or hardware required as the result of malfunctioning equipment shall be provided at no additional expense. Such cost items shall include but not be limited to the following: troubleshooting, transportation, packaging, crating, delivery, installation, de-installation, component handling, and insurance.

15.3.24. If any communication circuits, equipment, or software needed specifically for maintaining or monitoring the system, these circuits and components shall be identified in detail and included in the cost matrix.

15.3.25. The **OWNER** shall maintain a set of Proposer recommended spare parts and modules for use during the warranty and maintenance period.

15.4. MAINTENANCE/UPGRADE PLAN CANCELLATION (OWNED SYSTEM)

15.4.1. **OWNER** shall have—without penalty or any cost or charge—the right to cancel maintenance or change maintenance time periods on the equipment by giving the Contractor thirty (30) days written notice prior to such change. **OWNER** shall be refunded any maintenance fees for periods that have not been completed.

15.4.2. The Contractor shall be offered the opportunity to "make right" the situation that has caused **OWNER** to move to the cancellation of Extended Maintenance.

15.4.3. If the Extended Maintenance Plan is cancelled the Contractor shall turn over any and all spare parts, software or other items as purchased by **OWNER** in the provisioning of this service.

15.5. LEASED OR PARTNERSHIP MAINTENANCE/UPGRADE PLAN

15.5.1. The Owner shall have the right to bring before an arbitrator any issue arising from the Contractor providing the expected level of service as agreed in the contract between **OWNER** and the awarded contractor.

15.5.2. The Proposer shall propose a detailed upgrade (a minimum of every two years or every other manufacturer upgrade) and maintenance program fitting to the partnership or leased option offered and mirroring the described plan if the system had been purchased outright.

END OF SECTION

16. SUPERVISION/USE OF SITE

16.1. GENERAL

16.1.1. The Contractor and assigned project manager shall supervise and direct the work of the contract using his/her best skill and attention.

16.1.2. The Contractor shall be responsible to the **OWNER** for acts and omissions of Contractor's employees, subcontractors, and their agents and employees.

16.1.3. Contractor shall ensure that its employees, agents, and subcontractors obey all County security rules at the site.

16.1.4. The Contractor shall at all times enforce strict discipline and good order among its employees, subcontractors, and their agents and employees at the site and shall not employ any unqualified person or anyone not skilled in the assigned task.

16.2. BACKGROUND CHECKS AND SECURITY PROCEDURES

16.2.1. The Contractor's Project Manager will be responsible to provide information on all contractor personnel and all its subcontractors prior to work of any individual at any Owner facility.

16.2.2. The Owner reserves the right to perform background checks on any contractor personnel or any of its subcontractors and deny access if found necessary to do so in writing via email to the Contractor's Project Manager. Use of Site(s)

16.2.3. The Contractor shall confine operations at the sites to areas permitted by law, ordinances, permits, and the contract documents and shall not encumber the site with any materials.

16.2.4. Upon entrance to and departure from secured or sensitive **OWNER** sites, Contractor's and its subcontractor's employees may be required to furnish photographic identification and be subject to inspections and searches for weapons, contraband, and unauthorized property.

16.2.5. Owner reserves the right to refuse admittance to its sites for security reasons. Contractor agrees to accept all costs associated with any Security approvals for its employees and subcontractors.

16.3. REMOVAL OF EMPLOYEES

OWNER shall have the right to order the immediate removal of any of Contractor's or its subcontractors' employees from a job site or sites for just cause, including but not limited to disorderly behavior, intoxication, violation of a law or rule, unsafe behavior, or emergency public safety reasons.

END OF SECTION

17. DISPUTE RESOLUTION AND REMEDIES

17.1. RIGHTS AND REMEDIES

17.1.1. If a dispute related to this agreement arises, all parties shall attempt to resolve the dispute through direct discussions and negotiations. If the dispute cannot be resolved by the parties, and if all parties agree, it may be submitted to either mediation or arbitration. If the matter is arbitrated, the procedures of appropriate Iowa or Illinois Statutes shall be followed. If the parties cannot agree to either mediation or arbitration, any party may commence an action in any court of competent jurisdiction. If a lawsuit is commenced, the parties agree that the dispute shall be submitted to alternate dispute resolution as covered by State of Iowa and/or State of Illinois statues as may be appropriate.

17.1.2. Unless otherwise provided in this contract, the parties shall continue to perform according to the terms and conditions of the contract during the pendency of any litigation or other dispute resolution proceeding.

17.1.3. The parties further agree that all parties' necessary to the resolution of a dispute shall be joined in the same litigation or other dispute resolution proceeding. This language relating to dispute resolution shall be included in all contracts pertaining to this project so as to provide for expedient dispute resolution.

17.2. LIQUIDATED DAMAGES

17.2.1. Time being an essential element of this agreement, and based on the schedule established in the agreement, it is hereby agreed that if **OWNER** determines that an extension is not justified, **OWNER** will be entitled to damages for failure on the part of Contractor to complete its obligations regarding installation and/or maintenance.

17.2.2. In view of the impracticality and extreme difficulty of fixing and ascertaining the actual damages the Owners would sustain in such event, **OWNER** shall be entitled to one thousand ($1000.00) dollars per calendar day for each and every day beyond the dates established in the approved Implementation Plans. The aforesaid specified amount shall not be construed as a penalty, but as liquidated damages for any such failure on the part of the Vendor. The act of **OWNER** shall not forfeit its right to recover liquidated damages from the Vendor. In any suit involving assessment or recovery of liquidated damages, the reasonableness of the daily charges shall be presumed, and the amount assessed, as well as the aforesaid cancellation right or any other cancellation rights stated in these specifications, will be in addition to every other right or remedy now or hereinafter enforceable at law, in equity, by statute, or under the agreement.

17.2.3. Contractor will not be charged with liquidated damages when any delay or failure is due to any act or neglect of **OWNER,** written and mutually agreed to changes in the Agreement; fire, flood or other natural disasters; unusual delay in transportation; adverse weather conditions not reasonably anticipated; unavoidable casualties; or any other causes beyond the reasonable control and without fault or negligence of Vendor. Agreement time or performance dates or times may be extended for such reasonable time as **OWNER 's** purchasing manager may determine. A claim for extension will not be allowed unless Vendor, not later than the end of the first Owner business day following the day on which the claim arises, shall have telephoned and informed the Owner about the full details of the cause necessitating such a claim within seven (7) calendar days of any such telephone call. Contractor shall also send to each of **OWNER's** addresses referenced above a communication specifying the cause(s) of the delay. The herein provisions will not preclude **OWNER** from canceling or terminating the Agreement regardless of any act or event beyond Contractor's reasonable control, as aforesaid, provided that **OWNER** shall give Contract thirty (30) days prior written notice of **OWNER's** intention to so cancel or terminate, and that during said period, Contractor shall have failed to cure such delay or failure in performance.

17.2.4. If liquidated damages are charged, they will be charged daily, first against monies then due to Contractor, then against monies coming due, and then against funds held for eventual release to Contractor. If these three sources are not sufficient to cover the liquidated damages, **OWNER** will bill Contractor for the necessary balance and Contractor shall promptly pay.

17.2.5. **OWNER** may waive in writing all or any portion of any liquidated damage assessment after the date services or obligations are completed and accepted by **OWNER.**

17.2.6. Permitting Contractor to continue and complete the services or obligations or any part of them after stipulated times will not in any way operate as a waiver on the part of **OWNER**, the County or its rights hereunder. No act by the County in pursuing or affecting its rights hereunder will constitute a forfeiture of **OWNER's** right to recover liquidated damages.

17.2.7. Notwithstanding the existence of a dispute, the parties shall continue without delay to carry out all their responsibilities under this agreement not affected by the dispute. If a party fails to continue without delay to perform its responsibilities under this agreement or to accomplish all undisputed work, any additional cost incurred by the other parties as a result of such failure to proceed shall be borne by the responsible party. Notwithstanding the forgoing, **OWNER** reserves the right to suspend all work without penalty. This provision does not affect **OWNER's** rights in Suspension of Work as previously stated.

END OF SECTION

18. TERMINATION OF CONTRACT

18.1. TERMINATION

OWNER may, for its convenience, terminate this contract at any time by a notice in writing from **OWNER** to Contractor by certified mail. If the Contract is terminated as provided herein, Contractor shall be paid an amount which bears the same ratio to the total compensation as the services performed bear to the total services of Contractor covered by this Contract, unless payments of compensation have previously been made.

END OF SECTION

19. SUCCESSORS, SUBCONTRACTING AND ASSIGNMENT

19.1. SUCCESSORS

19.1.1. The Contractor binds itself, its partners, successors, assigns, and legal representatives to **OWNER** under the direction of **OWNER** in respect to all covenants, agreements, and obligations contained in the contract documents. The Contractor shall not assign the contract or subcontract it in whole or in part nor assign any monies due or to become due to it hereunder without the prior written consent of **OWNER.**

19.1.2. Consent to assign shall be accomplished by execution of a form prepared by **OWNER** and signed by the Vendor, the assignee, and the **OWNER**. Said form shall contain the terms and conditions of the consent.

19.2. SUBCONTRACTING

19.2.1. Consent to subcontract shall under no circumstances relieve the Contractor of its liabilities and obligations under the contract documents. Further, the Contractor shall be fully responsible for the acts, omissions, and failure of its subcontractors in the performance of the herein specified contractual services, and of persons directly or indirectly employed by subcontractors. Contracts between the Contractor and each subcontractor shall require that the subcontractor's services and obligations be performed in accordance with the provisions of the contract documents. **OWNER** will assume no contractual relationship with subcontractors or the Vendor.

19.2.2. Nothing in the contract documents shall create any contractual relationship between the Owner and the Contractor's employees, subcontractors, and their agents and employees, or any other parties furnishing commodities and/or services to the Contractor and their agents and employees.

END OF SECTION

20. INDEMNIFICATION/CLAIMS

Contractor hereby agrees to release, indemnify, defend, and hold harmless the **OWNERS**, their officials, officers, employees and agents from and against all judgments, damages, penalties, losses, costs, claims, expenses, suits, demands, debts, actions and/or causes of action of any type or nature whatsoever, including actual and reasonable attorney's fees, which may be sustained or to which they may be exposed, directly or indirectly, by reason of personal injury, death, property damage, or other liability, alleged or proven, resulting from or arising out of the performance of Contractor, its officers, officials, employees, agent or assigns. **OWNERS** do not waive, and specifically reserves, their right to assert any and all affirmative defenses and limitations of liability as specifically set forth in Iowa and/or Illinois Statutes.

20.1. INFRINGEMENT INDEMNIFICATION

The Contractor shall defend, indemnify, and hold harmless the **OWNERS**, their officers, directors, employees, and agents against all claims, suits, actions, liability, damages, fees (including reasonable attorney's fees), and losses arising out of the use of the software, in connection with any allegations that the software infringes any patent, copyright, trademark, trade secret, or violates any other proprietary right of a third party. The Contractor shall be given reasonably prompt notice of such claim, and given information, reasonable assistance (except financial), and sole authority to defend or settle the claim. The obligations of Contractor stated in this section survive termination, expiration, non-renewal, or rescission of this agreement.

20.2. REPLACEMENT OF SOFTWARE

If a third-party claim or threatened claim causes the **OWNER's** reasonable use of the software to be seriously endangered or disrupted, Contractor shall promptly, without additional charge, (1) replace the software with a compatible, functionally-equivalent and non-infringing product; or (2) modify the software to provide functionally-equivalent, compatible, and non-infringing software; or (3) obtain a license for the **OWNERS** to continue use of the software for the term of this license and pay for any additional fees required for such license; or (4) if none of the foregoing alternatives are possible even after the Vendor's best efforts, then the **OWNER** may, at its option, (a) terminate this agreement and Contractor will promptly refund to the County (i) a pro rata portion of the support payment(s) paid based on the then remaining term for which such fees apply; and (ii) a pro rata portion of all license fee(s) paid based on a five (5) year straight-line depreciation calculated from the date of acceptance of the software pursuant to this agreement; or (b) terminate the license for the infringing software and the license for any other software the functionality or utility of which is materially diminished and Contractor will promptly refund (i) a pro rata portion of the applicable software support payment(s) paid based on the then remaining term for which such fees apply; and (ii) a pro rata portion of all applicable license fee(s)

paid based on a five (5) year straight-line depreciation calculated from the date of the **OWNER's** acceptance of the software pursuant to this Agreement.

In taking actions described under this section, Contractor acknowledges that time is of the essence in any interruption of the **OWNER's** use of software.

END OF SECTION

21. PROTECTION OF PERSONS AND PROPERTY

21.1. PROTECTION OF PERSONS AND PROPERTY

21.1.1. The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to the following: (1) employees at the site and other persons who may be affected thereby, (2) Contractor's work and materials and equipment to be incorporated therein which are under the care, custody, and control of the Contractor or any of Contractor's subcontractors, and (3) other property at the site or adjacent thereto.

21.1.2. The Contractor shall promptly remedy damage or loss to property caused in whole or in part by the Vendor, subcontractor, or anyone directly employed by any of them, or by anyone for whose acts any of them may be liable.

21.1.3. The Contractor shall be liable for damages arising out of injury to the person and/or damage to the property of the **OWNER's** employees, or any other person(s) designated by the Owner for any purpose, other than agents or employees of the Contractor, prior to or subsequent to acceptance, delivery, installation, and use of the equipment or product either at the Contractor's site or at the Owner's place of business, provided that the injury or damage was caused by the fault or negligence of the Contractor or caused by the Contractor's equipment or product.

21.1.4. Vendor's Insurance. Contractor shall not commence work under this contract until all insurance required under this paragraph is obtained, and such insurance has been approved by **OWNER**, nor shall Contractor allow any Contractor's subcontractor to commence work on their subcontract until all similar insurance requirements have been obtained and approved.

21.1.5. Worker's Compensation Insurance. Contractor shall obtain and maintain throughout the duration of this contract statutory Worker's Compensation insurance for all its employees employed at the site or while working on this project. In case any work is sublet, Contractor shall require the Vendor's subcontractor similarly to provide statutory Workers' Compensation Insurance for all the latter's employees, unless such employees are covered by the protection afforded by Vendor.

21.1.6. General Liability, Professional Liability and Property Damage Insurance. Contractor shall secure and maintain in force throughout the duration of this contract such General Liability, Professional Liability and Property Damage Insurance as shall protect him/her and any Vendor's subcontractor performing work covered by this contract from claims for damages for personal injuries including accidental death, as well as from claims for property damage, which may arise from operations under this contract, whether such operations be by Vendor, or by any Vendor's subcontractor or by anyone directly or indirectly employed by either of them; and the amount of such insurance shall be as follows:

a. Worker's Compensation and Employees Liability Insurance with Iowa Statutory limits.

b. General Liability Insurance with a minimum combined single limit of $5,000,000.00 for bodily injury and property damage per occurrence.

c. Comprehensive Auto and Truck Liability Insurance including owned, non-owned and hired vehicles with a minimum combined single limit of $5,000,000.00 for bodily injury and property damage per occurrence.

d. Umbrella Liability Insurance of not less than $5,000,000 per occurrence for bodily injury, personal injury and property damage in excess coverage carried for commercial general liability and automobile liability.

e. Professional Liability Coverage, $2,000,000 per occurrence and in aggregate.

21.2. PROOF OF INSURANCE

21.2.1. Contractor shall furnish **OWNER** with two Certificate of Insurance certificates countersigned by both an Iowa Resident Agent and Illinois Resident Agent and the same for Illinois or an Authorized Representative of the insurer indicating that Contractor meets the insurance requirements identified above.

21.2.2. The Certificates of Insurance shall include a provision prohibiting cancellation of said policies except upon 30 days prior written notice to **OWNER** and specify the name of the contract or project covered.

21.2.3. The Certificate of Insurance shall be delivered to the Owner, with a copy of the two Certificate of Insurance to be delivered to **OWNER's** Project Manager for approval within 10 business days of contract execution. **OWNER's** Project Manager written authorization must be received before any work is started.

21.2.4. Upon renewal of the required insurance and annually thereafter, **OWNER** shall receive a new Certificate of Insurance for three years after completion of the project.

21.2.5. The Certificates shall describe the contract by name and or identification number in the "Description of Operations" section of the form.

21.2.6. **OWNER(**s) to be listed as an additional insured on all general, and auto liability policies purchased by the outside parties.

END OF SECTION

22. GENERAL

22.1. ENTIRE AGREEMENT

22.1.1. This agreement (including the Exhibits) represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

22.1.2. Any alterations, modifications, or waivers of provisions of this agreement shall be valid only when they have been reduced to writing as an amendment to this agreement signed by the parties hereto.

22.2. GOVERNING LAW/JURISDICTION

22.2.1. State of Iowa (State) laws govern all questions and interpretations concerning the validity and construction of a contract awarded pursuant to the specifications and the legal relations among the parties and performance under it. The appropriate venue and jurisdiction for any litigation involving an entity included within the term "**OWNER**" as defined herein will be those courts located within that **OWNER's** State in which such entity is located.

22.2.2. If any provision of the contract is held invalid, illegal, or unenforceable, the remaining provisions will not be affected.

22.3. INDEPENDENT VENDOR

22.3.1. It is agreed that nothing herein contained is intended or shall be construed in any manner as creating or establishing the relationship of co-partners between the parties hereto or as constituting the Contractor as the agent, representative, or employee of the **OWNER** for any purpose or in any manner whatsoever. Contractor is to be and shall remain an independent Contractor with respect to all services performed under this agreement. Contractor represents that it has, or will secure at its own expense, all personnel required to perform services under this agreement.

22.3.2. Any and all personnel of Contractor or other persons while engaged in the performance of any work or services required by Contractor under this agreement shall have no contractual relationship with the owner and shall not be considered employees of the **OWNER**, and any and all claims that may or might arise under the Workers' Compensation Act of the State of Iowa or the State of Illinois on behalf of said personnel or other persons while so engaged, and any and all claims whatsoever on behalf of any such person or personnel arising out of employment or alleged employment, including without limitation claims of discrimination against the Vendor, its officers, agents, Vendors, or employees shall in no way be the responsibility of the **OWNER**; and Contractor shall defend, indemnify and hold the **OWNER**, its officers, agents,

and employees harmless from any and all such claims regardless of any determination of any pertinent tribunal, agency, board, commission, or court.

22.3.3. Such personnel or other persons shall not acquire nor be entitled to any compensation, rights, or benefits of any kind whatsoever from the **OWNER**, including, without limitation, tenure rights, medical and hospital care, sick and vacation leave, Workers' Compensation, Unemployment Compensation, disability, severance pay, and retirement funds.

22.4. PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS, ETC.

22.4.1. Unless otherwise provided in the specifications, the Vendor, at its own expense, shall secure and pay for all permits, fees, charges, duties, licenses, certifications, inspections, and other requirements and approvals necessary for the execution and completion of the contract. The exception is any costs related to FCC licensing which is the direct responsibility of the **OWNER**

22.4.2. The Contractor shall observe and accept all applicable federal, state, and local laws and the rules and regulations of any regulatory body acting thereunder.

22.4.3. The Contractor shall give all notices required under law, ordinance, rule, and regulation.

22.5. ROYALTIES AND PATENTS

22.5.1. The Contractor shall pay all royalties and license fees.

22.5.2. Complementary to other "hold harmless" provisions throughout the specifications, the Contractor shall, without cost to the Owner, defend, indemnify, and hold the **OWNER**, its commissioners, officers, and employees harmless against any and all claims, suits, liability, losses, judgments, and other expenses arising out of or related to any claim that the **OWNER's** use or possession of the software, licenses, materials, reports, documents, data, or documentation obtained through the contract violates or infringes upon any patents, copyrights, trademarks, trade secrets, or other proprietary rights or information, provided that the Contractor is promptly notified in writing of such claim. The Contractor will have the right to control the defense of any such claim, lawsuit, or other proceeding. The **OWNER** will in no instance settle any such claim, lawsuit, or proceeding without the Vendor's prior written approval.

22.5.3. If, as a result of any claim of infringement of rights, the Contractor is enjoined from using, marketing, or supporting any product or service provided through the contract to be established (or if the Contractor comes to believe such enjoinment imminent), the Contractor shall either arrange for the **OWNER** to continue using the product or service at no additional cost to the Owner, or propose another remedy subject to Owner approval.

22.5.4. Provision of equivalent products or services will be acceptable, but the **OWNER** alone will determine whether proposed substitutes are sufficiently equivalent. If no acceptable alternative is possible even after the Contractor's best efforts, the Contractor shall return a pro rata portion of the **OWNER's** costs pertaining to the license fee, if any, and all consequential costs based on a period of twenty (20) years. (If the hardware cannot operate in accordance to the contract documents without the internal code or system software, the Contractor shall return a pro rata portion of the associated **OWNER** hardware cost based on a period of twenty (20) years unless a longer or shorter period is specified in the specifications.)

22.6. CONFLICT OF INTEREST

Contractor affirms that to the best of its knowledge, Vendor's involvement in this agreement does not result in a conflict of interest with any party or entity that may be affected by the terms of this agreement. The Contractor agrees that, shall any conflict or potential conflict of interest become known to Vendor, it will immediately notify **OWNER** of the conflict or potential conflict, specifying the part of this agreement giving rise to the conflict or potential conflict, and will advise **OWNER** whether Contractor will or will not resign from the other engagement. This conflict of interest includes the **OWNER's** consultant, Elert & Associates.

22.7. DELIVERY OF REQUIRED INFORMATION

Upon executing this agreement, Contractor shall deliver to **OWNER** such bonds, affirmative action plans, certificates of insurance, insurance binders, and other certifications and representations as Contractor is required to furnish in accordance with the contract documents.

22.8. NOTICES

22.8.1. Any notice or demand that must be given or made by a party hereto under the terms of this agreement or any statute or ordinance shall be in writing and shall be sent registered or certified mail.

22.8.2. Notices to **OWNER** shall be sent to the Scott Emergency Communications Office at the address given in the opening paragraph of the agreement.

22.8.3. Notice to the Contractor shall be sent to the address stated in the opening paragraph of the agreement or, if not stated therein, then to the address stated in Vendor's Form W-9 provided to and on file with **OWNER**.

END OF SECTION

23. APPLICABLE STANDARDS

23.1. GENERAL

23.1.1. All electrical equipment shall be compliant with FCC part 15 Class A, and approved under FCC Part 68.

23.1.2. All equipment approved (as applicable) shall meet or exceed the latest standards of the Federal Communications Commission (FCC), Telecommunications Industry Association (TIA), National Electrical Manufacturers Association (NEMA), Radio-Electronics-Television Manufacturers Association (RETMA), and Institute for Electrical & Electronic Engineers (IEEE), or other agency, when applicable.

23.1.3. All installation of electrical and associated grounding shall meet applicable National Fire Protection Association (NFPA), National Electrical Code (NEC), and Electrical Industries Alliance (EIA) requirements.

23.1.4. All radio products shall conform to FCC, TIA/EIA and other applicable standards.

23.1.5. For AM broadcast tower sites there are further recommendations made by the National Association of Broadcasters relative to bonding with the use of copper strap to increase surface area and extensive silver soldering for connections.

23.1.6. The equipment racks shall be individually grounded with a minimum of 8AWG green wire to the appropriate grounding bus bar within the electronics equipment room.

23.1.7. All other devices will be grounded as per manufacturer's instructions.

23.1.8. A ground halo shall be installed around the equipment room perimeter.

23.1.9. All external connections to the equipment room shall have lightening/transient protection.

23.1.10. A communications tower shall have its own dedicated ground array as per EIA/TIA-222 though as per NEC Article 810, this ground shall be bonded to the building ground electrode system. It shall be noted that tower manufacturers typically provide a grounding kit with all needed materials to meet the latest EIA/TIA-222 standard which today is "G.". G requires a minimum of six 10' ground rods all interconnected and with each tower leg having a connection to the ground ring.

23.1.11. Another ground typically overlooked is the need for a ground bar at the external and internal entrance point of the building where transmission cables come into the building from the tower. To accomplish this, the tower design generally requires the tower company to install this ground bar on the outside of the building and the ground bar on the inside is installed by the electrical contractor.

23.1.12. The NFPA 1221 Standard states that all electronic systems in an Emergency Response facility shall be grounded to the building ground system as dictated by NFPA 70, Article 647. To this end a ground bar is requested in the middle of the dispatch room, generally under the recessed floor and another ground bar in the communications room.

23.1.13. Ultimately the main ground bar for the building and its ability to have the lowest continuous ground resistance is of utmost importance to the building electrical and communications systems. Due to the defined requirements of the NEC, NFPS, and EIA/TIA it is high recommended this master ground bar be located per code in the electrical room though external to and insulated from any other metal cabinets. All other in building ground bars shall be returned to this ground bar with the code minimum size cable, typically #2 solid wire.

23.1.14. Outside of the building the NEC standard requires all metallic devices to be bonded together at their ground points, especially the tower, power transformer, doors and HVAC units.

23.1.15. All transmission lines for radio systems used to interconnect antennas and equipment within a shelter or equipment room shall have a ground kit installed as close as possible to the antenna, at the base of the tower and at a minimum very 75 feet along the length of the installed line. All ground kits shall bond to a ground bar bonded to the tower utilizing a ground clamp rated for the purpose. (Mechanical mounting clamps shall not be used for this purpose.) See also Section 23.5 for specifics related to AM broadcast tower sites.

23.1.16. Each of the various vendors have created their own grounding guidelines that incorporate the requirements and standards of the NFPA, the IEEE and EIA/TIA thus the Contractor is expected to adhere to their specific guidelines if more stringent than the above described and listed.

23.1.17. The Contractor shall provide additional system components typically and reasonably required to make the system operational even though not specifically indicated in Drawings, Appendices, or Specifications, including but not limited to cable, connectors, connecting accessories, adaptors, power supplies, mounting adapters, cover plates and closure panels, relays and switches, terminal blocks, grounding hardware, and related connector and termination hardware required by but not supplied with the equipment.

23.2. NATIONAL ELECTRIC CODE (NEC)

23.2.1. Article 250 focuses on the general building/ facility grounding while Article 810 describes specific requirements related to radio and television equipment.

23.2.2. Article 250 states that all ground electrodes shall be bonded together to form the “grounding electrode system.” This Article goes into detail as to how this system shall be accomplished by referring to multiple areas of the code. Generally, the ground described in this article is used to form the basic ground for the structure though if the copper water line entering the building is within

5’ as described, then this is an alternative solution for a building structure ground.

23.2.3. Article 250 further describes the size and type of conductors to be used and describes minimum resistance of electrodes.

23.2.4. Article 250-92 has an extensive description of the means of installing the grounding conductors. Minimum size of conductors is described though #6 copper is listed as the smallest conductor for inter electrode connections. The use of #2 is recommended by the EIA and is most commonly found in commercial buildings.

23.2.5. Article 250.5 and 250.6 discuss discusses how a low impedance conductive path carrying maximum ground fault current should be in place between the electrical supply and site ground thus stopping objectionable currents.

23.2.6. Article 250.5(B) in the last sentence clearly states the earth shall not be considered as an effective fault-current path to meet this requirement which should be taken to mean a metallic bonding conductor of sufficient size shall be utilized.

23.2.7. Article 250-115 says how ground conductors shall be connected to ground electrodes especially as related to underground connections while Article 250-117 describes how the connection is to be protected against physical damage.

23.2.8. Article 250-155 discusses the need for all noncurrent-carrying metal parts of fixed, portable, and mobile equipment … shall be grounded with no less than a #6 copper or #4 aluminum cable.

23.2.9. Article 800 provides guidance for the grounding of communications circuits with specific guidance for the cable entrance points and further stated in Article 810 that masts and metal structures supporting antennas shall be grounded.

23.2.10. Article 810 defines a means of grounding the tower/antenna system.

23.2.11. Article 250-8 states all ground electrodes shall be bonded together to form the “grounding electrode system.”

23.2.12. Article 800-40 states how cables entering a building shall be grounded which equates to the placement of a ground bar at the inside of the entrance panel and per NEC Article 250-81 this point must be bonded to the building ground.

23.3. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 1221

23.3.1. Chapter 5.8 is the grounding section for Emergency Response Facilities which reference the need to follow NFPA 70, Article 647 for all sensitive electronic equipment. This is the reason the electronic equipment in dispatch and the equipment room must be connected to the bonded grounding bar in these two spaces.

23.3.2. Further, Chapter 6 (6.6) requires all communications conductors to be installed in accordance with NFPA 70 Section 5.6 and 4.9. It shall be noted, NFPA 70 is the National Electric Code, 2005 Edition which is referenced above.

23.4. EIA/TIA AND IEEE EMERALD (GROUNDING) STANDARD

23.4.1. Electronic Industries Association / Telecommunications Industry Association (EIA/TIA) Standards for communications towers. This group has established a set of mechanical standards for steel communications towers that includes grounding. The EIA/TIA-222F standard was the standard in place at the time the tower was specified, though 222G is now highly recommended.

23.4.2. The EIA suggests the minimum ground for a tower is three (one per leg) #2 solid wires to a buried ground ring with multiple 10' ground rods where the top of the rod is below the frost line.

23.4.3. The IEEE standard requires all transmission cables leaving the tower to be grounded to the tower (which will be completed by the Contractor) and for these cables to be ground bonded as they enter the building on the exterior plus again just inside the building where the surge suppressors are placed. To enable this ground a ground bar is being requested on the outside of the building immediately below the entrance panel and another on the inside adjacent to the surge suppressors. An option on the inside would be a copper trapeze capable of mechanically and electrically a means of holding the surge suppressors.

23.4.4. Per the IEEE, all ground bars shall have the two #2 solid ground bond connections to the external ground ring of the shelter or building.

23.5. NATIONAL ASSOCIATION OF BROADCASTERS

23.5.1. When ground bonds are established for AM broadcast sites the use of wide copper strap shall parallel all #2 solid ground cables interconnecting ground bars and all external ground rings.

23.5.2. All tower ground bonds to external ground rings shall use wide copper straps to insure a large surface area to enable the dissipation of RF energy at lower frequencies.

23.5.3. All transmission lines on towers shall be bonded to tower at no less than every 1/10th of a wavelength of the lowest AM broadcast frequency.

23.5.4. If possible, it is highly recommended the equipment shelter walls be built with metallic screening which can then be bonded to the master ground of the site.

23.6. LABELING AND INSTALLATION PRACTICES

23.6.1. All network, data and audio cables and RF transmission lines are to be labeled at each end.

23.6.2. Separation and segregation of cables carrying various types of signals shall be considered when determining pathways and physical separation.

23.6.3. Network, data and audio cables will be secured with Velcro® or equivalent straps and installed in a professional manner using best practices.

23.6.4. RF Transmission lines will be secured per manufacturer's recommendations.

23.6.5. The use of nylon cables ties will not be accepted on any cabling except indoors for transmission lines and heavy-duty ground and power cables.

END OF SECTION

24. EXISTING CONDITIONS

24.1. SERVICE AREA DESCRIPTION

24.1.1. **Scott County** covers approximately 469 square miles ranging in elevation from 170 meters (560 feet) to 253 meters (830 feet). A large portion of Scott County terrain is made up of agricultural terrain levels at approximately 230 meters (750 feet). The most prominent characteristic of the County would be the Mississippi river valley which defines the eastern and southern borders of the County. The river flows from the northern point of the eastern border at an elevation level of approximate 189 meters (620 feet) to where it leaves the county at the southern end to an elevation level of approximately 173 meters (570 feet).

24.1.2. **Scott County's** northern border also follows a river valley as it traces the Wapsipinicon River track as it flows towards the east and dumps into the Mississippi. The general terrain could be characterized a rolling hills farm ground with most of it trailing off into these two river valleys.

24.1.3. **Scott County** does not have the common square shaped layout like most of their neighboring Iowa County's due to the river borders. However; the county layout is not extreme in shape layout. The river valleys and size of the metro area provide the most challenging details for coverage design due to their low elevation levels and the valleys the river areas create.

24.1.4. **Rock Island County** has a unique border shape covering approximately 451 square miles, but with a backwards L shaped layout. From the furthermost points in the County it reaches approximately 51 miles apart. At the narrowest width, the borders are less than 5 miles across. The County's western border is marked with the Mississippi river from north to south. The metropolitan area of the quad cities divides the County in the middle with farmland most making up the Northern and Southern parts of the County.

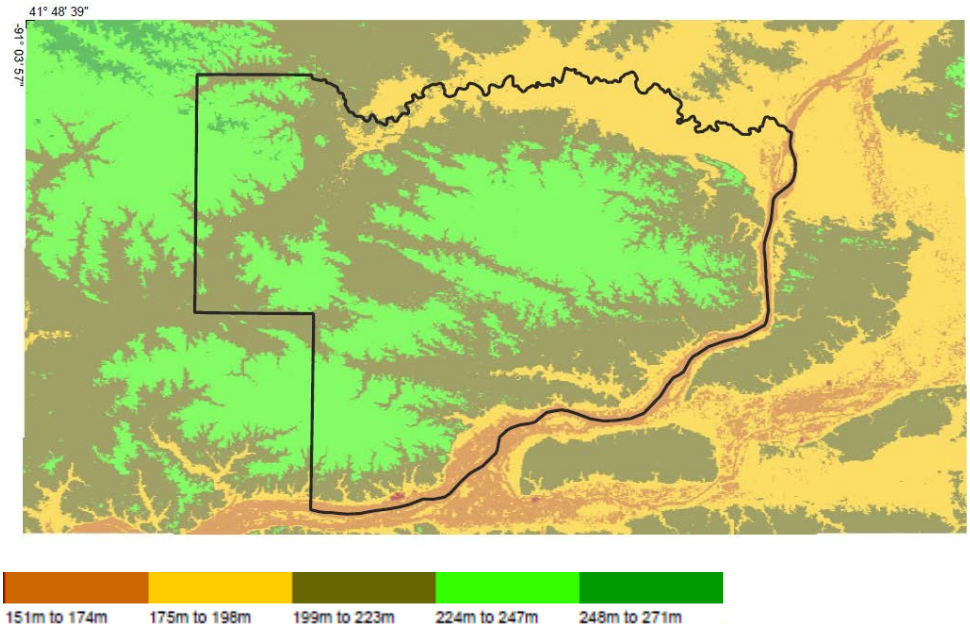
24.1.5. The highest point in **Rock Island County** seems to be in the southern end around the Reynolds area at approximately 247 meters (810 feet). The County also has a large river valley on their eastern border and then cutting the County in the center as it dumps into the Mississippi river. This is the Rock river valley and it provides a challenging terrain area near the metropolitan area of the county.

24.1.6. Given the layout length of **Rock Island County** and the terrain characteristics of the river valleys radio coverages become challenging in trying to reach into a lot of the low-lying valley areas.

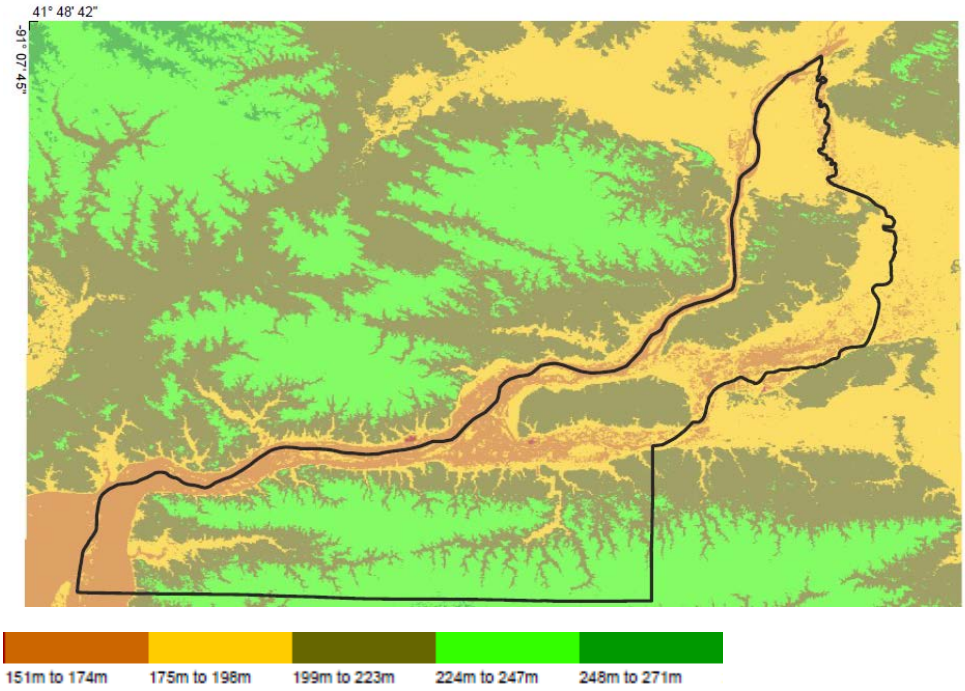
24.1.7. **The Quad Cities Metro Area** is mainly defined as Davenport and Bettendorf in Iowa and Rock Island and Moline in Illinois. However; up and down the river on both sides many smaller communities fill up the metro area.

24.1.8. The total population of the **Quad Cities** in 2103 was 473,937, the 90th largest CSA in the US. The four cities are divided by the Mississippi River. Four interstate highways serve the area with five bridges crossing the river.

24.1.9. Scott County Terrain



24.1.10. Rock Island County Terrain



24.2. DETAILED SITE/SYSTEM DESCRIPTIONS

24.2.1. EDACS Radio System

The EDACS radio system serving all of Scott County, and the metro area of Rock Island County is owned and operated by RACOM (a local Harris dealer). It is operated using eight (8) tower sites and additional outdoor bi-directional amplifiers (BDAs) to provide coverage. The tower sites are generally leased by RACOM and are interconnected to the EDACS multisite and console controller located in Marshalltown, IA via leased T1 circuits. Each of the repeater sites does have an independent controller allowing operation if connectivity is lost. Coverage is defined roughly as 75% in the county and 90% in the metro area on the Scott County side and metro only on the Rock Island side. Mobile coverage has been found to be acceptable.

Due to coverage issues in the county many outdoor and indoor BDAs have been installed to enhance and offer some assistance. Also, several what are called "linkers" has been installed to gateway non-EDACS voice channels system with each connected to a talk group.

This system is used for radio communications by all the Scott County Public Safety agencies and many of the Rock Island County metro area agencies. Some public works agencies are users of the system as well. These agencies have migrated to the EDACS system at individual paces with some Rock Island agencies as recent of a few years ago. Various models and vintages of subscriber radio equipment can be found in both counties.

Some dispatch centers in Rock Island County have one or more Harris Symphony™ consoles connected via owned fiber and leased IP broadband connectivity to the RACOM EDACS controller.

24.2.2. Non-EDACS Radio Systems

Although 800 MHz EDACS radio operation is the primary system for operations in all of Scott County and the Quad Cities Area in Rock Island County it is not the only voice radio system in operation. Rock Island County has multiple VHF radio repeater systems providing coverage to public safety and public works users. The largest being the Rock Island Sheriff's department which relies on a 3-site voted repeater system today to provide radio coverage of the county. The department uses that system, and then operates UHF portable radio units with their vehicular repeater systems. This system provides poor talk-out coverages for the department which then relies on multiple transmit sites to enhance coverage.

Some of the metro fire departments and all of the rural fire departments in Rock Island County also rely on VHF repeater operation with multiple systems placed throughout the County providing localized coverage operation. These repeaters have separate licensed frequencies for operation and provide various coverage areas depending on location of the repeater.

Radio subscriber equipment operated by most agencies would be considered low tier public safety or business single band grade models.

Recently Rock Island County (RICO) has renovated its dispatch center but continue to operate on their three Zetron Integrator console positions which connects via control stations to the various VHF channels used in the county.

24.3. PAGING SYSTEMS

24.3.1. Scott County Paging

Scott County currently operates a conventional VHF paging system operating on a single repeater frequency pair throughout the county to activate pagers operated by the various emergency agencies. They use a standard two tone encoding scheme to alert each agency. Some agencies use multiple codes to define a level of the request that is needed.

There are six repeaters stations located throughout the county each with a different CTCSS tone to provide localized coverage. A control station is located at the SECC dispatch site that provides activation using the correct CTCSS tone and appropriate department two tone. This model allows them to provide local building penetration, but does not provide for wide area coverage. The operation al protocol today is to send the page on the desired repeater and then again on the nearest adjacent repeater.

24.3.2. Rock Island County Paging

Rock Island County uses multiple conventional VHF voice repeater systems on various frequency pairs throughout the county to activate pagers operated by the various emergency agencies. They use a standard two tone encoding scheme to alert each agency. Some agencies use multiple codes to define a level of the request that is needed.

There are six repeaters stations identified throughout the county providing localized paging coverage. Paging is done on the same repeater systems used for voice operations for defined agencies and operated in multiple dispatch centers. This model allows for the ability to provide local building penetration, but does not provide for wide area county coverage or backup operations.

24.4. EARLY WARNING SIREN SYSTEMS

24.4.1. Scott County Sirens

Early warning sirens are activated via console operation on the normal paging radio channel in the rural areas of Scott County. Rural areas operate sirens using standard two tone encoding operation on the same repeaters as used for paging. Metro area siren operation is done using a Federal Signal DTMF encoder/decoder on dedicated UHF two-way channels.

24.4.2. Rock Island County Sirens

Early warning sirens are activated via console operation on normal paging radio channels in the rural areas of Rock Island County using DTMF. Dedicated VHF channels are used in the metro areas via a Federal Signal siren controller.

24.5. FIRE STATION ALERTING

24.5.1. Scott County FSA

Within the metro area of Scott County, the EDACS system provides the primary radio channel (talk group) to alert the fulltime fire departments using DTMF tones. Encode operation is sent from the SECC console system providing multiple sequences to alert agencies based on station location. These DTMF tone sequences are followed by a console based alert tone sequence embedded into the console page.

In Scott County page control was identified for Davenport and Bettendorf fire departments and decoders were identified at the stations which allowed control of the overhead PA system.

24.5.2. Rock Island County Metro Area FSA

Within the metro area of Rock Island County, the EDACS system provides the primary radio channel (talk group) to alert the fulltime fire departments using DTMF tones. Encode (DTMF tones) operation is sent from the designated dispatch center providing multiple sequences to alert agencies based on station location. These DTMF tone sequences are followed by a console based alert tone sequence embedded into the console page.

In Rock Island County pages control was identified for Rock Island, Moline, and East Moline fire departments and decoders were identified at the stations which allowed control of the overhead PA system.

24.6. RADIO FREQUENCIES

24.6.1. 800 MHz Channels in Use Today

See Appendix 6 for a complete listing.

24.6.2. Conventional Licensed Channels in Use Today

Scott and Rock Island Counties also hold numerous conventional frequency licenses. These frequencies are sometimes licensed for operation by the counties and/or their operating agencies. Some conventional licenses are held over from operations used prior to moving to 800 EDACS operation and may

no longer be used. The tables below list the common licensed frequencies found in operation.

24.6.3. Table 3 - Scott County non-EDACS Channels

Name	Base/Repeater Frequency
Fire Paging	TX 154.220 RX 159.270
Fire Repeater	TX 154.220 RX 159.270
Fire Ground 1	TX/RX 154.070
Fire Ground 2	TX/RX 155.580
Fire Ground 3	TX/RX 156.210
LEA Maquoketa	TX 154.770 RX 155.790
LEA Muscatine	TX 154.770 RX 155.790
MEDIC	TX 462.950 RX 467.950
Davenport Storm Sirens #1	TX 460.575 RX 465.575
Davenport Storm Sirens #2	TX 460.500 RX 465.500
Bettendorf Storm Siren #1	TX/RX 453.1000
Bettendorf Storm Siren #2	TX/RX 453.4375
Point to Point	TX/RX 155.3700
VLAW31	TX/RX 155.4750
VFIRE21	TX/RX 154.2800

24.6.4. Table 4 - Rock Island County non-EDACS Channels

Name	Base/Repeater Frequency
Fire (Hampton/Andalusia)	TX/RX 154.9800
Rock Island Sheriff Dispatch	TX/RX 159.1500
Rock Island Sheriff Tactical	TX/RX 155.7150
Rock Island Sheriff ESDA (local gov)	TX/RX 154.9800
Rock Island Sheriff Hazmat Robot	TX/RX 154.7475
Cordova Fire	TX/RX 154.3250
Coyne Center Fire	TX/RX 154.1900
Hampton/Silvas Fire	TX/RX 155.8950
Silvas Fire Local	TX/RX 154.4450
Andalusia Fire	TX/RX 153.9650
Coyne Center RICO Fire Rural Dispatch	TX/RX 154.1900
Rock Island Sheriff Mobile Extender	TX/RX 460.0500
RICO Fire Dispatch	TX 154.310 RX 158.985

24.7. SUBSCRIBER EQUIPMENT

24.7.1. Field Subscriber Units

Most of radio subscriber equipment is EDACS (Harris) equipment due to the need to operate on the RACOM system. Scott County was the initial location for moving to the RACOM network and thus has some of the older model units are still in use. Quad City agencies have more recent model equipment. Both Counties have upgraded some equipment making for scattered models throughout. Some units are equipped with P25 capability but may not support Phase 2 operation.

Conventional equipment was identified by various manufactures styles and models to operate on VHF and UHF radio frequencies. Kenwood model equipment is used primarily by the Rock Island Sheriff's department.

A list detailing types and quantities can be found in Appendix 5

24.8. DISPATCH CENTERS

This section describes the various dispatch center facilities in use today in the Quad Cities area and a few notes relative to assumptions being used by Elert to develop the conceptual design for the options. The Scott County dispatch operations for all agencies are centralized under the SECC, thus providing a main and backup site. On the Illinois side of the river the long-term plan is to consolidate into a total of three centers (RICO, RICOMM and QComm911).

Each center would rely on one or more of the other centers inside the county to provide backup operations.

24.8.1. **SECC** All of Scott County and the metro areas within the county are dispatched from one center, the Scott Emergency Communications Center located at 1100 E 46th Street in Davenport. There is a total of twenty-three (23) console positions of which seven (7) are dedicated to the Medic EMS operation. The SECC was created under a 28E agreement signed December of 2007. As based on a review of the design for the SECC and conducting visual inspections, this center is believed to have been designed to meet the FEMA and NFPA standards and guidelines as noted later in this RFP.

24.8.2. **SECC Backup Center** Scott County provides backup dispatch capabilities from its previous center located in the basement of the County Sheriff's office. This facility is located downtown Davenport at 400 West 4th Street. The center provides no daily use for operation or services, but serves the County for complete backup operation in the event of failure of the main SECC center. There a total of eight (8) Zetron Integrator dispatch consoles connected to the EDACS radio system.

24.8.3. **RICOMM** The Rock Island Emergency Communications Center provides dispatch services to the City of Rock Island public safety agencies. The center is in the Police Department building at 1212 5th Avenue in Rock Island. They not only take 911 calls from the served area but also dispatch Public Works and RICOMM is the primary MABAS Division 43 dispatch center. The operation consists of five (5) Harris Symphony dispatch console positions having network connectivity via the Quad Cities fiber network and a broadband commercial circuit to the EDACS core.

24.8.4. **Milan** Today this center supports two (2) dispatch positions located on the 2nd floor of the Municipal building at 405 1st Street in Milan. The center operates Harris Symphony radio consoles networked via City fiber. A State of Illinois plan for dispatch center consolidation will move all dispatch operations into the new center at Milan (QComm911). The 3rd floor project will provide for nine (9) dispatch furniture position and project completion is estimated to be in July of 2018. Current operations provide dispatch service to the City of Milan agencies via the EDACS radio system and VHF radio operations.

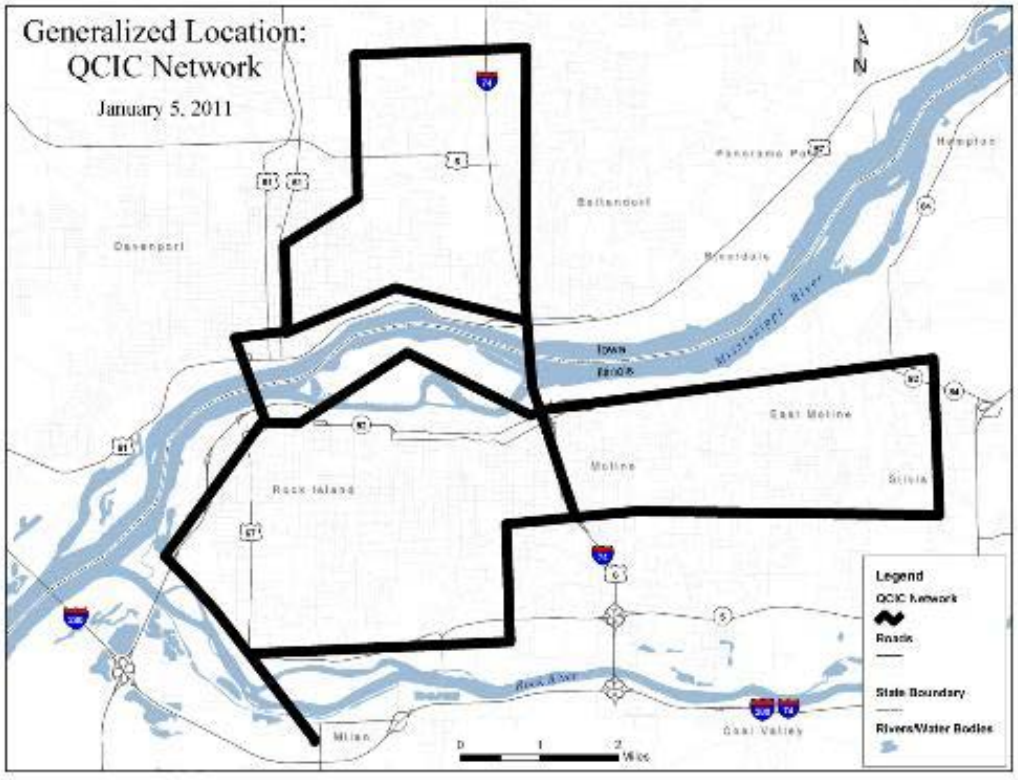
24.8.5. **Centre Station Dispatch** This dispatch center today consists of five (5) positions with 3-4 being normally utilized to dispatch for Moline and East Moline. Centre dispatch is in the lower floor of the City's bus station at 1200 River Drive. Four Zetron Integrator radio consoles deliver radio services using local control stations within the building which connect to the EDACS radio system. One Harris Symphony radio console is used at this location. Federal Signal siren control system offers two-way operation in Moline and one way to East Moline. Centre is planning to move its dispatch center operations to QComm911 as soon as that center is completed.

24.8.6. **Silvis** This dispatch center is operated for the main purpose of dispatching Silvis emergency resources. The center is currently operated out of the new police department building located 600 Illini Drive. A State of Illinois plan for dispatch center consolidation will move all dispatch operations into the new center at Milan (QComm911). This center currently operates two (2) console positions using a Zetron Max model radio console system connected via control station to the EDACS radio system.

24.8.7. **RICO** Rock Island Sheriff's Office dispatch center has recently completed a remodeling of its dispatch area. The center is located on the first floor of the Sheriff's office building and now supports three (3) dispatch positions using Zetron Integrator dispatch consoles. The room also contains some supporting electronics equipment, and storage of files. All needed radio control stations supporting the consoles are located above the jail in a mechanical room space of the building with antennas either on the roof or a small support tower connected to the penthouse. Control stations serve as the connection the County's VHF radio system.

24.9. QUAD CITIES INTEROPERABLE COMMUNICATIONS (QCIC) NETWORK

24.9.1. The Quad Cities have developed a government owned seventy-two (72) strand underground fiber optics network interconnecting many of its public safety buildings as shown in the drawing. As part of that network there are twelve (12) strands of dark fiber in each run dedicated to public safety use.



24.9.2. The 12 strands have been verified operational by testing to assure availability.

24.9.3. In addition, there is the option of using the fiber installed by the City of Bettendorf also to provide interconnectivity.

24.9.4. The QCIC network today passes through seven (7) cities and within the two (2) counties. This fiber could be utilized in the support of the dispatch centers.

24.9.5. This fiber optic network was designed specifically for public safety and today is used to interconnect some of the dispatch centers on the Illinois side of the Quad Cities to the RACOM/ Harris P25 core in Marshalltown.

END OF SECTION

25. PROPOSED SERVICES REQUESTED

25.1. APCO P25 700/800 MHz TRUNKED RADIO SYSTEM AND COUNTY-WIDE PAGING

25.1.1. The intent of the outcome of the acquisition process is to acquire or have provisioned via an intergovernmental agreement:

a) A complete and operational trunked radio system to offer wireless voice communications to public safety and other government users meeting the coverage and capacity requirements for such use.

b) A complete and operational paging system infrastructure for both county's first responders meeting the coverage requirement for such use.

c) A complete and operational telecommunication backhaul system to provide the necessary capacity to interconnect fixed infrastructure components of the proposed radio systems.

d) A complete and operational MPLS network allowing for the wide area connectivity of all sites, controllers, servers and dispatch centers and supporting both microwave and fiber optic transmission.

e) A complete and operational management, monitoring and alarm sub-network capable of alerting dispatcher and support personnel to problems associated with all subsystems and site physical out of tolerance issues.

f) Radio console and logging system to be located at each of the noted dispatch centers.

25.1.2. The acquisition will be a new system built from the ground up to meet the outlined needs. The system is expected to provide radio on the hip coverage:

a) 15dB in-building of small commercial building structures in the metro area with this area defined as incorporated areas with more than a population or 500.

b) 8dB in-building residential structures in the rural areas of the county.

c) Outdoor in an area extending one mile beyond the defined coverage area.

d) Special Note: It is possible Rock Island County will opt out of the project and thus the cost of this opt out is being requested.

25.1.3. The frequencies selected for the new system and the band of operation (700 or 800 MHz) shall be suggested in the proposal with completed rationale and any issues related to licensing believed to exist.

25.1.4. The Proposer shall consider how migration might be affected and this described in the proposal.

25.1.5. The new P25 trunked radio system is expected to include the necessary interface to connect to regional and State P25 trunked radio systems using an ISSI or comparable functionally equivalent interface. The list of systems includes but not limited to:

a) The SARA (Shared Area Radio Agreement) counties radio system(s).

b) The Iowa ISICS P25 700 MHz Phase 2 system (now under construction).

c) STARCOM21 system serving Illinois and Muscatine County in Iowa.

25.1.6. The proposed system shall also allow for interoperability and connectivity to the other existing local voice radio systems as described in the previous section via dispatch center patching and backup radio console systems, gateways and control stations.

25.2. SYSTEM PLATFORM END OF LIFE

25.2.1. Vendors shall not propose a system platform (any elements thereof) for which an "end of life" has been announced.

25.2.2. Vendors shall include the anticipated "end of life" date of the platform proposed.

25.2.3. The proposal shall state the platform proposed and the major components of the platform shall be supported for a minimum of seven (7) years following manufacturing cessation.

25.3. P25 TRUNKED RADIO SYSTEM SHARED SYSTEM HARDWARE AND LOCATION

25.3.1. The radio system serving the defined area shall be designed to operate independent of any other radio system thus in the event the decision is made to disconnect or a temporary disconnection occurs total independence is possible.

a) Opportunities for sharing the primary and/or backup/redundant central control elements of the system would be considered and thus offered as alternates to standalone controllers.

b) If the primary and redundant controllers are not located immediately on the secure backhaul ring the proposer shall state how these devices are provided redundancy in their connections to the repeaters and radios and radio consoles.

25.3.2. A location for the main system controller, the redundant backup controller and interface equipment must be determined though the recommendation is the most secure and easily accessible locations on the microwave ring.

a) Redundant backup controllers (trunked system and simulcast) are also required and it is desired they not to be co-located with a main controller.

25.4. DETAILED SYSTEM DESIGN REVIEW (DDR) PROCESS

25.4.1. Upon contract award Contractor will conduct a complete detailed design effort to review their proposed design as updated during negotiations, finalizing sites to the degree possible and to reach agreement on a final design for construction and factory build.

a) Site selection/location shall be the responsibility of the Contractor to determine during the DDR process with the expectation of using the lowest cost sites possible including: 1) **OWNER** owned, 2) leased from commercial tower owners or 3) new build construction, ie., "Green Field".

b) **OWNER** expects Contractor to have investigated the use of currently constructed towers site locations, such as buildings, water towers and other structures that may be usable as sites, as part of their design efforts.

c) New ("green field") sites will be considered and allowed to be proposed as part of a design but must be shown as necessary and justified with an appropriate explanation provided in the proposal. This includes all recommended sites.

25.4.2. If a new "green field" site is proposed or if the tower at a current site does not meet the structural requirements to handle the antennas required for operation the new tower or existing tower upgrade will be required to be designed to meet EIA/TIA-222-G standards (Structure Classification – II or III, Exposure Category – C and Topographic Category – TBD dependent on location.

25.4.3. During this detailed design period leading up the presentation of the DDR, the Contractor shall work with the **OWNER** and **OWNER's** consultants to validate repeater site locations, expected coverage, microwave site to site connectivity, proposed network systems, alarm system and dispatch system thus providing a starting point for ordering all necessary components.

25.4.4. The detailed design timeframe shall be understood to be required to happen immediately upon the project contact award, generally requiring about 2+ months and there is likely involvement in this phase by **OWNER** and their consultant.

25.4.5. The Contractor will be responsible for qualifying repeater system and microwave sites in their design and provide the guaranteed coverage being offered.

25.4.6. Every possible effort shall be made by the Contractor in their design to reduce the footprint (vertical space) used on any to-be-leased towers.

25.4.7. With the advent of high power microwave, Contractor shall consider the use of this technology with smaller diameter antennas to reduce the effective load on and proposed towers, owned or leased.

25.4.8. The Owner and consultants will work with the Contractor to obtain access to Contractor recommended sites which will be consistent with the proposed system design. Vendors shall also consider sites in neighboring counties that might be usable as part of offered system design.

25.4.9. The Contractor and OWNER shall make contact with the antenna structure owner to begin the process to secure the site.

a) The Contractor will provide the OWNER with all antenna system and design parameter information for a site application.

b) If the antenna locations requested are accepted by the antenna structure owner and preliminary lease costs are acceptable by the OWNER a structural study should then be done.

c) The fee for the first structural study at each antenna structure site in the design will be paid by the Contractor as a part of the contract with the Contractor.

25.4.10. Building sites that have been identified for use will follow the same procedure.

25.4.11. A list of tower sites downloaded from the FCC Antenna Structure Registration (ASR) database is included in Appendix 1. More tower sites may be available within or near the counties as some towers may not be registered with the FCC.

25.4.12. The DDR meeting will be the culmination of the DDR process and will not be signed off by **OWNER** until the needed repeater sites are believed to have been defined with assurance by the Contractor their availability has been verified.

a) The verification by the Contractor shall include knowing there is space on each of the proposed towers.

b) The tower owner has been contacted is open to negotiation and the owner has a willingness to accommodate the proposed antennas.

c) The tower owner has verified the tower and site, from its records, is able to accommodate the proposed load.

25.4.13. The Contractor shall develop a presentation document for the DDR meeting where by all the available information for the proposed sites and final design of the radio and paging system are contained in this document.

25.4.14. At the Detailed Design Review meeting/presentation the Contractor will make a presentation to **OWNER** and their consultants and shall provide to **OWNER** a design detail submission which shall include block diagrams of major elements arranged on a site-by-site basis, drawings of each site, interconnect drawings, coverage expectations, and updated schedule based on all information available. The list of subsystems shall include but is not limited to the following:

a) P25 Trunked Radio System
b) Paging System
c) Microwave / Fiber Optic Backhaul
d) Wide Area (MPLS) Network Subsystem
e) DC Power/Distribution Subsystem for each (repeater location)
f) Antenna Subsystems (and info to provide to civil engineer)
g) Tower/Site/Power/HVAC Requirements (to provide to civil engineer)
h) Alternate Offered Features such as OTAR, OTAP, Encryption and support
i) Alarm & Management Subsystems
j) Radio Consoles at all Dispatch Centers and Backup Centers
k) Control Station Backup for all Radio Console Positions
l) Voice Logging System Replacement/Upgrade(s)
m) Plan for Project Management
n) Proposed Project Timeline
o) Interface with **OWNER** Consultants
p) Site Improvement Contractor Coordination
q) Routine Meetings / Timeline Updates

25.4.15. It is understood the proposed design offered at the DDR meeting may require change orders if there are site acquisition problems to meet the expected outcomes.

25.4.16. Contractor shall understand **OWNER** will have the authority at this point in the process of acquiring a new system to take an active role and possibly to request an adjustment to the design with assistance from the Contractor to meet its requirements both technical and to meet a price point.

25.4.17. Contractor shall assist **OWNER** relative to the design specifications for site requirements and resolution of deficiencies discovered during Contractor information gathering thus allowing Owner to make necessary upgrades.

25.4.18. Contractor shall consider the time needed for site acquisition and/or improvements in the provided schedule of system build-out.

25.5. SITE NEGOTIATIONS

25.5.1. For an owned system, **OWNER** will enter into the appropriate site negotiations, license frequencies, etc. as required to obtain the system objectives as agreed to between the Contractor and the Owner during final design review.

25.5.2. For a leased or partner based system the Contractor will be expected to enter into the appropriate site negotiations, license frequencies, etc. as required to obtain the system objectives as agreed to between the Contractor and the **OWNER** during final design review.

25.5.3. The Contractor will be required to provide support for this process as part of their responsibilities.

25.6. SITE ACQUISITION, BUILD-OUT AND AUTHORIZATION TO PROCEED

25.6.1. With the detailed design effort completed and repeater sites identified **OWNER** will undertake the task of acquiring access to the recommended sites which will require detailed information from the Contractor.

25.6.2. Once there is a reasonable belief the identified sites can be acquired and the efforts well underway the go ahead will be given by the **OWNER** for the Contractor to acquire the various parts and equipment and then to build the system based on these site locations.

25.6.3. The Contractor's project manager will assume the responsibility of coordinating the system build including oversight of the antenna work, fleet mapping, ordering of all system elements, coordination of the microwave and network and interface with **OWNER** consultants.

25.6.4. **OWNER** will acquire the sites and work with its consultants to develop specifications for the site work and development.

25.6.5. The Contractor shall provide construction oversight to ensure the new facilities meet the Contractor's requirements as provided in their specifications.

25.7. FCC, SHPO, NEPA

25.7.1. Once site acquisition/leasing is complete, the Contractor shall provide all design information and assist **OWNER** to complete any necessary documentation to permit use of the sites and any frequencies that will be used in the system design.

25.7.2. For a leased radio system, all responsibility for FCC, SHPO and NEPA requirements become that of the Lessor.

25.8. SYSTEM DESIGN AFTER SITE ACQUISITION

25.8.1. Once the detailed design activity is complete and all sites acquired for access the design will be accepted by **OWNER** and the Contractor will be authorized to build the system.

25.8.2. The Contractor shall provide a detailed cutover plan for **OWNER** to explain the transition from the current trunked 800MHz EDACS analog system to the new P25 trunked digital system.

25.9. FLEET MAP AND TALK-GROUP PLANNING

25.9.1. As soon as practical and after the Detailed Design is complete Contractor shall develop and hold a planning session to review talk-groups and channel planning thus validating the information needed by the radio system engineers.

25.9.2. Outcome of the planning will be a both a complete fleet map of all talk groups available on radios and dispatch consoles.

25.9.3. The assumption is made this planning will require multiple meetings with all users including law enforcement, fire, EMS, dispatch supervisory staff and other non-public safety user.

25.9.4. The outcome of the meeting and discussions will be a fully developed written document (spreadsheet) as an output.

25.9.5. As there is an expected interface with existing county, municipal and adjacent jurisdictional channels Talk-group planning shall also include all anticipated out-of-band gateway channels and/or ISSI gateway patching.

25.9.6. Each of the radios (terminals) will be expected to have a complete talk group and channel plan developed with talk group naming as a part of the effort.

25.10. SYSTEM DESIGN AND PROGRAMMING

25.10.1. With detailed design complete and a fleet map developed the Contractors designers will then be enabled to develop the final system elements and programming to create the system as proposed and approved by **OWNER.**

25.10.2. At this point in the system development it is expected the Contractor will provide **OWNER** and its consultant with an initial draft of the system design documentation for review possible feedback.

25.10.3. Detail offered shall include drawings, specification, programming overview, updated schedule, site requirements, etc.

25.10.4. Once site design drawings and specifications have been developed by **OWNER** tower/site engineer the Contractor shall review to insure all requirements are met for each site.

25.11. DISPATCH CONSOLE PROGRAMMING AND INTERFACING

25.11.1. Once the fleet mapping is complete Contractor shall as soon as practical develop and hold a planning session to review talk-groups and channel planning thus validating the information needed by the radio console system engineers is fully developed with a validated and written document as an output.

25.11.2. Console programming effort shall review all preprogramming patches to validate conventional and external trunked radio systems

25.11.3. Console programming effort shall review all preprogramming for door controls, alarms, and how the emergency button on terminals activates changes to the console.

25.11.4. Contractor shall review all interface requirement details related to non-trunked systems, 911 system, logging and external monitoring and control.

25.12. CALL LOGGING SYSTEM

25.12.1. Contractor shall verify the **OWNER** expectations for the logging system and its interfaces and note the Quad Cities dispatch centers have recently upgraded their logging system being assured it is capable of P25 recording of talk groups.

a) Number of conventional channels for recording.
b) Number of 911 lines
c) Storage capacity
d) Number of remote access licenses

25.12.2. Contractor shall insure the logging system design and capacity meeting the needs of the system operation.

25.12.3. Contractor shall offer short report describing the plan for each county as to how these loggers will be upgraded for review by **OWNER** and Consultant.

25.13. FACTORY/VENDOR ACCEPTANCE TEST

25.13.1. During the build-out of the complete system the Contractor shall be expected to assemble all the components, interconnect the elements, apply all software/ programming and conduct a complete factory/vendor testing before the radio and network components are installed at each site.

25.13.2. The factory/vendor testing shall include all network elements though my not include the microwave system.

25.13.3. The Contractor shall supply a document describing the results of the certification testing and validation of proper operation.

25.13.4. **OWNER** and its consultant will be invited to take an active role in the testing at the factory or Vendor facility.

25.14. ON SITE DC PLANT SUBSYSTEM, ALARM/MONITORING SUBSYSTEM AND MICROWAVE SUBSYSTEM BUILD-OUT AND TESTING

25.14.1. Once shelters are in place with power, grounding and HVAC available the Contractor is expected to build-out the DC power plant then test and commission.

25.14.2. As soon as possible after the sites have been acquired with towers and shelters in place, the microwave system is expected to be constructed, tested and commissioned.

25.14.3. As soon as possible after the sites have been acquired with towers and shelters in place, microwave system operation the alarm and monitoring system shall be constructed, tested and commissioned.

25.14.4. Upon notice of this phase of the work is complete, Consultant will perform an inspection and review visit to each site.

25.14.5. Documentation for the DC power plant, microwave and alarm/monitoring system shall be developed and turned over to the consultant for review and validation.

END OF SECTION

26. System Infrastructure Specifications/ Requirements Detail

26.1. Scott County and Rock Island County P25 Voice Radio System

26.1.1. The intent of the new voice system infrastructure will be to provide a 700/800 MHz simulcast P25 trunked radio platform to support all Scott County and the defined areas of Rock Island County.

26.1.2. The public safety radio system is assumed to be simulcast in the metro core and a hybrid of multisite and simulcast in the rural areas of the counties.

26.1.3. The proposed radio system may be offered as Phase One or Phase Two operation though it should be noted some of the user radios now in use are not capable of being upgraded to Phase Two capable.

26.1.4. The P25 trunked system will be compliant with and support all current P25 mandatory standards (P25 CAP) including but not limited to the following:

Current P25 Mandatory Standards	
P25 Common Air Interface (CAI)	Encrypted Call (AES 256)
Radio registration	Announcement Group
Private Call	Group Voice Calls
Emergency Alarm	OTAR

26.1.5. It is desired that the P25 trunked system be compliant with and support the following optional standards.

P25 Optional Standards	
P25 Data	Roaming
GPS	OTAP
P25 Phase 2 TDMA	Radio Authentication
Call Interrupt	Radio Inhibit
Status Query	Radio Unit Monitor

26.1.6. Contractor will provide the same model of mobile and portable terminal units used for testing and commissioning as are ordered for the day to day operations.

26.1.7. As a minimum, respondent shall offer backup connectivity of the new radio system to the radio console system via remote controlled control stations with control heads at each of the dispatch consoles located in the dispatch centers.

26.1.8. It is highly desirable for each of the backup control stations also to be connected to the dispatch console for backup purposes thus allowing dispatcher to use their consoles in the event of a network connection failure.

26.1.9. The Respondent/Proposer shall submit a block diagram of the proposed system design with the proposal and describe any alternate sites.

26.1.10. All sites shall employ the latest manufacturer grounding techniques and protection equipment to improve survivability due to power line and lightning surges.

26.1.11. Proposer's offering will provide necessary alarms and associated interconnect to sense and send power conditions at each site to a system management terminal at the designate dispatch center.

a) Capable of interfacing with contact closures of environmental sensors.
b) Alarm and monitoring system shall be capable of providing a high-level notification of an alarm condition to the associated dispatch centers where such failure would have a consequence.
c) Alarm and monitoring system shall be capable of sending emails or text messages to designated personnel of selected alarm conditions.

26.1.12. The **OWNER** will provide equipment shelters sized to meet the requirements of the proposed radio system, network systems, supporting backup power plant and microwave electronics plus two rack spaces for future equipment. All shelter sizing shall meet National Electrical Code requirements of minimum space requirements.

26.1.13. **OWNER** will provide a backup generator to supply 120/240V at each repeater and/or microwave site.

26.1.14. **OWNER** will provide UPS protected power at all dispatch centers thus allowing all equipment at these sites to operate directly off this AC source and not use batteries.

26.2. PAGING SYSTEMS IN ROCK ISLAND COUNTY

26.2.1. The current VHF paging systems are expected to be replaced with new systems thus improving in-building coverage to alert public safety staff across the served area though not to change the method of how pages are created via the radio console.

26.2.2. Provide County wide coverage of 95% reliability in door residential building pager coverage of the County borders plus 1 mile or if Rock Island County opts out, 1 mile beyond the metro area.

26.2.3. The paging system will consist of multiple sites capable of simulcast transmitter operation.

26.2.4. The paging system will provide dispatch connectivity to all PSAPs located in the County of the appropriate system.

26.2.5. All existing subscriber pagers will be reused and any needed re-programming shall be included in the proposal.

26.2.6. Coverage testing will document proper system operation, and provide drive testing detail with a map of measurements proving coverage performance to the Owner.

26.2.7. The OWNER is open to the potential of a digital paging system operation as an optional system offering though text to voice messaging is required.

a) If a digital paging system is offered as an option each console position shall be equipped to send pages which can be accomplished directly from the Computer Aided Dispatch console assuming a necessary interface is also included.

b) If a digital paging system is offered as an option a minimum of one backup encoding system is needed per PSAP center in the event of CAD failure.

c) All new pagers would be required and offered with this option.

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c) All new pagers would be required and offered with this option.

26.4. SIREN SYSTEMS IN SCOTT COUNTY AND ROCK ISLAND COUNTY

26.4.1. The siren control systems are not being changed or upgraded as a part of the work by the Contractor.

26.4.2. Where sirens are controlled via the radio console sending DTMF strings, the capability shall be maintained.

26.4.3. Contractor shall become aware of the system and its components in the dispatch centers and insure any work in the centers do not disturb or interrupt the siren system.

26.5. FIRE STATION ALERTING SYSTEMS IN SCOTT COUNTY AND ROCK ISLAND COUNTY

26.5.1. The current EDACS controlled Fire Station Alerting (FSA) encoding/ decoding systems using DTMF are expected to be configured into the new P25 radio system supporting the following city fire departments: Bettendorf, Davenport, Moline, East Moline and Rock Island City.

26.5.2. Each County PSAP centers as located in the appropriate County will provide dispatch radio console alerting of all needed FSA agencies with a single button per station on the radio console for activation.

26.5.3. Each associated radio control station located at existing fire station buildings will be integrated with appropriate control/decoder devices.

26.6. FCC LICENSING, FAA AND OTHER REQUIRED AUTHORIZATIONS

26.6.1. The Awarded Contractor shall be responsible for the preparation of all applications. This includes but is not limited to any FCC and FAA application preparation, tower studies, coordination or any other requirement to finalize all required authorizations on behalf of **OWNER**.

26.6.2. FCC Coordination fees associated with the above will be the responsibility of **OWNER.**

26.6.3. The Awarded Contractor will be responsible for the preparation and submittals for all coordination and FCC licensing which includes submittals to the RPC Region 15 (Iowa) and Region 13 (Illinois).

26.6.4. The Awarded Contractor will be responsible to provide OWNER's Project Manager and **OWNER's** Consultant with the construction completion dates for all frequency/location combinations per the system design for purposes of FCC notification.

26.7. OTHER REQUIRED AUTHORIZATIONS AND PERMITS

26.7.1. For any construction approval requiring authorizations including but not limited to NEPA, SHPO, Tribal, etc., the Awarded Contractor will assist **OWNER** in their preparation and submittal with any cost of associated fees paid by **OWNER**.

26.7.2. Contractor has the responsibility to determine what authorizations and permits are required for all portions of the project the Contractor is responsible for.

26.8. RADIO CONSOLE SYSTEM

26.8.1. Minimum radio console requirements include:

a. The radio console will support 6-wire headsets

b. Two headset jacks per position capable of parallel operation

c. Headset shall support communications with field radio and 911 telephone Audio to telephone will be muted when transmitting over the radio system

d. Foot switch per position for optional PTT

e. Support of 20" monitor to be supplied by Owner

f. Capable of 32 aux outputs and 32 aux inputs

g. Instant Recall Recorder (IRR) with last in offered first per position

h. Minimum 4 speakers with adjustable volume controls

i. Desk microphone and local user PTT function

j. Minimum of 140 assignable resources per position

k. Minimum 6 radio screen tabs with at least 44 resources per tab

l. Instant transmit per resource

m. Volume control per resource

n. Support minimum 15 characters for resource name and minimum 15 characters for alias per resource

o. Two tone paging encoder

p. DTMF signaling encoder

q. Preprogrammed single and preprogrammed group paging

r. Logging interface for use by multiple County and City agencies

s. Multi-select (3 sets minimum)

t. Patch (3 sets minimum)

u. VU meter display

v. Subscriber Radio ID to be displayed

w. Acceptance and ID for subscriber Emergency Button

x. Audio sent/received by each repeater channel

y. Dispatcher override of subscriber radio traffic

z. All talk-groups to be supported (minimum of 35)

aa. P25 digital to the dispatch operator on P25 channels

bb. Direct radio system connectivity (not control stations)

cc. Control station backup radio access for all console positions with RF portion of radio located outside of dispatch

dd. AES encryption capable on selected P25 talkgroups

ee. Headset interface/switching to 911 telephone system

ff. Support for all existing radio channels, including:

1) Paging (Two Tone – Scott County)
2) Paging (Two Tone – Rock Island Metro)
3) Siren Control (DTMF) - Scott County
4) Point to Point - Scott County
5) VLAW31- Scott County
6) County Fire - Scott County
7) LEA Control Station- Scott County
8) State Fire- Scott County
9) ISICS Control Stations – Scott County
10) STARCOM21 – Rock Island Metro Dispatch Centers

11) MABAS - Rock Island Metro Dispatch Centers

gg. Support for all existing radio channels unless Opt'd Out by Rock Island County:

1) Paging (Two Tone – Rock Island County)
2) Siren Control – Rock Island County (TBD)
3) Point to Point – Rock Island County
4) VLAW31 – Rock Island County
5) County Fire – Rock Island County
6) State Fire – Rock Island County

hh. Gateways, associated control stations and antenna systems for adjacent county VHF channels

26.9. TRUNKED RADIO SYSTEM CONTROL

26.9.1. **OWNER** will consider P25 systems using central or distributed control.

26.9.2. The proposed system shall incorporate a redundant system consisting of all elements duplicated such that no one element/device failure is capable of a major system failure.

26.9.3. The system authority database shall be duplicated at the two redundant sites to insure a failure of the selected primary site does not cause a system failure of operational capability.

26.9.4. To the greatest degree possible the redundant elements/devices shall not be located at the same physical site to insure the highest level of reliability.

26.10. SIMULCAST OPERATION

26.10.1. Simulcast P25 operation is desired to be the proposed solution to utilize an adequate but minimum number of 700 or 800 MHz frequencies and to be of a design to provide improved indoor coverage.

26.10.2. Multiple simulcast trunked system cells operating in multi-site site mode may be necessary to meet the coverage expectations for the defined areas of the Quad Cities and Scott and Rock Island counties.

26.10.3. The replacement of the **OWNER** paging systems will operate in the VHF or UHF band as a simulcast system, as is being requested for the P25 trunked radio system, thus to gain improved indoor coverage.

26.10.4. The proposed microwave/fiber backhaul system will be used to interface the simulcast controllers to the base stations and repeaters of the radio network.

26.10.5. All equipment related to the simulcast controller, programming and monitoring of the controller will be located at one of the system sites such that

if there is a failure of system connectivity with a simulcast controller a redundant simulcast controller will maintain simulcast operation.

26.10.6. A GPS timing subsystem will be used to coordinate simulcast launch timing.

26.10.7. If a simulcast trunking system failure were to happen, the design shall be such that each simulcast repeater site will fault into a minimum of one repeater being operational in a conventional mode allowing control stations at dispatch to maintain communications capability.

a) Capability is required such that each of the backup control stations are programmed to connect to any of the repeater sites using channel selection.

26.11. SYSTEM CAPACITY NEEDS

26.11.1. For the Quad Cities metro area the new system will be designed to support 3000 calls per hour with an average service time of 6 seconds per transmission, average wait time of 0.5 seconds and 1% Grade of Service.

26.11.2. For the reminder of the Scott County area the new system will be designed to support 610 calls per hour with an average service time of 6 seconds per transmission, average wait time of 0.5 seconds and 1% Grade of Service.

26.11.3. For the reminder of the Rock Island County area the new system will be designed to support 570 calls per hour with an average service time of 6 seconds per transmission, average wait time of 0.5 seconds and 1% Grade of Service.

26.11.4. Due to performance testing and cutover issues if the Proposer finds it necessary for additional frequency pairs then it is their responsibility to offer assistance obtaining and licensing additional channels.

26.12. P25 TRUNKED SYSTEM INFRASTRUCTURE EQUIPMENT

26.12.1. The repeater system will provide P25 simulcast trunked radio system operation at multiple sites.

26.12.2. Simulcast should be considered in the metro and rural areas though due to terrain and number of channels required, multiple zones may be the best solution when considering the combination of areas.

26.12.3. RF specifications will be consistent with public safety grade equipment suitable for simulcast operation and provided with the proposer's response.

26.12.4. It is envisioned the repeater system will employ a centralized simulcast controller to allow the system to operate like a single radio site although multiple simulcast cells will be needed to provide coverage. If not, the

proposer will describe in detail how the system will provide service to the Quad Cities and both counties.

26.12.5. Multiple channels/repeaters will be utilized at each site and the system will provide multiple talk groups for two-way communications and announcements to field units.

26.12.6. The set of repeaters at each site will be interfaced to the antenna system via a transmitter combiner and receive multi-coupler system to minimize the number of antennas required for operation.

26.12.7. Repeater RF Power – 100W minimum full power

26.12.8. Spurious & Harmonic Emissions Attenuation – 90dB

26.12.9. Sensitivity (C4FM) – <-117 dBm

26.12.10. Spurious and Image Rejection – ≥85 dB

26.12.11. All necessary modules, equipment or interfaces to the microwave system and network components supporting the wired infrastructure side of the repeaters, voters and the interface to the proposed console system as proposed will be included.

26.12.12. Only new components shall be considered to be used in the new system infrastructure.

26.12.13. The Proposer will provide a description of the failure mode operation proposed if the trunking controller shall no longer function in either a centralized or distributed design and the safeguards in place to minimize the chance of failure.

a) The Proposer will provide a description of the failure mode operation proposed if the centralized simulcast controller shall fail and what safeguards are in place to minimize the chance of failure.

b) The Proposer will describe what manual changes need to be considered in the operating environment because of system failure.

26.12.14. If the frequency set does not allow all frequencies to be combined a scheme to minimize the number of antennas shall be employed.

26.12.15. If the system equipment configuration and combining equipment does not support the number of frequencies required for operation their antenna systems must provide nearly equal coverage.

26.12.16. All new antenna and transmission line systems shall be employed at all sites with systems installed per manufacturer recommendations.

26.13. REPEATER AND BASE STATION ANTENNA SUBSYSTEMS

26.13.1. The Contractor is responsible for the design of all antenna subsystems.

26.13.2. The Contractor is responsible to supply each repeater and base station site with all new antenna systems including antennas, mounting arms, transmission line, grounding kits, surge protectors, antenna combining equipment and interconnecting cable.

26.13.3. The Contractor is responsible for the installation and testing of all repeater and base station antenna systems.

26.13.4. The Contractor is responsible to supply the information about the required antenna systems to **OWNER's** civil engineer for any new "greenfield" sites to allow for the design of the tower and shelter.

26.13.5. The use of a combining system will allow for the use the minimum number of transmit antennas needed and use no more than two receive antennas for the 700/800 MHz frequencies.

26.14. BACKHAUL MICROWAVE AND/OR FIBER NETWORK

26.14.1. The microwave network is the responsibility of Contractor including all required design, coordination, licensing and installation.

26.14.2. The installed fiber optic network in the **OWNERs** area should be considered for backhaul as adjunct to microwave and possibly to offer redundancy. This fiber network was installed for just such a purpose and interconnects all dispatch centers.

26.14.3. Microwave and/or fiber geo-redundant links will interconnect all sites and provide network connectivity between all radio and dispatch center sites.

26.14.4. The backhaul system will be digital IP-based and equipped to provide 150 Mbps minimum capacity for the proposed radio system though it will be acceptable to initially operate at 50 Mbps assuming only software changes to the full 150 Mbps capability.

26.14.5. All interconnecting network components/systems are anticipated to be IP-based end to end supporting both voice services and systems management and utilizing MPLS in the wide area thus insuring FIPS 140-2.

26.14.6. All associated microwave path studies are the responsibility of the Contactor (or microwave subcontractor) to be conducted prior to the DDR presentation to assure the sites selected will work for the design.

26.14.7. Only licensed 6 or 10 GHz microwave or fiber optics shall be utilized for the primary interconnect path.

26.14.8. The use of IP-based microwave that makes use of adaptive modulation for the highest possible throughput and smallest antennas is highly desired.

26.14.9. All microwave electronics are to be located within the equipment shelters.

26.14.10. Ice shields will be provided for all microwave antennas mounted below other antennas thus only top of tower mounted antennas do not require shields.

26.14.11. A ring microwave/fiber optic design is highly recommended if possible though any links not part of a ring shall be established with hot standby or a parallel 4.9 GHz link.

26.14.12. The Contractor will provide the reliability of the microwave network design with the proposal with no less than five 9's being acceptable.

26.14.13. Proposer will describe how the system could service system users if a link on the microwave or fiber optic system would fail.

26.14.14. The Contractor is responsible to supply the information about the required antenna systems to **OWNER**'s engineer for any new "greenfield" sites to allow for the design of the tower and shelter.

26.14.15. If leased the Contractor shall provide **OWNER** with QoS and bandwidth guarantees to ensure system operation as agreed to in negotiations.

26.14.16. If leased the Contractor shall provide at no additional cost the spare bandwidth of the microwave channels for their use including support for CAD/RMS, ESInet or other IP traffic channels in support of Owner operations.

26.14.17. Alarm/monitoring capability shall be provided to the proposed radio system monitoring scheme thus affording the **OWNER** and supporting Vendor with information remotely relative to the Backhaul system with alarm monitoring shall minimally include:

a) Loss of a link

b) Power failure

c) Waveguide pressure failure

26.15. NETWORKING SCHEME

26.15.1. The use of Ethernet shall be considered primary and any non-IP traffic shall be carried using routers over IP as no T1 or DS3 circuits are expected.

26.15.2. The network switches and routers proposed for this project shall be capable of separating IP traffic between the radio system, alarm system, secure Owner data and the management system likely using MPLS.

26.15.3. The backbone architecture shall provide for setting of priorities to support voice and data insuring voice operations have the highest priority and data the highest level of security.

26.15.4. **OWNER** is expecting the use of MPLS (multiprotocol label switching) routers (or equal method of dividing networks to meet FIPS 140-2) thus allowing for the use by the **OWNER** for other non-public safety IP traffic.

26.15.5. An IP link shall be available and equipped with an intercom phone (order wire) at each network router location thus offering maintenance personnel ease of voice communications between sites.

26.15.6. Alarm/monitoring capability shall be provided to the proposed radio system monitoring scheme thus affording the **OWNER** and supporting Vendor with information remotely relative to the condition of the Network Routers and Switches.

26.16. DC POWER SYSTEM

26.16.1. A DC power system shall be provided whereby all electronic devices at a site operate from DC and the DC system is provided continuous charging and conversion from the mains system.

26.16.2. The AC to DC converters (rectifiers) shall be provided with N+1 reliability designed with sufficient power output for both operating and battery charger capability.

26.16.3. The DC power system shall be designed to meet the proposed system needs plus 20% for future growth.

26.16.4. All electronic systems (radio, network, alarm and microwave system) shall operate from Contractor supplied battery power with batteries being continually charged from mains or backup generator.

a) If any components are only capable of operating on 120VAC then a DC to AC inverter shall be provided capable of supplying AC power.

26.16.5. If one of the dispatch centers is also determined to be a RF site and that center's power is supplied by a single UPS backed up with a generator, then the DC plant will only be necessary for the microwave and network backhaul system.

26.16.6. A DC circuit breaker system shall be provided to allow for the distribution of power to all electronic devices and with a mains breaker to remove all power at a site to meet NEC requirements.

a) Dual A/B distribution shall be used allowing equipment equipped to accept dual DC input to be fed from different distribution sources.

26.16.7. The DC power system shall be designed to provide uninterruptable power for a period up to 30 minutes under full load with full load defined as repeaters operating on a 50% duty cycle or 70% of full load as calculated.

26.16.8. If feasible within the proposal only one DC battery system is desired to power all equipment including the microwave, radio systems and network components.

26.16.9. All AC to DC converters, any DC to AC inverters, and all breakers shall be equipped with monitoring and connectivity to the alarm system for remote diagnostics capability.

26.16.10. The charging system shall be designed to fully charge the DC battery plant within:

a) 60 minutes after a commercial power failure and assumed one minute generator activation at full load.

b) 240 minutes after 30 minutes of continuous operation at full load.

26.16.11. Alarm/monitoring capability shall be provided to the proposed radio system monitoring scheme thus affording the OWNER and supporting Vendor with information remotely relative to the DC power plant. Monitoring shall minimally include:

- Battery system functional and operating properly
- Battery System High Level Fault
- Any DC Rectifiers in Fault Condition
- Condition of each Battery

26.17. CONSOLIDATED DISPATCH CENTERS

26.17.1. The dispatch console equipment located at each of the following dispatch centers will be replaced or updated as needed.

26.17.2. There is the expectation the radio consoles at all center will be directly connected to the new P25 radio system being supported.

26.17.3. Note: The RICO system is part of the Alternate and not the Primary proposal.

Dispatch Center / EOC	Number of Consoles
SECC/EOC	23
Scott County Back up Dispatch	12
RICOMM (City of Rock Island)	6
QComm911 (Moline/East Moline/Milan)	8
RICO (Rock Island County)	3

26.17.4. Features expected to include:

a) Proposed P25 trunked radio system

b) All existing analog channels planned to remain in use

c) All appropriate site alarms, monitors, paging, doors, etc.

d) County paging subsystem control/encoding

e) Interface for headset to also be used for the 911 phone system

f) Call logging/recording of all channels for instant recall and for long term storage for any new channels.

g) Once fully implemented, tested and accepted these new interfaces will be used for daily service.

h) Connectivity to the radio infrastructure will be improved such that each of the primary dispatch centers offer a primary and a backup link to the trunked radio system.

   a) The SECC backup dispatch center shall have a primary network link and control station backup only.

i) All radio console positions shall be equipped with a remote-controlled control station thus providing backup to the network connection to the radio system and if possible linked to the radio console thus allowing the radio console to be used to control the radio.

26.18. RELIABILITY

26.18.1. The radio system and microwave system shall be designed with the highest levels of reliability including all links, fiber and microwave.

26.18.2. Redundancy of critical components shall be included in the system design including the connectivity between all major site/system components.

26.18.3. An explanation of design features that provide system reliability shall be provided.

26.18.4. Vendors shall submit a list of suggested failure scenarios and categorize them as major, minor or very minor.

26.18.5. Categorization of items on this list will be a subject of negotiation with the successful Proposer during contract negotiation.

26.18.6. Vendors shall also provide an explanation of how the system would be designed to operate, and what the impact would be, under commonly anticipated failures to include:

a) The loss of a channel or multiple channels,

b) The loss of a site or the loss of site connectivity,

c) The loss of console connectivity,

d) The loss of the primary radio system controllers,

e) The loss of the main control point.

26.18.7. System performance monitoring systems shall be explained to include standard alarming and system administration capabilities being proposed. Site monitoring capabilities are a desirable component of this system.

26.18.8. A 30-day system reliability period will be required where a group of users up to 10% of full load will operate on the system to validate the system. The 30-day period will begin upon completion of system functional testing.

a) Minor – The 30-day clock will continue assuming the failure is fixed and the operator can resume normal functionality within 24 hours.

b) Major – The 30-day clock will stop and not restart until the fix is complete and the entire radio system is back to normal operation.

c) Catastrophic – The 30-day clock will start over once the failure has been fixed and the entire radio system is back to normal operation.

26.18.9. The full cutover and warranty period will not begin until successful completion of the 30-day reliability test period.

26.18.10. Successful completion of the 30-day system reliability testing will be a part of the final acceptance criteria to show reliable operation prior to cutover.

26.19. REMOTE MONITOR/ALARM/CONFIGURATION SYSTEM

26.19.1. The central monitoring/alarm/configuration system shall be offered as a single integrated system whereby there is:

a) Instantaneous alarm notification and logging of events.

b) Emails sent to appropriate staff and contractor for high level events.

c) Owner and Contractor access to equipment operational information and alerts to potential problems.

d) A means of pushing updates to all possible devices thus allowing for configuration changes.

26.19.2. The integrated central monitoring/alarm system will provide alarms and event logging for all radio, microwave, associated network systems and DC power plant proposed plus the incorporation of shelter environmental, commercial power, transfer switch and generator physical site alarms.

26.19.3. A system management terminal will provide statistics for the radio system and talk groups over a programmable window of time including:

a) Airtime used by all talk groups

b) Talk group air time, busies, all trunks busy, etc.

c) Talkgroup priorities, group assignments, etc.

d) Device inventory

e) Proposals shall detail all reporting capabilities available to the Owner.

26.19.4. A management system thus shall be a part of the offering whereby the entire radio system infrastructure can be monitored and where updates to the various elements be initiated via the secure network including:

a) Environmental, microwave, network and RF system elements.

b) All sites in the system shall be monitored for temperature (high and low), power, standing water, smoke, fire, backup power generation, transfer switch operation, fuel level and unauthorized access.

c) Interconnection to the generator fuel tank at each site to offer remote sensing of fuel levels.

d) Faults encountered by any system or subsystem including radio system, backhaul system, DC plant, Automatic Transfer Switch, mains power, site environmental sensors and the network.

e) All IP addressing and any abnormalities encountered.

f) Pre-established rules for system communication having been broken either accidentally or through purposeful intervention.

g) Provide for email alarm conditions to be sent to defined personnel for action.

h) All information collected shall be automatically archived thus allowing technical personnel the option of seeing historical records.

26.19.5. An audit trail of actions taken by the user of the system shall also be maintained and archived.

26.19.6. The monitoring tools provided shall make use of centralized view of the system health while allowing technical personnel to drive down to the device sending the alarm.

26.19.7. The monitoring tools shall utilize Graphical User Interface (GUI) thus offering technicians and managers quick access to information.

26.19.8. The monitoring system shall incorporate secure access and at a minimum AES 128-bit encryption to block access while also allowing access privileges at various levels.

26.19.9. The monitoring/management system shall poll all monitored elements and shall re-queue and missed collected information when the device reconnects thus maintaining an up to date log.

26.19.10. System shall be capable of and interconnected to the AC and the DC power system components and switching to allow remote diagnostics.

26.19.11. All remote alarm and remote monitoring systems shall be powered by the DC backup system at each site thus insuring the fewest false alarms possible.

a) DC to AC inverter(s) or DC to DC converter(s) may be required to provide continuous power to site alarm panel provided at the site.

26.20. REQUESTED PROPOSAL DESIGN ALTERNATES/OPTIONS

The following alternates and options are being requested to be offered with their associated costs if during negotiations they are found to be desired.

26.20.1. Rock Island County Opt Out

a) If Rock Island County elects not to take part in this project a provision in the Pricing Matrix offers a place to show the deduction.

b) The removal of the requirement to provide coverage and dispatch center subsystem equipment is also expected.

c) If Rock Island County elects to opt out of this regional system the removal of sites only serving this county outside the metro areas of the County shall not impact the required coverage of the metro areas of the Quad Cities.

26.20.2. Direct Interfaces to Adjacent P25 Trunked Radio Systems

a) Proposers are requested to provide the price for an ISSI server and associated software or other method to connect with:

- The SARA Group trunked radio system
- The State of Iowa (ISICS) 700 MHz statewide P25 trunking system
- The Illinois Motorola STARCOM21 system.

b) All required interconnecting links required to create the capability shall be a part of the cost provided plus any needed transcoding thus allow support for Phase 1 to Phase 2 interoperability.

c) For this RFP the Proposal shall assume the ISSI shall support up to five (5) talks groups each (ISICS, SARA and STARCOM25).

d) Description of the offering shall include informing **OWNER** is both ends of the ISSI is being offered or only the local link gateway.

e) If Dynamic ISSI is available as an option, it is desired this also be considered as an alternate.

26.20.3. Encryption

a) AES 256 bit encryption of talk groups shall be offered as an alternate. Proposers shall include all system requirements for operation in their costs.

b) Encryption shall be offered and end to end (subscriber radio to subscriber radio and subscriber radio to dispatcher.

c) Two options shall be offered to support encryption:

- Single key
- Multi-key

26.20.4. Over the Air Reprogramming (OTAR)

a) Over the air rekeying shall be proposed as an alternate.

b) Proposers shall include all system requirements for operation in their costs.

c) OTAR will be list separately in the Pricing matrix.

d) If the OTAR alternate is selected it shall be understood the capability shall extend to all capable radios of being remotely sent and re-keyed over the air including P25 radios already owned by the city and county.

26.20.5. Over the Air programming (OTAP)

a) Over the air programming shall be proposed as an alternate. Proposers shall include data capability and any other system requirements in the costs.

b) OTAP will be list separately in the Pricing matrix.

c) OTAP is only to be offered in support of the subscriber radios of the proposer.

26.20.6. Support for Smart Phones

a) If support for Smart Phones to access selected talk groups of the proposed P25 system is offered as a feature then it this feature shall be explained

b) Described required connectivity to any off-premise equipment and anticipated reliability issues associated with the offering.

c) Support for smart phones will be list separately in the Pricing matrix.

END OF SECTION

27. SITE DEVELOPMENT

27.1. REPEATER SITE PRE-SELECTION PROCESS BY CONTRACTOR

27.1.1. All towers shall have an initial structural analysis completed and paid for by the Radio System Contractor or if the tower owner does the study it shall be paid for by the Contractor to determine tower's viability for said use.

27.1.2. Every effort shall be made by the Contractor to reduce the ongoing cost to the **OWNER** for site leases which means to:

a) Attempt to combine antenna locations to reduce the vertical footprint on the tower which is how most tower companies calculate lease cost.

b) Attempt to reduce the number of antennas on a tower by use of combining networks thus also reducing the foot print on the tower.

c) Attempt to use the smallest microwave antennas thus possibly higher power radios making for a lower physical load on the tower.

27.1.3. The study shall be completed prior to the DDR and its results shall be presented in the DDR.

27.1.4. Contractor shall supply to the **OWNER** and their Civil Engineer:

a) Site drawings of desired rack layouts in the shelters and equipment rooms allowing these layouts to be transferred to the Engineer's drawings.

b) Anticipated power loads and BTU for cooling requirements thus proving the Engineer needed information to develop site shelter requirements.

c) Information as to antenna types, expected heights and associated transmission line thus affording needed information for the Engineer's drawings/specifications.

27.1.5. As a part of the Contractor's Scope of Work, the loading study shall use EIA/TIA-222-G standards or latest adopted standard (Structure Classification – II or III, Exposure Category – C and Topographic Category completed with anticipated load as established by the Contractor.

a) Structure Classification of II or III will be determined as based on where the tower is located and how it is presently being used.

27.2. REPEATER SITE INFRASTRUCTURE SPECIFICATIONS/ REQUIREMENTS

27.2.1. After the DDR is completed and accepted by the **OWNER**, it shall be the responsibility of the **OWNER** to acquire the services of a civil engineering company to complete all further site/tower work.

27.2.2. **OWNER** will be responsible for any structural improvements found to be required because of the structural issues.

a) The actual design work for a green field site will be completed via **OWNER's** structural engineer under a separate contract though with coordination by the Contractor as per the Public Bidding for Construction requirements of the State of Iowa (Section 26) and Illinois (30 ILCS 500).

b) Contractor shall be aware of and account for the time required to develop green field sites.

27.2.3. After the detailed radio system design is completed by the Contractor and thus sites selected all tower site compounds, new or existing, the **OWNER's** civil engineer shall develop and provide a complete set of appropriate State Licensed PE stamped construction drawings and specifications.

27.2.4. The construction plans will show the compound, fencing, tower, foundations, electrical, easement road extensions and proposed equipment shelters. This design work will be completed via **OWNER's** structural engineer under a separate contract though with coordination by Contractor.

27.3. EQUIPMENT SHELTERS/BUILDINGS/GENERATORS

27.3.1. Proposals shall include requirements for space, power and environment conditions for each site included in their proposal.

27.3.2. The remainder of this section is provided for information only as work will be completed under a separate contract with project management by the Contractor to assure coordination.

27.3.3. Equipment shelters will provide adequate space, a stable environment for the **OWNER's** infrastructure equipment and must be equipped with the appropriate grounding and surge protection equipment to protect the equipment.

27.3.4. All equipment shelters shall meet all local codes and be equipped in such a way as to support the communications systems installed within.

27.3.5. The **OWNER** will insure a generator meeting the requirements as stated by the Contractor will be in place with all required transfer switching.

27.4. EQUIPMENT ROOMS

27.4.1. Proposals shall include requirements for space, power and environment conditions for each site included in their proposal.

27.4.2. The remainder of this section is provided for information only as work will be completed under a separate contract with project management by the Contractor to assure coordination.

27.4.3. **OWNER** will insure equipment rooms provide adequate space, a stable environment for the **OWNER's** infrastructure equipment and be equipped with the appropriate grounding and surge protection equipment to protect the **OWNER's** equipment.

27.4.4. If an existing selected **OWNER's** equipment room is not deemed adequate by the Contractor, then the **OWNER** will find and establish the needed space or do any repairs/upgrades required.

27.4.5. All site construction work is expected to be bid either by the **OWNER** or the Contractor and awarded per local and state regulations.

27.4.6. As these spaces are internal to an existing building, every effort must be made to work with building maintenance staff to insure coordination.

27.5. SITE POWER SOURCES

27.5.1. This section is provided for information only as work will be completed under a separate contract with project management by the Contractor to assure coordination.

27.5.2. Any improvements required/recommended by Contractor as related to commercial power will be accomplished by **OWNER** via a separate contract.

27.5.3. Generator back-up shall be utilized at each site.

27.5.4. Upon the loss of commercial power, the generator will automatically start and after the output has stabilized a transfer switch will change the equipment to generator power.

27.5.5. For Dispatch Center, the **OWNER** will provide a dedicated UPS to power all radio and paging equipment plus the other site elements dedicated to 911 and PSAP operations thus a DC plant may not be required.

a) The N+1 requirement for AC to DC power and any critical systems that could ultimately be a single source of failure must be protected in this manner.

b) No critical subsystem components with two AC power supplies shall be powered by a single circuit breaker.

c) All AC power distribution in equipment racks shall be surge protected at the load center and the rack.

27.5.6. The generator will be able to provide full power at 100% duty for all equipment and recharge the site batteries. Upon the return of stable commercial power, the equipment will be returned to commercial power and normal operation.

END OF SECTION

28. On-Site System Build and Readiness for Testing

28.1. Contractor System Construction and Initial Commissioning

28.1.1. Once the radio system and network subsystems have been shipped to the **OWNER** sites and installed at the various locations the Contractor shall begin internal testing and adjustments to validate its proper operation on a site-by-site basis.

28.1.2. The microwave system shall have been installed, tested and thus verified operational prior to connecting the network elements.

28.1.3. Once the network is installed and made operational the various portions of the system will be interconnected and then Contractor tested followed by full system commissioning when Contractor advises.

28.1.4. The radio system Contractor shall install the radio system including all network elements, conduct preliminary testing and inform **OWNER** and Consultant of readiness to conduct inspection visits.

28.2. Site Equipment Specification Tests

28.2.1. Proposers shall submit to the **OWNER's** consultant their suggested plan for sample testing of antenna systems, receiver sensitivity/performance, transmitter power output, reflected power, P25 capability, network and microwave, etc.

28.2.2. All tests must be completed and signed off by Consultant and **OWNER** before the Site Equipment Specification Tests will be designated complete.

28.2.3. Submittals to the Consultant and **OWNER** shall include written test results of the requirements as listed for each repeater system, network, backhaul, DC plant and all control/monitoring subsystems.

28.3. System Operational Tests

28.3.1. Proposers shall submit an operational test plan that shows end-to-end communications of all major elements and features of the system, including the repeater system, dispatch console, backup power and generator systems and simulated failures that will demonstrate how system will react.

28.3.2. Failures of the systems should include, at a minimum:

a) Mains power
b) Loss of primary network link
c) Failure of one network switch at a site
d) Loss of GPS (if simulcast)

e) Loss of one channel of a trunked radio system
f) Loss of link to one simulcast controller
g) Loss of link to primary core controller

28.3.3. Contractor shall anticipate **OWNER's** consultant will take an active role in the tests whereby random tests will be expected to be performed with consultant on-site and by reviewing test results as submitted.

28.3.4. All tests must be completed and signed off by Consultant and witnessed by the **OWNER** before the Operational Tests will be designated complete.

28.4. USER TERMINAL EQUIPMENT SPECIFICATION TESTS

28.4.1. Proposers shall submit their suggested plan for sample testing of transmitter power output, receiver sensitivity, P25 capability, correct programming, etc. for mobiles and portables which the Proposer has suggested in their response will be utilized on the offered radio and/or paging system.

a) Testing of terminal equipment shall include on-the-air functional and performance testing.
b) All tests must be completed and signed off by Consultant and Owner before the User Equipment Specification Tests will be designated complete.

28.4.2. User Terminal Equipment Installation Inspection

a) All user equipment must be 100% programmed, installed, distributed and tested.
b) A random inspection of user equipment and installations will be made. Once the installation of user equipment is complete and the inspection is complete, the User Equipment Installation Inspection test will be designated complete.
c) Arrangements for partial system installations are expected and will be scheduled to meet Owner and Contractor requirements.

END OF SECTION

29. COVERAGE REQUIREMENTS AND COVERAGE VALIDATION TESTING

29.1. RADIO SYSTEM COVERAGE

29.1.1. The system will be designed to provide minimum performance over 95% of the area with 95% reliability for each coverage area.

29.1.2. Proposals shall specify or provide the coverage as a percent of the total area of Scott County and the Iowa and Illinois Quad Cities (metro area) assuming 95% reliability using TSB-88C design procedures for the Primary proposal.

29.1.3. TSB-88C makes the following recommendations for in-building tests.

a) Residential building (single/2 story family) Single test in center of ground floor.

b) Small commercial building (single story, open floor plan). Five test locations, one in each corner and one in center.

29.1.4. It appears that tests are limited to the ground floor for scoring purposes. The number of tests increase based on the size of the building. If more than 50% of the locations are good the building passes.

29.1.5. Proposals shall specify or provide the coverage as a percent of the total area of Rock Island County assuming 95% reliability using TSB-88C design procedures if Rock Island County does not Opt Out of the project.

29.1.6. Respondents shall design their systems utilizing optimized site locations to support, the coverage requirements thus providing for a balanced talk-out and talk-back performance using portable radios on the hip.

29.1.7. Proposed system shall provide radio system solutions to provide coverage as follows:

a) Mobile coverage to all service areas plus one mile beyond the Scott County Iowa border and 1 mile beyond the Illinois Quad Cities boundary assuming a BER ≤2.0% and DAQ of 3.4 with a ¼ wave antenna mounted on the roof of an SUV with a lightbar.

b) Outdoor portable coverage one mile beyond the Scott County Iowa border and 1 mile beyond the Rock County boundary with the radio system providing portable outdoor coverage with a BER ≤2.0% and DAQ of 3.4 or better to a portable worn on the belt without an antenna-microphone.

c) Residential in-building (max 8 dB building loss) portable coverage within the borders of Scott County Iowa and Rock Island County

boundary with the radio system providing portable indoor coverage with a BER ≤2.0% and DAQ of 3.4 or better to a portable worn on the belt without an antenna-microphone.

d) Small commercial in-building (max 15 dB building loss) portable coverage within the border of any Scott County or Rock Island County metropolitan area with a population of 500 or more with the radio system providing portable indoor coverage with a BER ≤2.0% and DAQ of 3.4 or better to a portable worn on the belt without an antenna-microphone.

e) If Rock Island County elects to opt out of the project, the following changes to coverage would be expected:

- All coverages as described in "a) - d)" above remain the same for Scott County
- The one-mile boundary described in "a" changes to one-mile beyond the defined Rock Island metro areas.
- The residential and small commercial building coverage in Rock Island County is no longer a requirement.

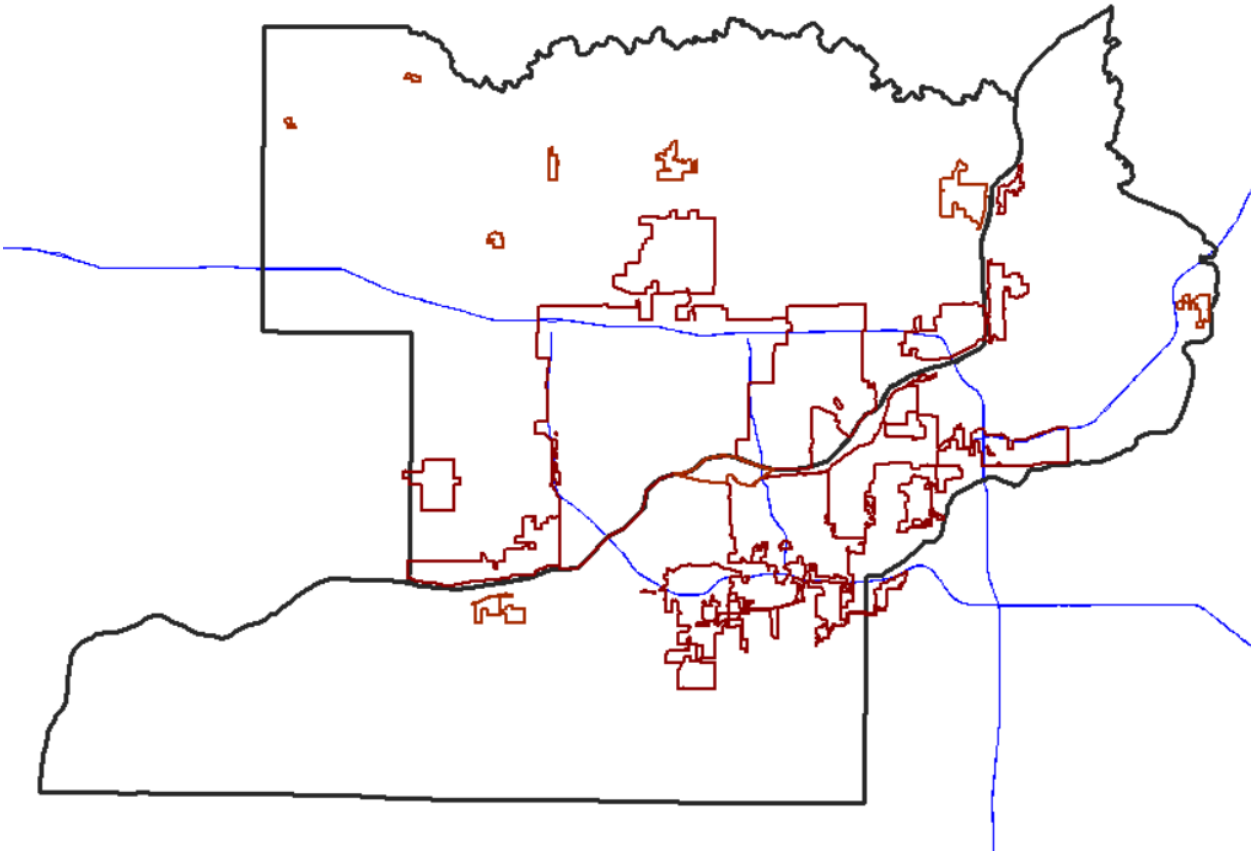
29.2. REMEDY FOR FAILED COVERAGE

29.2.1. After final drive testing, if the coverage does not meet or exceed the specified and predicted coverage the vendor shall provide all remedies to meet the specified coverage at the Radio System Contractor's cost.

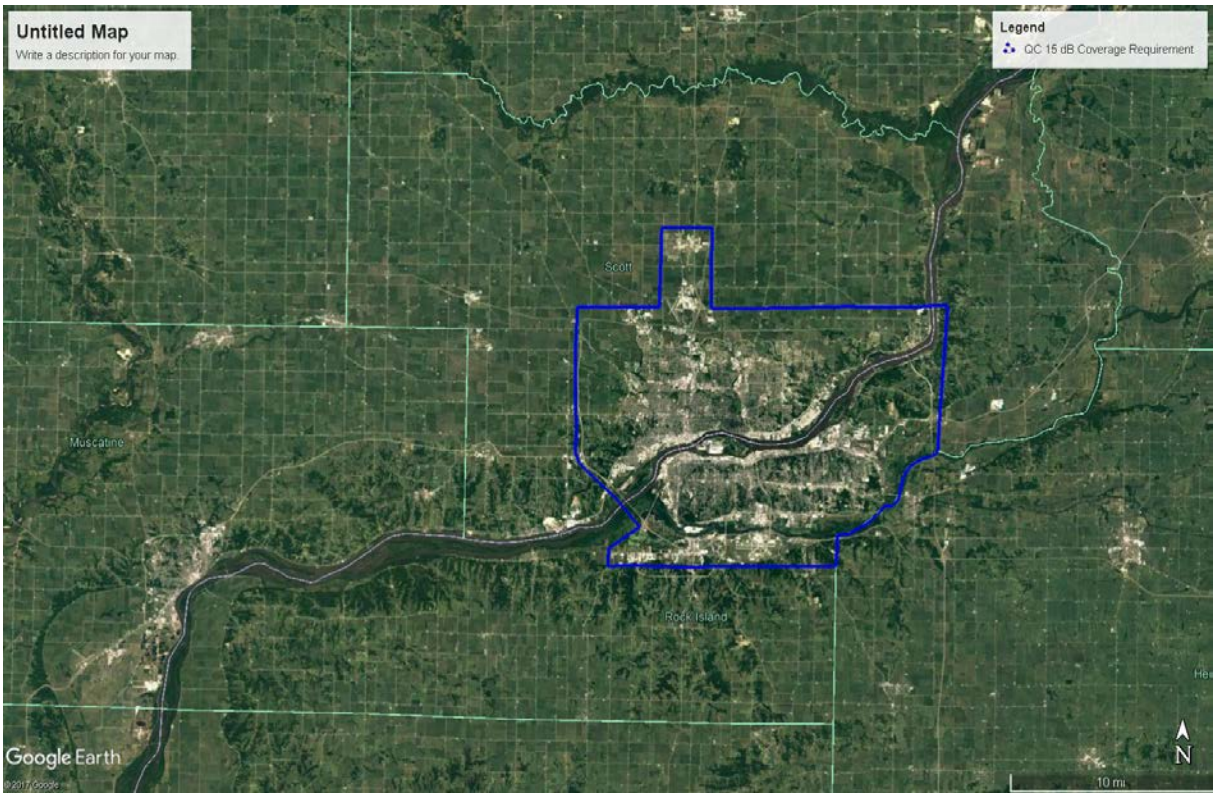
29.2.2. In-building audio testing, if the coverage does not meet or exceed the specified and predicted coverage the vendor shall provide all remedies to meet the specified coverage at the Radio System Contractor's cost.

29.3. COVERAGE BOUNDARY MAPS AND METRO AREAS OVER 500 PERSONS

29.3.1. *Scott County and Rock* Island *County Boundary Map*



29.3.2. *Quad Cities Metro Area boundary map:*



29.3.3. *Metro Areas Exceeding 500 Persons*

County	Name	Type	Population
Rock Island	**Moline**	City	**43,483**
Rock Island	**Rock Island**	City	**39,018**
Rock Island	**East Moline**	City	**21,302**
Rock Island	**Silvis**	City	**7,479**
Rock Island	**Milan**	Village	**5,099**
Rock Island	**Coal Valley**	Village	**3,743**
Rock Island	**Carbon Cliff**	Village	**2,134**
Rock Island	**Hampton**	Village	**1,863**
Rock Island	**Port Byron**	Village	**1,647**
Rock Island	**Andalusia**	Village	**1,178**
Rock Island	**Rapids City**	Village	**959**
Rock Island	**Cordova***	Village	**672**
Rock Island	**Oak Grove**	Village	**607**
Rock Island	**Reynolds***	Village	**539**
Rock Island	**Hillsdale***	Village	**523**
	*** - County of Rock Island coverage only**		
Scott	**Davenport**	City	**99,685**
Scott	**Bettendorf**	City	**33,217**
Scott	**Eldridge**	City	**5,651**
Scott	**Le Claire**	City	**3,765**
Scott	**Park View**	CDP	**2,389**
Scott	**Durant**	City	**1,832**
Scott	**Walcott (partially in Muscatine County)**	City	**1,629**
Scott	**Blue Grass (partially in Muscatine County)**	City	**1,452**
Scott	**Buffalo**	City	**1,270**
Scott	**Princeton**	City	**886**
Scott	**Long Grove**	City	**808**

29.4. COVERAGE TESTING SUMMARY

29.4.1. Two (2) types of tests will be used to demonstrate system coverage performance.

29.4.2. The first is an automated test using a vehicle to drive through predetermined grids collecting sufficient data to offer statistically significant results which means the metro area and rural areas will be tested with different sized grid or tiles.

a) An automated test system will be created to determine if mobiles and portables operating outdoors, portables in residential indoors and portables indoors in small commercial buildings meet coverage criteria.

b) The testing shall be conducted concurrently with four (4) radios using selected pads to simulate the four conditions and a documentation system measuring GPS coordinates, bit error rate (BER) and received signal strength indicator (RSSI) data from each test radio associated with each of the four coverage requirements listed under Sections 27.1.3.

29.4.3. The second test will be that of subjective audio testing of multiple buildings where test teams enter about 100 commercial and/or public buildings across the area of coverage and perform voice testing with the dispatch console in both directions, talk out and talk in.

29.4.4. Test results of each shall be collected and offered to the **OWNER** for review and validation of the system design performance.

a) For automated testing a minimum of 95% of the area for each level of coverage (mobile, portable outdoor, 8dB portable indoor and 15dB portable indoor) must be achieved to pass.

b) For subjective testing 95% of the selected buildings as stated in APPENDIX 6 – Building List for Voice Testing that comply with the building attenuation requirement must be achieved to pass.

29.4.5. Respondents shall include a description of the intended test plan that measures and documents coverage for each coverage requirement listed under this section.

29.5. COVERAGE TESTING – AUTOMATED COVERAGE PERFORMANCE TEST DETAIL

29.5.1. Proposals shall specifically provide the results of the coverage test as a percent of the total area of each of the following specific areas at 95% reliability using TSB-88C testing procedures:

a) Quad Cities Metro Area

b) Scott County (not including Metro area)

c) Rock Island County (if County does not elect to Opt Out)

d) Results to show: Mobile, Outdoor Portable, Indoor Residential Portable and Indoor Small Commercial Portable

29.5.2. Automated Testing Criteria and Report

a) Testing procedures shall follow TIA TSB-88.3c methodologies for land mobile radio (LMR) systems.

b) 95% of the area tested with a BER <2% is required to pass.

c) The test antenna system will be attenuated to recreate a signal representing a portable on the hip (no speaker microphone antenna) will encounter and show calculations as follows:

   a. Test vehicle system antenna gain
   b. In-building penetration >15 dB within the metro areas
   c. In-building penetration >8dB) throughout County
   d. Outdoor portable coverage
   e. Mobile coverage
   f. >95% Reliability margin
   g. Body loss
   h. Portable antenna loss
   i. Fading margin
   j. ≤95% Confidence factor

d) Any areas not assessable within the service area will not be used in the coverage percentage calculation, thus not considered a pass or a fail.

e) After final drive testing if any coverage area does not meet or exceed the specified and predicted coverage the vendor shall provide any and all remedies to meet the specified coverage at their cost.

f) The results of testing shall provide documentation representing the performance for each area of coverage as stated in Section 29.1.7.

g) All testing equipment including, but not limited to radios, computers, GPS receivers, RF attenuators, antennas, etc., are to be provided by Contractor.

h) All personnel, with exception of the driver, needed for testing will be provided by the successful vendor.

i) The quantity of tiles/grids required for automated testing will be calculated for each test and based on the area for each coverage type as stated in Section 29.1.7.

j) County Area Testing - The minimum number of grids or tiles for test areas (mobile, portable outdoor and 8dB portable indoor) will be based on a Confidence Level of 99%, a Service Area Reliability of 97% and a Sampling Error Allowance of 0.75%.

k) Metro Area Testing - The minimum number of grids or tiles for 15dB in-building areas will be based on a Confidence Level of 99%, a Service Area Reliability of 97% and a Sampling Error Allowance of 1.5%.

l) The tile/grid size for mobile, portable outdoor and 8dB portable indoor will be identical.

m) The tile size for 15dB buildings will be used for any area meeting the properties of Section 29.3.3.

n) The drive test report will include maps which depict the BER % for portable operation for the P25 system measured during drive testing.

o) The drive test report will provide the percentage of area that meets the minimum criteria for P25 portable operation.

29.5.3. Subjective Testing Criteria and Report

a) Indoor testing will be completed in about 100 commercial and/or public buildings across the area of coverage.

b) The buildings to be tested are found in APPENDIX 8– BUILDING LIST FOR VOICE TESTING on page 172.

c) Valid buildings are building where their external walls offer no more than 8dB or 15dB of loss between the outside and inside at hip level.

d) Testing will be completed with actual random voice phrases using a DAQ measurement scheme as per TSB-88.

e) Testing will be completed by a three-person teams with one team in dispatch and one or more field teams consisting of at least one person from **OWNER** agency using radios, and one representative of the Contractor and the **OWNER's** consultant.

    a) The team will go to the buildings and areas identified conducting a test on the outside and then 4-5 random locations within 20 feet of the entrance inside the building whereby at least 50% of the locations pass a DAQ 3.4 test routine.

    b) Each test location shall be a minimum of 6 paces apart.

    c) If multiple floors then each above the ground floor will be tested

    d) Any desired testing below ground level floor will be conducted for information-only

f) Suggested Testing Protocol:

    a) **OWNER** personnel will operate the radio and the Contractor team member will document the results of the tests.

    b) Roles may be reversed one or more times during the testing activity but not at any single location.

    c) When arriving at a location an RSSI level is taken on the street and documented.

d) Depending on the building or location the number of tests to be completed at each will be determined in advance with a large building possibly requiring several test areas.

e) Teams will initiate contact with the dispatcher and receive a response.

f) The field team and the dispatcher exchange messages using a random selection of scripts ensuring each end understands exactly what was transmitted.

g) Representatives of each team will provide subject input on the understandability of the message received.

h) Opinions will be documented by the team for each transmission at each location.

i) Any majority of positive opinions passes.

j) If two or more persons are not able to understand a second transmission will be attempted at any point within 20 feet of the original transmission. If successful the area passes and the team moves to the next area.

k) If a third transmission is required another point for transmission is chosen and a new test made. The results of the test are documented and the team moves to the next area.

l) Copies of the data will be made and distributed to the **OWNER**, Contractor and the Consultant.

m) All data will be entered by the Contractor into a spread sheet for later integration into a final report.

n) Any area/location for which the difference in outdoor and indoor RSSI reading is found to exceed the indoor attenuation level (8 or 15 dB associated loss) will be identified in a report of the findings with these buildings removed from the list and thus not be calculated into the final results of the test.

o) The Contractor will provide a report of the indoor testing indicating an estimate of the recommended solution for improving coverage in these areas and these buildings.

29.6. PAGING SYSTEM COVERAGE

29.6.1. The Proposer will provide the anticipated signal levels, RSSI for the analog paging system, as criteria for testing based on their system design in their response.

29.6.2. A formula and a sample calculation shall be provided for the signal level at the antenna of the test vehicle that will equate to a minimum pager signal level.

29.6.3. The vendor will measure and document the outdoor signal measurements using 15 dB or 8 dB building penetration employing the losses and the associated RSSI for each test to document portable coverage.

29.6.4. The drive test report will include maps which depict the RSSI level for the paging system measured during drive testing.

29.6.5. The drive test report will provide the percentage of area that meets the minimum criteria for paging operation.

END OF SECTION

30. PRELIMINARY ACCEPTANCE

30.1. PRELIMINARY ACCEPTANCE OF RADIO SYSTEM

The following steps are required to be completed by the Contractor to obtain preliminary acceptance of the radio system:

30.1.1. Coverage Testing successfully completed and results accepted by **OWNER.**

30.1.2. Inspection and inventory of all equipment and inspection of the installation of all system equipment.

30.1.3. All equipment must be installed per the specifications.

30.1.4. All site equipment and user equipment will be inventoried against the purchase orders with model and serial numbers of equipment supplied in an electronic searchable list supplied by the contractor.

30.1.5. Each repeater and associated site equipment will be inspected for proper installation with any items found deficient with either the inventory or inspection will be added to a punch list.

30.1.6. The punch list of items must be cleared before the inspection is designated complete and equipment is accepted.

30.1.7. The tests described below may proceed while punch list items are being cleared if those punch list items do not prevent any of the tests from taking place.

30.1.8. Exceptions include code/safety violations, grounding issues and improper antenna mounting which shall be completed properly before any further acceptance verifications continue.

30.2. SATISFACTORY COMPLETION OF ENTIRE SYSTEM OPERATION

30.2.1. Assuming all system and subsystems are ready for use and testing is satisfactorily completed then the radio system is ready to begin the 30-day readiness test.

30.2.2. In this 30-Day Readiness test is commonly completed by a non-public safety department moving to daily operations by cutting over onto the new system and thus will conduct its daily business use allowing further testing and operational verification.

30.2.3. The department will be expected to report any issues discovered allowing the Contractor time to correct utilizing a method of problem tracking to be determined during the routine management of the project.

30.2.4. Deficiencies will be cataloged as minor, major and catastrophic.

a) See failure definitions in Section 4.1.

30.2.5. For each type of failure, the following action is expected to be the result:

a) Minor – The 30-day clock will continue assuming the failure is fixed and the operator can resume normal functionality within 24 hours.

b) Major – The 30-day clock will stop and not restart until the fix is complete and the entire radio system is back to normal operation.

c) Catastrophic – The 30-day clock will start over once the failure has been fixed and the entire radio system is back to normal operation.

30.2.6. All failures must be logged and follow up by the Contractor will provide a written report as to how each failure was returned to normal operation.

30.2.7. The failure log will be reviewed before moving on the next step, that of full cutover of all system users.

END OF SECTION

31. MIGRATION TO P25 RADIO SYSTEM AND UPGRADED PAGING

31.1. P25 MIGRATION PLAN

31.1.1. The proposer shall develop and present a summary plan for migration to the planned P25 trunked radio system and specifically address how the migration will affect users based on the frequency plan offered.

31.1.2. The Contractor shall expand upon the migration plan offered in the proposal and in detail create a step by step approach for the migration specifically describing how interoperability will be established with the present EDACS radio system until plan is complete.

31.2. PAGING MIGRATION PLAN

31.2.1. The proposer shall develop and present a summary plan for migration to the planned paging system upgrade and specifically address how the migration will affect users based on the frequency plan and solution offered.

31.2.2. The Contractor shall expand upon the migration plan offered in the proposal and in detail create a step by step approach for the migration specifically describing how interoperability will be established with the present paging system until plan is complete.

END OF SECTION

32. SUBSCRIBER RADIOS, CONTROL STATIONS AND DIGITAL VEHICULAR REPEATERS

32.1. GENERAL

32.1.1. Scott County currently operates all the public safety agencies in the county on the EDACS radio system while mainly the metro areas in Rock Island County use this system. A detailed inventory of each subscriber type and frequency band can be found in Appendix 5. Upgrading any capable existing subscriber units for operation on the P25 radio network where possible is anticipated. The following are current inventory summaries of the overall quantities for each type of subscriber unit per County.

COUNTY	PORTABLES	MOBILES	CONTROL STATIONS
Scott	1010	392	62
Rock Island	729	370	78

32.1.2. Public works and other service agencies are also system subscribers and anticipated to migrate to the proposed system, but are not included in the overall estimations. Unit pricing for low tier model equipment shall be provide for those anticipated needs.

32.1.3. Standard field terminal configuration specifications for mobiles, portables and control stations include 700/800 MHz band, and (dual band) 700/800 MHz and VHF radios. These configurations will include all radio styles needed by the County and are found in sections 32.2, 32.4 and 32.5 found below.

32.1.4. Pricing for the standard configurations will be inserted into the Standard Field Terminal Configurations section of the Pricing Matrix

32.1.5. Quantities listed in configuration tables in this section are estimated quantities for each model type. Agencies will determine the tier radio to purchase based on the features of each tier model offered in the awarded vendor's proposal.

32.1.6. It is anticipated field units will be programmed to operate on County frequencies and 700/800 MHz National Calling channels and if multiband radios are employed VHF County frequencies, State VHF frequencies and VHF National Calling Channels as well.

32.1.7. Complete subscriber frequency and feature programming of all units will be performed by the Contractor to the owner's approved setup.

32.1.8. Various departments will require encryption operation of channels and talkgroups. Public Safety field terminal units will be AES encryption capable.

32.1.9. Encrypted communications will be in the P25 digital mode using single key AES.

32.1.10. Three (3) KVL loaders will be provided with one for Scott County, one for Rock Island County and a third for the MEG team.

32.2. NEW MOBILES STANDARD 700/800 MHZ - P25

32.2.1. The Contractor will provide a price for programming of each of the radio models two (2) times. The quantity of each model anticipated to be purchased is stated on the left margin of the tables in this section.

32.2.2. Mobile radio pricing shall include a standard vehicle antenna kit of the proposed model radio.

32.2.3. The following tables will detail the specification of the requested mobile radio type and the estimated quantity that is requested as part of this RFP.

32.3. ANTICIPATED MOBILE INSTALLATION TYPES

32.3.1. Installation of mobile equipment will be priced per the anticipated types found in the following tables.

32.3.2. Mobiles will be installed in various Law, Fire and EMS vehicles used throughout Scott County and Rock Island County.

32.3.3. All mobiles are anticipated to be remote mount installation with control heads for public safety vehicles.

32.3.4. Removal of existing mobile radio equipment should be included.

32.3.5. Installation pricing shall be based on the following installation types.

a) Remote/Trunk Mount, Control Head - Squads

b) Remote/Trunk Mount, Control Head - Fire Apparatus, EMS

c) Remote/Trunk Mount, Dual Control Head - Fire Apparatus, EMS

Quantity		**Law Enforcement**
45		700/800 MHz – VHF (**multiband**) P25 Trunking High-Tier Mobile Radio

- Remote/Trunk Mount
- VHF - 136 MHz to 174 MHz
- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/15/20/25/30 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Operational from -30° to +60°C
- MIL-STD 810 C, D, E, F & G for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output
  - ≥ 50 W VHF
  - ≥ 30 W 700/800 MHz
- Conducted Emissions
  - VHF ≥ -85 dBc
  - 700/800 MHz ≥ -75 dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity
  - VHF ≥ -70dB
  - 700/800 MHz ≥ -65dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER
  - VHF ≤ -120 dBm
  - 700/800 ≤ -122 dBm
- ≥ 10 watt Audio Output Power
- Encryption (AES)
- GPS Optional

Quantity		**Fire / EMS**
31		700/800 MHz – VHF (**multiband**) P25 Trunking High-Tier Mobile Radio

700/800 MHz – VHF (**multiband**) P25 Trunking High-Tier Mobile Radio

- Remote/Trunk Mount
- VHF - 136 MHz to 174 MHz
- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/15/20/25/30 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Operational from -30° to +60°C
- MIL-STD 810 C, D, E, F & G for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output
  - ≥ 50 W VHF
  - ≥ 30 W 700/800 MHz
- Conducted Emissions
  - VHF ≥ -85 dBc
  - 700/800 MHz ≥ -75 dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity
  - VHF ≥ -70dB
  - 700/800 MHz ≥ -65dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER
  - VHF ≤ -120 dBm
  - 700/800 ≤ -122 dBm
- ≥ 10 watt Audio Output Power
- Encryption (AES)
- GPS Optional

Quantity		**Law Enforcement**
410		700/800 MHz P25 Trunking **High-tier** Mobile Radio

- Remote/Remote Mount
- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/20/25 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Operational from -30° to +60°C
- MIL-STD 810 C, D, E, F & G for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output ≥ 30 W
- Conducted Emissions ≥ -75 dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity ≥ -65dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm
- ≥ 10 watt Audio Output Power
- Encryption (AES)

Quantity		**Fire / EMS**
55		700/800 MHz P25 Trunking **High-tier** Mobile Radio
		• Remote/Remote Mount • 700/800 – 762 MHz to 870 MHz (per FCC band plan) • 10.8 – 16.0 VDC • ± 1.5 ppm Frequency Stability • Channel Spacing – 12.5/20/25 kHz • Channel Increment – 2.5/6.25 kHz • ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels • Operational from -30° to +60°C • MIL-STD 810 C, D, E, F & G for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock • RF Power Output ≥ 30 W • Conducted Emissions ≥ -75 dBc • Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog) • 12.5 kHz selectivity ≥ -65dB • Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm • ≥ 10 watt Audio Output Power • Encryption (AES)

Quantity		**Fire / EMS**
221		700/800 MHz P25 Trunking **Mid-tier** Mobile Radio
		• Remote/Remote Mount • 700/800 – 762 MHz to 870 MHz (per FCC band plan) • 10.8 – 16.0 VDC • ± 1.5 ppm Frequency Stability • Channel Spacing – 12.5/20/25 kHz • Channel Increment – 2.5/6.25 kHz • ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels • Operational from -30° to +60°C • MIL-STD 810 C, D, E, F & G for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock • RF Power Output ≥ 30 W • Conducted Emissions ≥ -75 dBc • Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog) • 12.5 kHz selectivity ≥ -65dB • Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm • ≥ 10 watt Audio Output Power • Encryption Capable (AES)

Quantity		**Public Work/Service**
0		700/800 MHz P25 Trunking **Low-tier** Mobile Radio
		• Dash Mount • 700/800 – 762 MHz to 870 MHz (per FCC band plan) • 10.8 – 16.0 VDC • ± 1.5 ppm Frequency Stability • Channel Spacing – 12.5/20/25 kHz • Channel Increment – 2.5/6.25 kHz • ≥ 3 Zones, ≥16 Talk Groups per Zone, ≥ 48 channels • Operational from -30° to +60°C • MIL-STD 810 C, D, E, F & G for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock • RF Power Output ≥ 30 W • Conducted Emissions ≥ -75 dBc • Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog) • 12.5 kHz selectivity ≥ -65dB • Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm • ≥ 10 watt Audio Output Power

32.4. NEW PORTABLES STANDARD 700/800 MHZ - P25

32.4.1. Users of portable radios will be from Public Safety, Public Service and Public Works agencies within Scott County and Rock Island County.

32.4.2. The Contractor will provide a price for programming of each of the above radio models two (2) times. The approximate quantity of mobiles and portables employed by users in the tables found in Appendix 5.

32.4.3. Scott County and Rock Island County Sheriff and all Police users desire encryption for use on some talk groups.

32.4.4. Encrypted communications will be in the P25 digital mode using single key AES.

32.4.5. The following tables will detail the quantity and portable radio performance parameters requested as part of this RFP.

Quantity		Law Enforcement
93		700/800 MHz – VHF (**multiband**) P25 Trunking High-Tier Portable Radio

- VHF - 136 MHz to 174 MHz
- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- Weight ≤ 24 oz.
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/15/20/25/30 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Top Display (1 X 8 character minimum)
- Front Display (4 X 12 character minimum)
- Operational from -30° to +60°C
- Duty Cycle
- 5% Transmit, 5% Receive, 90% STBY for 8 Hours
- MIL-STD 810 C, D, E & F for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output
  - ≥ 5 W VHF
  - ≥ 2.5 W 700/800 MHz
- Conducted Emissions ≥ -75dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity ≥ -60dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm
- Spurious & Image Rejection 80dB
- Noise Canceling Internal Microphone Technology
- ≥ 1 W Audio Output
- Battery Life ≥ 10 hours
- Intrinsically Safe
- Encryption (AES)
- GPS Optional
- Bluetooth

Quantity		Fire / EMS
81		700/800 MHz – VHF (**multiband**) P25 Trunking High-Tier Portable Radio

Multiband (VHF – 700/800 MHz) P25 Trunking Portable Radio

- VHF - 136 MHz to 174 MHz
- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- Weight ≤ 24 oz.
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/15/20/25/30 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Top Display (1 X 8 character minimum)
- Front Display (4 X 12 character minimum)
- Operational from -30° to +60°C
- Duty Cycle
- 5% Transmit, 5% Receive, 90% STBY for 8 Hours
- MIL-STD 810 C, D, E & F for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output
  - ≥ 5 W VHF
  - ≥ 2.5 W 700/800 MHz
- Conducted Emissions ≥ -75dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity ≥ -60dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm
- Spurious & Image Rejection 80dB
- Noise Canceling Internal Microphone Technology
- ≥ 1 W Audio Output
- Battery Life ≥ 10 hours
- Intrinsically Safe or Listed to the standards ANSI/TIA 4950-A
- Encryption Capable (AES)
- GPS Optional
- Bluetooth

Quantity		Law Enforcement
832		700/800 MHz P25 Trunking **High-Tier** Portable Radio

- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- Weight ≤ 24 oz.
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/20/25 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Top Display (1 X 8 character minimum)
- Front Display (4 X 12 character minimum)
- Operational from -30° to +60°C
- Duty Cycle
- 5% Transmit, 5% Receive, 90% STBY for 8 Hours
- MIL-STD 810 C, D, E & F for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output ≥ 2.5 W 700/800 MHz
- Conducted Emissions ≥ -75dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity ≥ -60dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm
- Spurious & Image Rejection 80dB
- Noise Canceling Internal Microphone Technology
- ≥ 1 W Audio Output
- Battery Life ≥ 10 hours
- Encryption (AES)
- GPS Optional
- Bluetooth

Quantity		Fire / EMS
147		700/800 MHz P25 Trunking **High Tier** Portable Radio

- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- Weight ≤ 24 oz.
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/20/25 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Top Display (1 X 8 character minimum)
- Front Display (4 X 12 character minimum)
- Operational from -30° to +60°C
- Duty Cycle
- 5% Transmit, 5% Receive, 90% STBY for 8 Hours
- MIL-STD 810 C, D, E & F for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output ≥ 2.5 W 700/800 MHz
- Conducted Emissions ≥ -75dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity ≥ -60dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm
- Spurious & Image Rejection 80dB
- Noise Canceling Internal Microphone Technology
- ≥ 1 W Audio Output
- Battery Life ≥ 10 hours
- Intrinsically Safe or Listed to the standards ANSI/TIA 4950-A
- Encryption Capable (AES)
- GPS Optional
- Bluetooth

Quantity		Fire / EMS
586		700/800 MHz P25 Trunking **Mid Tier** Portable Radio

- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- Weight ≤ 24 oz.
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/20/25 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 16 Zones, ≥16 Talk Groups per Zone, ≥ 500 channels
- Top Display (1 X 8 character minimum)
- Front Display (4 X 12 character minimum)
- Operational from -30° to +60°C
- Duty Cycle
- 5% Transmit, 5% Receive, 90% STBY for 8 Hours
- MIL-STD 810 C, D, E & F for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output ≥ 2.5 W 700/800 MHz
- Conducted Emissions ≥ -75dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity ≥ -60dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm
- Spurious & Image Rejection 80dB
- Noise Canceling Internal Microphone Technology
- ≥ 1 W Audio Output
- Battery Life ≥ 10 hours
- Intrinsically Safe or Listed to the standards ANSI/TIA 4950-A
- Encryption Capable (AES)
- GPS Optional

Quantity		Public Works/Service
0		700/800 MHz P25 Trunking **Low Tier** Portable Radio

- 700/800 – 762 MHz to 870 MHz (per FCC band plan)
- 10.8 – 16.0 VDC
- Weight ≤ 24 oz.
- ± 1.5 ppm Frequency Stability
- Channel Spacing – 12.5/20/25 kHz
- Channel Increment – 2.5/6.25 kHz
- ≥ 3 Zones, ≥16 Talk Groups per Zone, ≥ 48 channels
- Front Display (4 X 12 character minimum)
- Operational from -30° to +60°C
- Duty Cycle
- 5% Transmit, 5% Receive, 90% STBY for 8 Hours
- MIL-STD 810 C, D, E & F for Pressure, Temperature, Rain, Humidity, Salt Fog, Blowing Dust, Vibration, Shock
- RF Power Output ≥ 2.5 W 700/800 MHz
- Conducted Emissions ≥ -75dBc
- Mixed protocol operation (Trunking, P25 Phase 1 &2, FM Analog)
- 12.5 kHz selectivity ≥ -60dB
- Digital Sensitivity (TIA/EIA 102) for 5% BER ≤ -119 dBm
- Spurious & Image Rejection 80dB
- Noise Canceling Internal Microphone Technology
- ≥ 1 W Audio Output
- Battery Life ≥ 10 hours

32.5. CONTROL STATIONS STANDARD 700/800 MHZ - P25

32.5.1. The County has numerous fixed locations where control stations shall be employed.

32.5.2. Most control stations are anticipated to use the same model mobile station radio used by the agency in the field.

32.5.3. Each dispatch console position will have control stations that operate on 700/800 MHz for backup communications to Scott County and Rock Island County field units. These units will use the same model radio as the high tier mobile radio unit and equipped with a remote-control head allowing the radio RF section to be in the PSAP equipment room.

32.5.4. Backup dispatch control stations will be equipped with single key AES encryption.

32.5.5. RF control stations will not be installed in dispatch – only control heads to eliminate possible interference. RF equipment will be installed in the associated equipment room. These stations will be equipped with mobile microphones and external speakers and operate independent of the radio console equipment.

32.5.6. RF specifications for in-field control stations will be identical to the high-tier mobile units.

32.5.7. Any in-field control stations will consist of a dash mount radio, desk tray (power supply/speaker/stand) and desk microphone. Antenna systems and installation for control stations will be provided in the proposal.

32.5.8. The following is a table to indicate the location and quantity of each type of control/base station radio:

Quantity	Description	Location
35	High-tier 700/800 MHz Backup Control Stations operated via control head	Scott County main and backup PSAP
13	High-tier 700/800 MHz Backup Control Stations operated via control head	Rock Island PSAPs (RICOMM, QCOMM)
140	High-tier 700/800 MHz Control Station operated via control head	Various County Locations
3	High-tier 700/800 MHz Backup Control Stations operated via control head	ALTERNATE - Rock Island County (RICO)

32.6. DIGITAL VEHICULAR REPEATER SYSTEM STANDARD 700/800 MHZ P25

32.6.1. Two (2) each digital vehicular repeater systems (DVRS) in a hard travel case configuration are required; one for Scott County and one for Rock Island County.

32.6.2. P25 meta data as created by the subscriber units such as User ID, Emergency, etc. shall be sent through the DVRS via the uplink to the P25 radio system.

32.6.3. If a 2nd, 3rd, 4th, etc. DVRS were to arrive on scene, the operating DVRs and their interface to the P25 infrastructure will not be negatively affected.

32.6.4. Specifications

800 MHz Vehicular Repeater Specifications

GENERAL	SPECIFICATION
Style/Configuration	Hard Travel Case
Operating Temperature Range	-15C to +50C
Input Voltage	13.8 VDC +/- 10%
Input Current (RX / TX Full Power)	4A / 15A
Antenna Impedance (ohms)	50
External RF Connector	N Female
TRANSMITTER	
TX Frequency Range (MHz)	764-776, 851-869
RX to TX Frequency Offset (MHz)	30 (700 MHz), 45 (800 MHz)
Channel Spacing (kHz)	12.5
TX Output Power (W)	0.25 to 4
TX Spurious Output	-20dBm
Frequency Stability	+/- 1.5ppm
FM Hum & Noise (12.5 kHz /25 kHz)	37 dB / 43 dB
Audio Distortion	<2%
RECEIVER	
RX Frequency Range (MHz)	794-824
Receive Sensitivity	-115 dBm
Selectivity (12.5/25 kHz)	60 dB / 75 dB
Intermodulation	70 dB
FM Hum & Noise (12.5 kHz /25 kHz)	37 dB / 43 dB
Audio Distortion	<2%

ENVIRONMENTAL		
Standard	**Parameter**	**Method**
MIL-STD-810E	Low Pressure	500.3 PI, PII
MIL-STD-810E	High Temperature	501.3 PI, PII
MIL-STD-810E	Low Temperature	502.3 PI, PII
MIL-STD-810E	Temperature Shock	503.3 PI
MIL-STD-810E	Solar Radiation	505.3 PII
MIL-STD-810E	Blowing Rain	506.3 PI
MIL-STD-810E	Humidity	507.3 PII
MIL-STD-810E	Salt Fog	509.3 PI
MIL-STD-810E	Blowing Dust	510.3 PI
MIL-STD-810E	Min Integrity Vibration	514.4 PI, Cat. 10
MIL-STD-810E	Functional/Basic Shock	516.4 PI
MIL-STD-810E	Transit Drop	516.4 PII
TIA/EIA-603-A	Vibration Stability	Par 2.3.4 & 4.3.4
TIA/EIA-603-A	Shock Stability	Par 2.3.5 & 3.3.5
U.S. Forest Service	Vibration	Par 7.15

END OF SECTION

33. DOCUMENTATION REQUIREMENTS

33.1. PRELIMINARY SYSTEM DESIGN DOCUMENTATION

A preliminary system design document shall be produced for **OWNER** prior to acceptance of the design which shall serve as the first system document.

This preliminary document shall include:

33.1.1. A global list of major elements of the proposed system with model/manufacturer, quantities

33.1.2. Planned location of elements

33.1.3. Block diagrams

33.1.4. Coverage expectations

33.1.5. Preliminary microwave paths

33.1.6. Preliminary antenna heights and types thus defining tower load/use

33.1.7. How design is expected to meet **OWNER** requirements

33.1.8. Preliminary schedule.

33.2. DETAILED DESIGN DOCUMENTATION

33.2.1. Upon completion of the detailed design the Contractor shall produce and supply an updated set of documents with drawings which are expected to be utilized for construction of the system.

33.2.2. The Contractor shall provide a detailed parts list of all components/sub-systems including radio system, microwave system, alarm system, and DC power system.

33.2.3. Detailed Design to be presented preliminary to OWNER with complete information to Consultant for review and comment.

33.2.4. Detailed Design to be presented in a face to face meeting for OWNER with a Power Point and handouts such as to inform OWNER of intended plan of action moving forward.

33.2.5. This information as supplied will be utilized by OWNER consultants and engineers to develop/modify sites to meet requirements.

33.2.6. All supplied documentation will be memorialized in the resulting change order at this step in the process.

33.3. FACTORY ACCEPTANCE TESTING

33.3.1. Prior to shipment from the factory all radio system major system components shall be assembled and interconnected to allow for a complete test of the system. A routine shall be completed and offered to OWNER and their consultant prior to the test that outlines the planned tests to be completed.

33.3.2. The factory acceptance test shall be open for attendance by OWNER staff and the consultant to addend and take an active role in the verification of operation of the critical capability of the system.

33.3.3. At the successful completion of the factory testing it is understood the Consortium will be expected to complete a sign-off of this phase and the system will then be shipped to an assigned holding area for installation.

33.4. COVERAGE TESTING DOCUMENTATION

33.4.1. The Contractor shall supply a document describing the specified detailed setup of testing equipment providing a simulation of the required radio operation being provided.

33.4.2. The Contractor shall supply documentation detailing the results of coverage testing.

33.5. FINAL DOCUMENTATION

Two complete sets of equipment manuals shall be kept and organized in three-ring binders for the system. Any modifications to the standard equipment shall be fully documented with descriptions and drawings.

33.5.1. The Contractor shall develop a quick reference guide covering normal system and user equipment operation and basic troubleshooting procedures including the operation of the management terminal if one is offered.

33.5.2. The Contractor shall compile a set of as-built drawings showing all equipment interconnections and test results of audio circuits, RF circuits, antenna system reflected and forward power.

33.5.3. All construction drawings for all sites shall have their red lines incorporated into the final drawings as a part of the documentation.

33.5.4. All test results of audio circuits, RF circuits, power, alarms and antenna systems.

33.5.5. A complete database of all IP addresses, equipment logins, and passwords shall be supplied for all equipment.

33.5.6. A complete list of all software licenses, dates of renewal and ownership.

33.5.7. Microwave path studies.

33.5.8. RF Exposure Calculations

33.5.9. Rack layouts and equipment locations.

33.5.10. DC Power system design and implementation drawings.

33.5.11. A complete list/drawing of all equipment showing network switches and routers with their ports assignments and associated IP addresses (where appropriate).

33.5.12. An updated coverage projection of final design network and test results of drive test.

33.5.13. Documentation of spare parts and where they are stored.

33.5.14. A completed inventory of all provided equipment with model and serial numbers shall be offered both on paper and electronically in an Excel spreadsheet.

33.5.15. Copy of all sign-off documents.

33.5.16. Final updated fleet mapping and subscriber radio channel assignments.

33.5.17. The entire final documentation set of materials shall be supplied as two paper sets, a CD/DVD for each site and one CD/DVD for the consultant.

END OF SECTION

34. FINAL SYSTEM ACCEPTANCE

Once all items above are complete, the system shall be designated as Accepted by OWNER, the Warranty period shall then begin.

END OF SECTION

35. SUBMITTAL AND SIGNATURE FORMS

35.1. PROPOSAL FORMS

Experience: List below a brief description of the organization submitting the Proposal's qualifications and experience. The description shall include: Company size, organization, legal status (corporation or partnership, etc.), major type of activity or areas of work, and its recent (past five years) experience in performing similar projects. Identify the individual(s) in your firm who are anticipated to be involved in key roles if your firm is selected and briefly explain that person's role and relevant background and experience.

35.2. REFERENCES

Provide at least five references of recent clients that have completed a similar project. The reference must include the name, telephone number, address, and email address of a person who may be contacted and who has direct knowledge of your firm's capabilities and past performance. Also include a brief description of the project, including the start and completion dates

1	Client					
	Address					
	Contact					
	Phone Number			Email		
	Project Dates	Start		End		
	Description					
2	Client					
	Address					
	Contact					
	Phone Number			Email		
	Project Dates	Start		End		
	Description					

3	Client					
	Address					
	Contact					
	Phone Number			Email		
	Project Dates	Start			End	
	Description					
4	Client					
	Address					
	Contact					
	Phone Number			Email		
	Project Dates	Start			End	
	Description					
5	Client					
	Address					
	Contact					
	Phone Number			Email		
	Project Dates	Start			End	
	Description					

35.3. NON-DEBARMENT CLAUSE

Contractor hereby certifies that neither it nor any of its principal officers or officials has ever been suspended or debarred, for any reason whatsoever, from doing business or entering contractual relationships with any governmental entity. Contractor further agrees and certifies that this clause shall be included in any subcontract of this contract.

35.4. STATEMENT OF COMPLIANCE

Contractor has carefully reviewed Scott County and Rock Island County **OWNER** required contract language, as set forth in the Request for Proposal pertaining to termination of contract, change orders, gratuities and kickbacks, non-appropriation of funds, hold harmless/indemnification, ADA compliance, insurance requirements/proof of insurance, dispute resolutions, and non-debarment, and is in full compliance with all statements and requirements. This contract language is incorporated herein by specific reference as if set forth in full. Any statements set forth in this contract document that conflict with **OWNER** contract language are superseded by **OWNER** 's required contract language.

35.5. SIGNATURE

Proposal is to be signed only by persons authorized to enter into a contract with **OWNER**.

PROPOSER TYPED NAME		COMPANY NAME
PROPOSER'S SIGNATURE		DATE
COMPANY STREET ADDRESS		COMPANY CITY/STATE/ZIP

35.6. **OWNER PURCHASED ITEMS**

To: **QCARSC** – Denise Pavlik, Director
Scott Emergency Communications Center
1100 E. 46th St.
Davenport, IA 52807

Scott County and Rock Island County County-Wide 800 MHZ P25 Trunked Radio System

DATE: _____

Owner Purchased Items Submitted by:

Firm Name:

_____

_____

Instructions for List of Owner Purchased Items

Following is the list of possible Owner Purchased Items where sales tax would not apply as these items could be purchased directly with **QCARSC** Purchase Orders.

The Owner Purchased Items and sales tax are to be included in the PROPOSED TOTAL PRICE. The cost of Owner Purchased Items and sales tax will be deducted from the Contract Sum later by Change Order.

The Owner will purchase these materials directly; therefore, sales tax will not apply and shall **not** be included in the values listed below.

This form listing the Owner Purchased Items must be submitted before Owner will issue notice to proceed.

The values listed below for the Owner-Purchased Items shall be the total cost to the Owner for the purchase of the materials, delivered to the project site. All other related costs shall be paid for by the Contractor and included in the Contract Sum, including costs for additional material required to complete the work.

Values listed below shall be the costs applicable to Base Bid Proposed Work or items offered only. The Awarded Proposer shall cooperate with the Owner in revising this list if Proposed Alternates are selected. Do not include any items for which the supplier is also the installer of the items.

The intent of the Owner-Direct Purchase Procedure is to reduce the total cost to the Owner. Proposers may utilize more or fewer Owner Purchased Items than those listed below if proposer determines that such arrangement will reduce the total cost to the Owner.

Description/Item Number	Supplier	Value w/o Tax
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
TOTAL OF ALL OWNER PURCHASED ITEMS		$

Note: Expand this section as required.	

END OF SECTION

Appendix 1 – Scott County and Rock Island County ASR Listed Tower Sites

The following table is tower structure information for Scott County and Rock Island County. This information is from the FCC Antenna Structure Registration database but may not represent all available towers in the area. Coordinates, elevation and tower height is included but should be verified prior to use if any are considered for use in the new Scott County and Rock Island County system.

Appendix 2 – Pricing Matrix

A price matrix is included with this RFP as a separate file in MS Excel format. *Vendors must include this completed pricing matrix in MS Excel format as part of their final proposals.* Alternative methods of the pricing format may also be included; however, they would supplement and not replace the required pricing matrix. Failure to provide the completed pricing matrix will result in a deduction of points.

Appendix 3 – Delivered Audio Quality (DAQ)

DAQ Delivered Audio Quality	Subjective Performance Description
1	Unusable; speech present but unreadable.
2	Understandable with considerable effort. Frequent repetition due to noise/distortion.
3	Speech understandable with slight effort. Occasional repetition due to noise/distortion.
3.4	Speech understandable with repetition only rarely required. Some noise/distortion.
4	Speech easily understood. Occasional noise/distortion.
4.5	Speech easily understood. Infrequent noise/distortion.
5	Speech easily understood.

Appendix 4 – Adjacent County and Regional Channels Interoperability with Other Public Safety Communications Systems

Interoperability solutions that anticipate the need for in-county Fire Departments to interoperate with surrounding County Fire Departments operating on VHF shall be anticipated and proposed.

The table below represents adjacent County Sheriff frequencies that may be programmed into County multiband field terminal units to provide interoperable communications with these agencies.

Organization	Neighbor	Agency	Radio Band	Frequency Information
Scott County	Cedar County, IA	Sheriff	VHF	TX/RX 151.220 MHz
		Fire	VHF	TX/RX 154.415 MHz
		Roads	VHF	TX/RX 159.2925 MHz
Scott County	Clinton County, IA	Sheriff	VHF	TX/RX 154.965 MHz
		Fire	VHF	TX/RX 154.235 MHz
		Roads	800	RACOM
Scott County	Muscatine County, IA	All Agencies	800 MHz	Starcom21 system operation
Scott County	Rock Island County, IL	Sheriff	VHF	TX/RX 159.150 MHz
		QC communities	800	RACOM
		Fire	VHF	TX/RX 154.310 MHz
		Roads	UHF	TX/RX 453.975 MHz
Rock Island County	Clinton County, IA	Sheriff	VHF	TX/RX 154.965 MHz
		Fire	VHF	TX/RX 154.235 MHz
		Roads	800	RACOM
Rock Island County	Muscatine County, IA	All Agencies	800 MHz	Starcom21 system operation
Rock Island County	Henry County, IL	Sheriff	VHF	TX/RX 154.725 MHz
		Fire	VHF	TX/RX 154.190 MHz
		Roads	UHF	TX/RX 453.750 MHz
Rock Island County	Whiteside County, IL	Sheriff	VHF	TX/RX 154.740 MHz
		Fire	VHF	TX/RX 154.190 MHz PL-67.0
		Roads	VHF	TX/RX 156.180 MHz PL-203.5
		EMS	VHF	TX/RX 155.235 MHz
		Colona PD	VHF	TX/RX 151.100 MHz
		Colona FD	VHF	TX/RX 158.820 MHz PL-225.7
		Colona DPW	VHF	TX/RX 155.565 MHz
Rock Island County	Scott County, IA	Sheriff	800	RACOM
		QC communities	800	RACOM
		Fire	VHF	TX/RX 154.220 MHz
		Roads		
Rock Island County	Mercer County, IL	Sheriff	VHF	TX/RX 154.100 MHz
		Fire	VHF	TX/RX 154.385 MHz
		Roads	VHF	TX/RX 159.165 MHz PL-162.2
		EMS		
Rock Island County	Rock Island Arsenal	Federal	UHF	P25 radio system

The table below represents regional communications channels that may be used or monitored by Scott County and Rock Island County units and thus will require gateway ports assigned to each associated control station.

Name	Mob RX	Mob TX	Digital Code or Tone	
LEA	155.700	154.800	146.2 PL	State of Iowa
Point to Point	155.370	155.370		State of Iowa
IFERN	154.265	154.265	210.7 PL	State of Illinois
ISPERN	155.475	155.475		State of Illinois
IREACH	155.055	155.055		State of Illinois
IFERN2	154.3025	154.3025	67.0 PL	State of Illinois

The table below represents National Mutual Aid channels likely to used or monitored by Scott County and Rock Island County units. Repeated stations shall have repeaters located at some of the various P25 repeater towers by the Proposer and each to have a port on a gateway allowing access by dispatch for patching.

Name	MOBILE RX	MOBILE TX	Digital Code or Tone	
8CALL90	851.0125	806.0125	156.7	
8TAC91	851.5125	806.5125	156.7	
8TAC92	852.0125	807.0125	156.7	
8TAC93	852.5125	807.5125	156.7	
8TAC94	853.0125	808.0125	156.7	
8CALL90D	851.0125	851.0125	156.7	
8TAC91D	851.5125	851.5125	156.7	
8TAC92D	852.0125	852.0125	156.7	
8TAC93D	852.5125	852.5125	156.7	
8TAC94D	853.0125	853.0125	156.7	
7CALL50	799.24375	769.24375	293 NAC	
7TAC51	799.14375	769.14375	293 NAC	
7TAC52	799.64375	769.64375	293 NAC	
7TAC53	800.14375	770.14375	293 NAC	
7TAC54	800.64375	770.64375	293 NAC	
7TAC55	799.74375	769.74375	293 NAC	
7TAC56	800.24375	770.24375	293 NAC	
7CALL50D	769.24375	769.24375	293 NAC	
7TAC51D	769.14375	769.14375	293 NAC	
7TAC52D	769.64375	769.64375	293 NAC	
7TAC53D	770.14375	770.14375	293 NAC	
7TAC54D	770.64375	770.64375	293 NAC	
7TAC55D	769.74375	769.74375	293 NAC	
7TAC56D	770.24375	770.24375	293 NAC	

Appendix 5 – Current Inventory and Field Unit Distribution Summary

Subscriber Agency	Agency Type	Portable Unit	Mobile Unit	Control Station	Radio Type	County	Dispatch Via	2nd Dispatch
ANDALUSIA AMBULANCE	EMS	2	4	1	VHF	ROCK ISLAND	RICO	
ANDALUSIA FIRE	FIRE	25	8	2	VHF	ROCK ISLAND	RICO	
BLACKHAWK FIRE DEPT	FIRE		1		EDACS	ROCK ISLAND	MILAN	
BLACKHAWK FIRE DEPT	FIRE	18	9	1	VHF	ROCK ISLAND	MILAN	
CARBON CLIFF FIRE	FIRE				VHF	ROCK ISLAND	SILVAS	
COAL VALLEY POLICE	POLICE	8	5	0	VHF	ROCK ISLAND	RICO	
COAL VALLEY FIRE	FIRE	34	10	3	VHF	ROCK ISLAND	RICO	
CORDOVA FIRE	FIRE				VHF	ROCK ISLAND	RICO	
COYNE CENTER FIRE	EMS	10	8	1	VHF	ROCK ISLAND	RICO	
EAST MOLINE FIRE	FIRE	19	9	6	EDACS	ROCK ISLAND	CENTRE	
EAST MOLINE, POLICE	POLICE	43	13	1	EDACS	ROCK ISLAND	CENTRE	
HAMPTON FIRE	FIRE				VHF	ROCK ISLAND	SILVAS	
HAMPTON POLICE	POLICE	3	3		EDACS	ROCK ISLAND	SILVAS	
HILLSDALE POLICE	POLICE	2	2		EDACS	ROCK ISLAND	RICO	
HILLSDALE FIRE	FIRE				VHF	ROCK ISLAND	RICO	
ILLINOIS CITY FIRE	FIRE	16	8	2	VHF	ROCK ISLAND	RICO	
MILAN POLICE	POLICE	20	4	4	EDACS	ROCK ISLAND	MILAN	
MOLINE FIRE	FIRE	33	19	9	EDACS	ROCK ISLAND	CENTRE	
MOLINE POLICE DEPARTMENT	POLICE	106	46	4	EDACS	ROCK ISLAND		
ORION FIRE PROTECTION DISTRICT	FIRE			1	EDACS	ROCK ISLAND	HENRY	
ORION FIRE PROTECTION DISTRICT	FIRE				VHF	ROCK ISLAND	HENRY	
PORT BYRON FIRE	FIRE	44	9	2	VHF	ROCK ISLAND	RICO	
REYNOLDS FIRE	FIRE	12	5	2	VHF	ROCK ISLAND	RICO	
ROCK ISLAND ARSENAL FIRE DEPT	FIRE	11	14	1	EDACS	ROCK ISLAND	ARSENAL	
ROCK ISLAND ARSENAL POLICE	POLICE		12	15	EDACS	ROCK ISLAND	ARSENAL	
ROCK ISLAND CO. SHERIFF	POLICE		4		EDACS	ROCK ISLAND	RICO	
ROCK ISLAND CO. SHERIFF	POLICE	80	80	15	VHF	ROCK ISLAND	RICO	
ROCK ISLAND CO. JAIL	POLICE	65				ROCK ISLAND	RICO	
ROCK ISLAND FIRE DEPT	FIRE	36	18		EDACS	ROCK ISLAND	RICOMM	
ROCK ISLAND POLICE DEPT	POLICE	89	52		EDACS	ROCK ISLAND	RICOMM	
SHERRAND FIRE	FIRE	N/A	N/A	N/A	VHF	ROCK ISLAND	MERCER	
SILVAS POLICE	POLICE	15	9		EDACS	ROCK ISLAND	SILVAS	
SILVIS FIRE	FIRE	20	7	2	VHF	ROCK ISLAND	SILVAS	
COYNE CENTER FIRE	FIRE	10	8	1	VHF	ROCK ISLAND	RICO	
MEDIC EMS	EMS	74	25	11	EDACS	ROCK ISLAND/SCOTT		

Subscriber Agency	Agency Type	Portable Unit	Mobile Unit	Control Station	Radio Type	County	Dispatch Via	2nd Dispatch
BENNETT AMBULANCE SERVICES	EMS	0	2	0	EDACS	SCOTT	SECC	SECC BACKUP
BETTENDORF FIRE DEPT	FIRE	64	19	4	EDACS	SCOTT	SECC	SECC BACKUP
BETTENDORF POLICE DEPT	POLICE	61	33	4	EDACS	SCOTT	SECC	SECC BACKUP
BLUE GRASS FIRE DEPT	FIRE	21	8	1	EDACS	SCOTT	SECC	SECC BACKUP
BLUE GRASS POLICE DEPT	POLICE	4	2	1	EDACS	SCOTT	SECC	SECC BACKUP
BUFFALO FIRE DEPT	FIRE	20	7	1	EDACS	SCOTT	SECC	SECC BACKUP
BUFFALO, IA POLICE DEPT	POLICE	6	3	1	EDACS	SCOTT	SECC	SECC BACKUP
DAVENPORT FIRE DEPT	FIRE	154	39	9	EDACS	SCOTT	SECC	SECC BACKUP
DAVENPORT POLICE DEPT	POLICE	201	98	7	EDACS	SCOTT	SECC	SECC BACKUP
DIXON FIRE DEPT	FIRE	12	7	1	EDACS	SCOTT	SECC	SECC BACKUP
DURANT AMBULANCE	EMS	0	2	0	EDACS	SCOTT	SECC	SECC BACKUP
DURANT FIRE DEPARTMENT	FIRE	4	0	0	EDACS	SCOTT	SECC	SECC BACKUP
ELDRIDGE FIRE DEPT.	FIRE	20	6	1	EDACS	SCOTT	SECC	SECC BACKUP
ELDRIDGE POLICE DEPARTMENT	POLICE	10	6	1	EDACS	SCOTT	SECC	SECC BACKUP
LECLAIRE FIRE DEPT	FIRE	28	9	1	EDACS	SCOTT	SECC	SECC BACKUP
LECLAIRE POLICE DEPARTMENT	POLICE	9	8	1	EDACS	SCOTT	SECC	SECC BACKUP
LONG GROVE FIRE	FIRE	16	5	1	EDACS	SCOTT	SECC	SECC BACKUP
MAYSVILLE FIRE DEPT	FIRE	13	6	1	EDACS	SCOTT	SECC	SECC BACKUP
MC CAUSLAND FIRE DEPT	FIRE	14	5	1	EDACS	SCOTT	SECC	SECC BACKUP
MC CAUSLAND POLICE DEPT	POLICE	1	1	0	EDACS	SCOTT	SECC	SECC BACKUP
MED FORCE	EMS	8	3	5	EDACS	ROCK ISLAND/SCOTT	SECC	SECC BACKUP
NEW LIBERTY FIRE DEPT	FIRE	16	6	1	EDACS	SCOTT	SECC	SECC BACKUP
PRINCETON FIRE DEPT	FIRE	19	7	1	EDACS	SCOTT	SECC	SECC BACKUP
PRINCETON POLICE DEPT	POLICE	3	2	1	EDACS	SCOTT	SECC	SECC BACKUP
RIVERDALE FIRE DEPARTMENT	FIRE	21	6	1	EDACS	SCOTT	SECC	SECC BACKUP
SCOTT CTY CONSERVATION	POLICE	14	9	1	EDACS	SCOTT	SECC	SECC BACKUP
SCOTT EMA	EMA	1	9	1	EDACS	SCOTT	SECC	SECC BACKUP
SCOTT CTY SHERIFF	POLICE	179	51	7	EDACS	SCOTT	SECC	SECC BACKUP
WALCOTT FIRE DEPT	FIRE	20	7	1	EDACS	SCOTT	SECC	SECC BACKUP
WALCOTT POLICE DEPT	POLICE	5	3	1	EDACS	SCOTT	SECC	SECC BACKUP
WHEATLAND AMBULANCE	EMS	0	1	0	EDACS	SCOTT	SECC	SECC BACKUP
SUBSCRIBER TOTALS		**1739**	**762**	**140**		**TOTAL:**	**2641**	

Appendix 6 – 800 MHz Frequencies in Use Today

Site	Frequency	Call Sign	Licensee
Dixon	858.7375	WPPF854	Scott County
Dixon	859.7375	WPPF854	Scott County
Davenport	856.9625	WPPF854	Scott County
Davenport	857.9625	WPPF854	Scott County
Davenport	858.9625	WPPF854	Scott County
Davenport	859.9625	WPPF854	Scott County
Clinton	859.4625	WPPF854	Scott County
Clinton	858.9875	WPPF854	Scott County
Clinton	854.1375	WPPF854	Scott County
Le Claire	857.2625	WPPF854	Scott County
Le Claire	858.2625	WPPF854	Scott County
Le Claire	859.2625	WPPF854	Scott County
Le Claire	855.4625	WPPF854	Scott County
Le Claire	856.2625	WPPF854	Scott County
Le Claire	854.2625	WPPF854	Scott County
Long Grove	855.2375	WPPF854	Scott County
Long Grove	858.9375	WPPF854	Scott County
Long Grove	855.7125	WPPF854	Scott County
Long Grove	858.1375	WPPF854	Scott County
Bettendorf	854.1625	WQJY845	Scott County
Walcott	854.4875	WQJY845	Scott County
Walcott	854.9875	WQJY845	Scott County
Walcott	858.4875	WQJY845	Scott County
Walcott	859.4875	WQJY845	Scott County
Walcott	854.3125	WQJY845	Scott County
Walcott	856.1375	WQJY845	Scott County
Scott Park	854.2125	WQJY845	Scott County
Le Claire	851.5125	WQNR488	Scott County
Walcott	852.5125	WQNR488	Scott County
Davenport	853.0125	WQNR488	Scott County
Davenport	851.0125	WQNR488	Scott County
Davenport	852.0125	WQNR488	Scott County
Moline	856.2375	KNNF757	Rock Island County
Moline	857.2375	KNNF757	Rock Island County
Moline	858.2375	KNNF757	Rock Island County
Moline	859.2375	KNNF757	Rock Island County

Milan	854.0125	KNNF757	Rock Island County
Bettendorf	856.4375	KNNF757	Rock Island County
Bettendorf	856.7625	KNNF757	Rock Island County
Bettendorf	857.4375	KNNF757	Rock Island County
Bettendorf	857.7625	KNNF757	Rock Island County
Bettendorf	858.7625	KNNF757	Rock Island County
Bettendorf	859.4375	KNNF757	Rock Island County
Bettendorf	859.7625	KNNF757	Rock Island County
Bettendorf	858.4375	KNNF757	Rock Island County
Le Claire	854.6125	KNNF757	Rock Island County
Le Claire	856.7625	KNNF757	Rock Island County
Le Claire	857.7625	KNNF757	Rock Island County
Le Claire	858.7625	KNNF757	Rock Island County
Le Claire	859.7625	KNNF757	Rock Island County
Moline	856.4625	WQHJ323	Rock Island County
Moline	857.4625	WQHJ323	Rock Island County
Moline	858.4625	WQHJ323	Rock Island County
Milan	856.7375	WQHW280	Rock Island County
Milan	859.7125	WQHW280	Rock Island County
Davenport	855.9625	WQHW280	Rock Island County
Milan	856.9875	WQIQ210	Rock Island County
Milan	857.7125	WQIQ210	Rock Island County
Milan	858.7125	WQIQ210	Rock Island County

Appendix 7 – Scott and Rock Island County EDACS Inventory

End User	Radio Type	Quantity of type
AUGUSTANA COLLEGE	Portable	4 each Units
BENNETT AMBULANCE SERVICES	Mobile	1 each Unit
BETTENDORF COMMUNITY SCHOOL DISTRICT	Portable	11 each Units
BETTENDORF FIRE DEPT	Control Station	4 each Units
BETTENDORF FIRE DEPT	Mobile	19 each Units
BETTENDORF FIRE DEPT	Portable	48 each Units
BETTENDORF POLICE DEPT	Control Station	5 each Units
BETTENDORF POLICE DEPT	Mobile	31 each Units
BETTENDORF POLICE DEPT	Portable	59 each Units
BETTENDORF PUBLIC WORKS	Portable	19 each Units
BETTENDORF TRANSPORTATION DEPARTMENT	Control Station	1 each Unit
BETTENDORF TRANSPORTATION DEPARTMENT	Mobile	12 each Units
BETTENDORF TRANSPORTATION DEPARTMENT	Portable	10 each Units
BLACK HAWK COLLEGE	Control Station	1 each Unit
BLACK HAWK COLLEGE	Mobile	1 each Unit
BLACK HAWK COLLEGE	Portable	9 each Units
BLACKHAWK FIRE DEPT	Mobile	1 each Unit
BLUE GRASS FIRE DEPT	Control Station	1 each Unit
BLUE GRASS FIRE DEPT	Mobile	7 each Units
BLUE GRASS FIRE DEPT	Mobile	1 each Unit
BLUE GRASS FIRE DEPT	Portable	20 each Units
BLUE GRASS POLICE DEPT	Control Station	1 each Unit
BLUE GRASS POLICE DEPT	Mobile	2 each Units
BLUE GRASS POLICE DEPT	Portable	4 each Units
BUFFALO FIRE DEPT	Control Station	1 each Units
BUFFALO FIRE DEPT	Mobile	8 each Units
BUFFALO FIRE DEPT	Portable	20 each Units
BUFFALO, IA POLICE DEPT	Control Station	1 each Unit
BUFFALO, IA POLICE DEPT	Mobile	3 each Units
BUFFALO, IA POLICE DEPT	Portable	5 each Units
CEDAR COUNTY PUBLIC HEALTH	Control Station	1 each Units
CENTER FOR ALCOHOL & DRUG SERVICES	Portable	2 each Units
DAVENPORT FIRE DEPT	Mobile	47 each Units
DAVENPORT FIRE DEPT	Portable	155 each Units
DAVENPORT POLICE DEPT	Control Station	8 each Units
DAVENPORT POLICE DEPT	Mobile	96 each Units
DAVENPORT POLICE DEPT	Portable	200 each Units
DEWITT COMMUNITY HOSPITAL	Control Station	1 each Unit
DIXON FIRE DEPT	Control Station	1 each Unit
DIXON FIRE DEPT	Mobile	7 each Units
DIXON FIRE DEPT	Portable	12 each Units
DONAHUE FIRE DEPT	Control Station	WALLCOTT
DONAHUE FIRE DEPT	Mobile	5 each Units

DONAHUE FIRE DEPT	Portable	11 each Units
DURANT AMBULANCE	Mobile	2 each Units
DURANT FIRE DEPARTMENT	Portable	4 each Units
EAST MOLINE, IL (FIRE DEPT)	Control Station	6 each Units
EAST MOLINE, IL (FIRE DEPT)	Mobile	9 each Units
EAST MOLINE, IL (FIRE DEPT)	Portable	19 each Units
EAST MOLINE, IL (POLICE DEPT)	Control Station	1 each Units
EAST MOLINE, IL (POLICE DEPT)	Mobile	13 each Units
EAST MOLINE, IL (POLICE DEPT)	Portable	43 each Units
EAST MOLINE, IL (PUBLIC WORKS)	Mobile	43 each Units
EAST MOLINE, IL (PUBLIC WORKS)	Portable	9 each Units
ELDRIDGE FIRE DEPT.	Control Station	1 each Units
ELDRIDGE FIRE DEPT.	Mobile	6 each Units
ELDRIDGE FIRE DEPT.	Portable	20 each Units
ELDRIDGE POLICE DEPARTMENT	Control Station	1 each Unit
ELDRIDGE POLICE DEPARTMENT	Mobile	5 each Units
ELDRIDGE POLICE DEPARTMENT	Portable	10 each Units
FUSION CENTER L.E.I.N-REGION 6	Mobile	Muscatine
GENESIS MEDICAL CENTER	Control Station	2 each Units
HAMPTON POLICE DEPARTMENT	Mobile	3 each Units
HAMPTON POLICE DEPARTMENT	Portable	3 each Units
HAMPTON SCHOOL DISTRICT	Portable	Le Claire *
ILLINI HOSPITAL	Control Station	2 each Units
ILLINI HOSPITAL	Mobile	19 each Units
ILLINI HOSPITAL	Portable	35 each Units
IOWA DEPARTMENT OF PUBLIC HEALTH	Control Station	1 each Units
IOWA STATE PATROL (SCOTT CTY ONLY)	Portable	5 each Units
JOHNSON COUNTY EMA	Control Station	Dixon
LE CLAIRE FIRE DEPT	Control Station	1 each Units
LE CLAIRE FIRE DEPT	Mobile	8 each Units
LE CLAIRE FIRE DEPT	Portable	26 each Units
LE CLAIRE POLICE DEPARTMENT	Control Station	1 each Units
LE CLAIRE POLICE DEPARTMENT	Mobile	8 each Units
LE CLAIRE POLICE DEPARTMENT	Portable	9 each Units
LONG GROVE, CITY OF	Control Station	1 each Unit
LONG GROVE, CITY OF	Mobile	6 each Units
LONG GROVE, CITY OF	Portable	17 each Units
LOUISA COUNTY EMA	Control Station	1 each Unit
MAYSVILLE FIRE DEPT	Control Station	1 each Unit
MAYSVILLE FIRE DEPT	Mobile	7 each Unit
MAYSVILLE FIRE DEPT	Portable	11 each Units
MC CAUSLAND FIRE DEPT	Control Station	1 each Unit
MC CAUSLAND FIRE DEPT	Mobile	5 each Units
MC CAUSLAND FIRE DEPT	Portable	13 each Units
MC CAUSLAND POLICE DEPT	Mobile	2 each Units
MEDIC EMS	Control Station	1 each Unit
MEDIC EMS	Control Station	10 each Units
MEDIC EMS	Mobile	25 each Units
MEDIC EMS	Portable	71 each Units
MERCY - CLINTON	Control Station	1 each Unit
METROPOLITAN AIRPORT AUTHORITY	Portable	2 each Units

MOLINE BUILDING & GROUNDS	Portable	2 each Units
MOLINE FIRE DEPARTMENT	Control Station	9 each Units
MOLINE FIRE DEPARTMENT	Mobile	19 each Units
MOLINE FIRE DEPARTMENT	Portable	33 each Units
MOLINE FLEET DEPARTMENT	Mobile	Moline
MOLINE FLEET DEPARTMENT	Portable	Moline
MOLINE MUNICIPAL SERVICES	Control Station	2 each Units
MOLINE MUNICIPAL SERVICES	Mobile	27 each Units
MOLINE MUNICIPAL SERVICES	Portable	12 each Units
MOLINE PARKS DEPARTMENT	Mobile	5 each Units
MOLINE PARKS DEPARTMENT	Portable	17 each Units
MOLINE POLICE DEPARTMENT	Control Station	4 each Units
MOLINE POLICE DEPARTMENT	Mobile	46 each Units
MOLINE POLICE DEPARTMENT	Portable	106 each Units
MOLINE PUBLIC UTILITIES DEPARTMENT	Control Station	1 each Unit
MOLINE PUBLIC UTILITIES DEPARTMENT	Mobile	1 each Unit
MOLINE PUBLIC WORKS	Portable	2 each Units
MOLINE SANITATION DEPARTMENT	Mobile	9 each Units
MOLINE SANITATION DEPARTMENT	Portable	1 each Unit
MOLINE/EAST MOLINE 911 CENTRE	Control Station	19 each Units
MUSCATINE COUNTY EMA	Control Station	3 each Units
MUSCATINE COUNTY EMA	Portable	8 each Units
NEW LIBERTY FIRE DEPT	Control Station	1 each Units
NEW LIBERTY FIRE DEPT	Mobile	7 each Units
NEW LIBERTY FIRE DEPT	Portable	14 each Units
ORION FIRE PROTECTION DISTRICT	Mobile	Moline
PRINCETON FIRE DEPT	Control Station	1 each Unit
PRINCETON FIRE DEPT	Mobile	7 each Units
PRINCETON FIRE DEPT	Portable	18 each Units
PRINCETON POLICE DEPT	Control Station	1 each Unit
PRINCETON POLICE DEPT	Mobile	1 each Unit
PRINCETON POLICE DEPT	Portable	3 each Units
QC MEG	Portable	9 each Units
QUAD CITY FBI	Portable	5 each Units
QUAD CITY HELICOPTER EMS	Control Station	3 each Units
QUAD CITY HELICOPTER EMS	Mobile	4 each Units
QUAD CITY HELICOPTER EMS	Portable	9 each Units
RIVERDALE FIRE DEPARTMENT	Control Station	1 each Units
RIVERDALE FIRE DEPARTMENT	Mobile	6 each Units
RIVERDALE FIRE DEPARTMENT	Portable	19 each Units
ROCK ISLAND ARSENAL FIRE DEPT	Control Station	1 each Unit
ROCK ISLAND ARSENAL FIRE DEPT	Mobile	14 each Units
ROCK ISLAND ARSENAL FIRE DEPT	Portable	11 each Units
ROCK ISLAND ARSENAL POLICE	Control Station	15 each Unit
ROCK ISLAND ARSENAL POLICE	Mobile	12 each Units
ROCK ISLAND CO. SHERIFFS DEPT.	Mobile	4 each Units
ROCK ISLAND COUNTY ESDA	Control Station	3 each Units
ROCK ISLAND COUNTY ESDA	Portable	Milan
ROCK ISLAND FIRE DEPT	Mobile	18 each Units
ROCK ISLAND FIRE DEPT	Portable	36 each Units
ROCK ISLAND POLICE DEPT	Mobile	3 each Units

ROCK ISLAND POLICE DEPT	Mobile	49 each Units
ROCK ISLAND POLICE DEPT	Portable	89 each Units
SCOTT CTY CONSERVATION	Control Station	9 each Units
SCOTT CTY CONSERVATION	Mobile	9 each Units
SCOTT CTY CONSERVATION	Portable	66 each Units
SCOTT CTY ENGINEER'S OFFICE	Control Station	2 each Units
SCOTT CTY ENGINEER'S OFFICE	Mobile	47 each Units
SCOTT CTY ENGINEER'S OFFICE	Portable	5 each Units
SCOTT CTY FACILITY & SUPPORT SERVICES	Portable	6 each Units
SCOTT CTY HEALTH DEPT.	Control Station	2 each Units
SCOTT CTY HEALTH DEPT.	Portable	17 each Units
SCOTT CTY MUN DISTR & EMA	Control Station	1 each Unit
SCOTT CTY MUN DISTR & EMA	Mobile	9 each Units
SCOTT CTY MUN DISTR & EMA	Portable	1 each Unit
SCOTT CTY SHERIFF	Control Station	7 each Units
SCOTT CTY SHERIFF	Mobile	57 each Units
SCOTT CTY SHERIFF	Portable	153 each Units
SECC -SCOTT EMER COM CTR	Control Station	36 each Units
SECC -SCOTT EMER COM CTR	Mobile	66 each Units
SECC -SCOTT EMER COM CTR	Portable	5 each Units
SILVIS CITY HALL	Mobile	5 each Units
SILVIS CITY HALL	Mobile	4 each Units
SILVIS CITY HALL	Portable	15 each Units
U.S. COAST GUARD		2 each Units
UNITY POINT - TRINITY MUSCATINE	Control Station	1 each Unit
UNITY POINT HEALTH - TRINITY	Mobile	4 each Units
UNITY POINT HEALTH - TRINITY	Portable	2 each Units
UNITY PUBLIC HEALTH	Control Station	Muscatine
VILLAGE OF MILAN	Control Station	4 each Units
VILLAGE OF MILAN	Mobile	4 each Units
VILLAGE OF MILAN	Portable	20 each Units
VISITING NURSING ASSOC	Control Station	1 each Units
WALCOTT FIRE DEPT	Control Station	WALLCOTT
WALCOTT FIRE DEPT	Mobile	6 each Units
WALCOTT FIRE DEPT	Portable	18 each Units
WALCOTT POLICE DEPT	Control Station	1 each Unit
WALCOTT POLICE DEPT	Mobile	3 each Units
WHEATLAND AMBULANCE	Mobile	1 each Unit
ZNA-UNITY POINT HEALTH- TRINTY	Control Station	1 each Unit

Appendix 8 – Building List for Voice Testing Scott County

	Location Name	Address	Lat/Lon
1	SECC	1100 E 46th St, Davenport, IA	
2	Lampliter Bar	143 S. Grove St, Walcott, IA	
3	I 80 Truck Stop	755 W Iowa Rd, Walcott	
4	G & R Integrated Services	455 S. Blue Grass Rd, Walcott, IA	
5	Iowa 80 Headquarters	515 W. Sterling Dr., Walcott, IA	
6	Iowa 80 Museum	505 W. Sterling Dr., Walcott, IA	
7	North Scott High School	200 S. 1st St. Eldridge, IA	40.7127753/-74.005972
8	North Scott Jr. High	502 S. 5th St. Eldridge, IA	41.6507966/-90.589289
9	Ed White Elementary	121 S. 5th St. Eldridge, IA	41.6544921/-90.588029
10	Helium Trampoline	400 S. 14th Ave. Eldridge, IA	41.650714/-90.5664080
11	River Valley Coop	111 W. Davenport St. Eldridge, IA	41.6562242/-90.583876
12	Molo Oil Corp.	1400 Lancer Ct. Eldridge, IA	41.658176/-90.5666069
13	Stetson	151 N. 16th Ave. Eldridge, IA	41.6565571/-90.563344
14	Ryerson	951 Trails Rd. Eldridge, IA	41.6210189/-90.572416
15	Chemtreat	200 Trails Rd. Eldridge, IA	41.6227609/-90.576854
16	UnityPoint	4500 Utica Ridge Rd Bettendorf	41.566021/-90.519828
17	BettPlex	4850 BettPlex Dr Bettendorf	41.592265/-90.461458
18	ORA	2300 53rd Ave Bettendorf	41.576311/-90.499641
19	Isle Hotel & Casino	1850 Isle Parkway Bettendorf	41.523383/-90.506830
20	Genesis Convenient Care	2140 53rd Ave Bettendorf	41.575698/-90.502130
21	Bettendorf Library	2950 Learning Campus Bett	41.552736/-90.500978
22	Waterfront Conv Ctr	2021 State St Bettendorf	41.524820/-90.505453
23	Bettendorf Maint. Ctr	4403 Devils Glen Rd Bettendorf	41.565740/-90.480293
24	Olympic Steel	6425 State St Bettendorf	41.554230/-90.440489
25	Sivyer Steel	225 33rd St Bettendorf	41.524740/-90.485948
26	LeClaire Manufacturing	3225 Zimmerman Dr Bettendorf	41.556973/-90.442452
27	Northwest Bank	2550 Middle Rd Bettendorf	41.548092/-90.497434
28	Duck Creek Plaza	852 Middle Rd Bettendorf	41.541391/-90.521184
29	MidAmer Riverside Stn	5955 Fenno Rd Bettendorf	41.540212/-90.448409
30	Iowa Masonic Nursing Hm	2500 Grant St Bettendorf	41.527780/-90.497917
31	Bettendorf High School	3333 18th St Bettendorf	41.557530/-90.495995
32	Bettendorf Middle School	2030 Middle Rd Bettendorf	41.547264/-90.503189
33	City Hall/Police/Fire	1609 State St Bettendorf	41.524900/-90.509513
34	Family Museum	2900 Learning Campus Dr Bett	41.552756/-90.502569
35	Life Fitness Center	2222 Middle Rd Bettendorf	41.546393/-90.501250
36	Mississippi Bend AEA	729 21st St Bettendorf	41.529854/-90.502052
37	Hy-Vee	2900 Devils Glen Rd Bettendorf	41.553657/-90.484621
38	Ramada Inn	3020 Utica Ridge Rd Bettendorf	41.553636/-90.519690
39	Paul Norton Elementary	4485 Greenbrier Dr Bettendorf	41.566892/-90.505489
40	Mark Twain Elementary	1620 Lincoln Rd Bettendorf	41.537823/-90.508318
41	Hoover Elementary	3223 S. Hampton Dr Bettendorf	41.556695/-90.502947
42	Neil Armstrong Elementary	3311 Central Ave Bettendorf	41.530906/-90.487022
43	Jefferson Elementary	610 Holmes St Bettendorf	41.528800/-90.523477
44	Grant Wood Elementary	1423 Hillside Dr Bettendorf	41.551039/-90.511952
45	Rivermont Collegiate	1821 Sunset Dr Bettendorf	41.529294/-90.506249
46	Lourdes School	1453 Mississippi Blvd Bettendorf	41.528052/-90.511555
47	Pleasant View Elementary	6333 Crow Creek Rd Bettendorf	41.566666/-90.442257
48	Riverdate Hghts Elementary	2125 Devils Glen Rd Bettendorf	41.545236/-90.482512
49	Hopewell Elementary	3900 Hopewell Ave Bettendorf	41.584430/-90.477770
50	Ross College	2119 Kimberly Rd Bettendorf	41.542972/-90.520100

	Location Name	Address	Lat/Lon
51	Morning Star Academy	1426 Tanglefoot Ln Bettendorf	41.560827/-90.511666
54	Bettendorf YMCA	3800 Tanglefoot Ln Bettendorf	41.561476/-90.480516
55	Bettendorf Community Ctr	2204 Grant St Bettendorf	41.527007/-90.501813
56	Aleris	2101 JM Morris Blvd, Davenport	
57	Sears Mfg	1718 S Concord St, Davenport	
58	Solar Plastics	1929 Comenitz Dr, Davenport	
59	Dav Waste Water	2606 S Concord St, Davenport	
60	Nestle Purina	607 Schmidt Rd, Davenport	
61	Nestle Purina Warehouse	4611 Kimmel Dr, Davenport	
62	Hy-Vee	2351 W Locust St, Davenport	
63	Wilson School	2002 N Clark St, Davenport	
64	West High School	3505 W Locust St, Davenport	
65	Apt Complex	3300-3500 Heatherton Dr, Davenport	
66	Apac	250 E 90th St, Davenport	
67	Kraft Heinz Plant	9401 Granite Way, Davenport	
68	Luther Crest	5454 N Gaines St, Davenport	
69	Steeple Gate	100 W 76th St, Davenport	
70	Farm and Fleet	8535 North West Blvd, Davenport	
71	Mid American building	106 E 2nd St, Davenport	
72	Figge Art Museum	225 w 2nd St, Davenport	
73	Edge Water	401 W 3rd St, Davenport	
74	Heritage Highrise	501 w 3rd St, Davenport	
75	Blackhawk Hotel	200 E 3rd St, Davenport	
76	Scott County Courthouse	400 W 4th St, Davenport	
77	GMC East	1220 E Rushholm St, Davenport	
78	ATT building	518 N Main St, Davenport	
79	Cobblestone Place	1212 W 3rd St, Davenport	
80	Mid American building	106 E 2nd St, Davenport	
81	Oscar Meyer	1300 Rockingham Rd, Davenport	
82	Palmer College	1000 Brady St, Davenport	
83	Central High school	1100 Main St, Davenport	
84	North High School	626 W 53rd St, Davenport	
85	GMC West	1320 W Central Park Av	
86	St Ambrose	518 West Locust St, Davenport	
87	Central Fire Station	331 Scott St, Davenport	
88	Sterilite	2001 Slopertown Rd, Davenport	
89	Patrol Headquarters	3206 S 16th Ave, Eldridge, IA	
90	Admin Building	600 W 4th St, Davenport, IA	
91	PV High School	604 Belmont Rd, Bettendorf, IA	
92	PV JR High	3501 Wisconsin St, Leclaire, IA	
93	Neil Armstrong Elementary	212 S Park View Dr, Eldridge, IA	
94	Alan Shepard Elementary	200 W Grove St, Long Grove, IA	
95	John Glenn Elementary	308 N Main St, Donahue, IA	
96	Secondary Roads	950 E Blackhawk Tr	
97	TJ Maxx	4000 E 53rd St, Davenport, IA	
98	Loves truck Stop	8255 NE Blvd, Davenport, IA	
99	Police Station	416 N Harrison St, Davenport, IA	
100	Walmart	3101 W Kimberly Rd, Davenport	
101	Walmart	5811 Elmore Ave, Davenport	
102	Northpark Mall	320 W Kimberly Rd, Davenport	

Appendix 9 – Building List for Voice Testing Rock Island County

TBD