

BOARD OF COMMISSIONERS
SARPY COUNTY, NEBRASKA

RESOLUTION APPROVING AGREEMENT WITH TUSA CONSULTING SERVICES FOR CONSULTING SERVICES FOR THE RADIO SYSTEM UPGRADE PROJECT

WHEREAS, pursuant to Neb. Rev. Stat. §23-104(6), the County has the power to do all acts in relation to the concerns of the County necessary to the exercise of its corporate powers; and,

WHEREAS, pursuant to Neb. Rev. Stat. §23-103, the powers of the County as a body are exercised by the County Board; and,

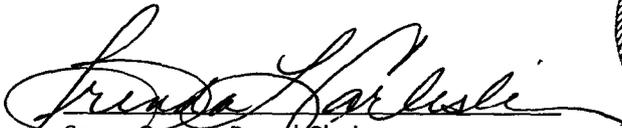
WHEREAS, the County of Sarpy desires to enter into a contract for professional consulting services with Tusa Consulting Services II, LLC, as outlined in the Consulting Services Agreement attached; and,

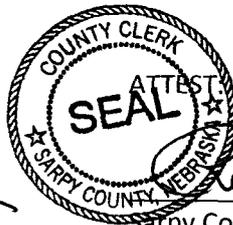
WHEREAS, entering into the contract for services with Tusa Consulting Services II, LLC is in the best interests of the citizens of Sarpy County.

NOW, THEREFORE, BE IT RESOLVED by the Sarpy County Board of Commissioners that this Board hereby approves and adopts the agreement with Tusa Consulting Services II, LLC, a copy of which is attached.

BE IT FURTHER RESOLVED that the Chairman of this Board, together with the County Clerk is hereby authorized to sign on behalf of this Board the agreement with Tusa Consulting Services II, LLC, a copy of which is attached, and any other related documents, the same being approved by the Board.

The above resolution was approved by a vote of the Sarpy County Board of Commissioners at a public meeting duly held in accordance with applicable law on the 22nd day of September, 2015.


Sarpy County Board Chairman




Sarpy County Clerk


Sarpy County Purchasing Department

SARPY COUNTY COURTHOUSE
1210 GOLDEN GATE DRIVE, SUITE 1220
PAPILLION, NE 68046



Brian Hanson, Purchasing Agent
(402) 593-2349
Debby Peoples, Asst. Purchasing Agent
(402) 593-4164
Beth Garber, Purchasing/Contract Administrator
(402) 593-4476

MEMO

To: Sarpy County Board of Commissioners

From: Beth Garber

Re: Consulting Services for Radio System Upgrade Project

Sarpy County has been operating a Motorola 800 MHz trunked radio system since 1995. This system supports all County public safety and many public works agencies. While this system has been very beneficial for the County, it has reached end of life. Therefore, the County has begun discussions with Motorola for an updated radio system that meets the current and future needs of the various public safety departments and the County.

In order to ensure the County is moving in the correct direct, the Purchasing Department requested proposals from consultants to:

- (1) Phase 1 will analysis the County's existing 800 MHz voice radio system infrastructure and determine that it is at end of life. This phase will also review the existing system radio frequency coverage to assess how well the portable in-building coverage meets user requirements.
- (2) Phase 2 will focus on evaluating end user needs for in-building coverage, a comprehensive review of the Motorola design and proposal followed by recommendations for any modifications, assessment of the life cycle costs, assist with the negotiations between Motorola and the County, and review of the coverage acceptance test plan.
- (3) Phase 3 is optional and if required we will come back to the Board for approval through a change order. Phase 3 includes the assistance with supervision of construction of any infrastructure development.

The County received nine (9) proposals from consulting firms willing to perform the tasks above. After reviewing the firms and contacting references, it is recommended the County approve the attached agreement with Tusa Consulting Services for \$18,950

To: Sarpy County Board of Commissioners
Re: Consulting Services for Radio System Upgrade Project

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at a rate of \$150/hr. The fee covers all consulting hours and expenses for Phase 1 and Phase 2. Other consultants proposed fees up to \$144,052. The difference in fees was generally from the number of proposed hours within the proposals. The contract provides for the ability to enter into a change order if additional hours are needed.

Tusa has extensive experience with Motorola P25 radio system upgrade projects and working with entities with large user groups. The proposals were reviewed by a committee of Sarpy County agency end users and it was a unanimous decision to move forward with Tusa.

Please feel free to contact me with any questions.

September 17, 2015



Beth Garber

cc: Deb Houghtaling
Mark Wayne
Scott Bovick
Brian Hanson
Stu DeLaCastro

CONSULTING SERVICES AGREEMENT

1. Parties

THIS CONSULTING AGREEMENT is made this 22nd day of September, 2015, between Tusa Consulting Services II, LLC ("CONSULTANT") and SARPY COUNTY, NEBRASKA (CLIENT).

2. Statement of Services

- A. **Scope of Agreement.** This Agreement contains the entire agreement and understanding with respect to the subject matter hereof and supersedes all prior agreements, proposals, negotiations, or other correspondence, whether written or oral relating to the provision of services by CONSULTANT to CLIENT. In the event of any conflict between the provisions of Appendix A and/or Appendix B with the provisions of this Agreement, the order of precedence shall be: 1) Appendix A (Request for Proposal); 2) Appendix B (Bid Proposal of Tusa Consulting Service II, LLC; 3) Appendix C (Project Approach); 4) the terms contained in the Consulting Services Agreement document.
- B. **Scope of Work.** Subject to the following terms and conditions, CONSULTANT shall provide consulting services in accordance with Appendices A, B and C agreed to between the parties (the "Work"). The Appendices shall be executed on behalf of each of the parties. The Scope of Work for Task 1 and Task 2 shall be complete by December 31, 2015. Any additional work (new or extended tasks) will be addressed by means of a Change Order. Task 3 completion date will be determined by a Change Order authorizing same.
- C. **Responsibilities.** CONSULTANT shall appoint a Technical Representative for the Work to be performed and provide the technical direction of the Work.

3. Payment

- A. **Time and Material.** All work performed by CONSULTANT shall be rendered on a fixed sum basis. CLIENT will pay CONSULTANT for the services performed under this Agreement in the amounts specified in Appendix A.
- B. **Invoices.** Invoices shall be rendered on a monthly basis to CLIENT throughout the duration of the project. Payment shall be made by CLIENT to CONSULTANT within thirty (30) days from the date of each Invoice.

CONSULTANT
CLIENT



4. **Confidentiality**

- A. **Definition of "Confidential Information."** The term "Confidential Information" shall mean matters relating to CLIENT's business activities that are in a written form clearly marked "Confidential", except such information which: (i) was previously known to CONSULTANT, (ii) is generally available to the public, or (iii) is subsequently disclosed to CONSULTANT by a third party who is not under any obligation to CLIENT.
- B. **Standard of Care.** CONSULTANT shall use its best efforts to hold all Confidential Information in confidence for CLIENT. Upon termination of this Agreement CONSULTANT will deliver to CLIENT all CLIENT materials containing Confidential Information or make such other reasonable disposition of such materials as CLIENT may direct.

5. **Proprietary Rights**

- A. **CLIENT Property.** Any programs, data, or other materials furnished by CLIENT for use by CONSULTANT in connection with the services performed under this Agreement shall remain the sole property of CLIENT. All such materials shall be returned to CLIENT upon receipt by CONSULTANT of the final payment for all Work performed. Any report or study submitted to the CLIENT by the CONSULTANT becomes the property of the CLIENT.
- B. **CONSULTANT Property.** Any ideas, concepts, know-how, techniques, or sequences, developed during the course of this Agreement by CONSULTANT, or jointly by CONSULTANT and CLIENT, shall be the exclusive property of CONSULTANT.

6. **Term, Termination**

- A. **Commencement Date.** This Agreement becomes effective on the date signed by CONSULTANT and CLIENT.
- B. **Termination.** Unless otherwise provided, either party may terminate this Agreement at any time, provided the CLIENT reimburses the CONSULTANT for all work done up to and including the day of notice of termination.

CONSULTANT
CLIENT

DP
BC

- C. **Independent Contractors.** In the performance of this Agreement CONSULTANT is acting as an independent contractor and not as an employee or agent of CLIENT.

7. **Residency Verification**

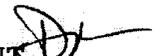
The Consultant agrees to comply with the residency verification requirements of Neb. Rev. Stat. §4-108 through §4-114. The Consultant is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

8. **General Provisions**

- A. **Entire Agreement/Assignment.** This Agreement: (i) is the complete and exclusive statement of the agreement between the parties and supersedes all oral, written, and other communications between the parties relating to the subject of this Agreement; and (ii) may not be assigned or otherwise transferred by CLIENT without the prior written consent of CONSULTANT.
- B. **Governing Law.** This Agreement shall be governed by the laws of the State of NEBRASKA.
- C. **Severability.** The failure by either party at any time to required performance of the other party of any provision of this agreement shall in no way affect the right of such party thereafter to enforce the same or any other provision, nor shall the waiver by either party of any breach of any provision hereof be taken or held to be a waiver of any succeeding breach, or as a waiver of the provision itself.
- D. **Titles.** The section headings in this Agreement are for convenient reference only and shall be given no substantive or interpretive effect.
- E. **Notices.** All notices, requests, demands, and other communications hereunder shall be in writing and shall be deemed to have been duly given if delivered or mailed, postage prepaid, certified mail, return receipt requested:

(1) Dominic Tusa - Partner
Tusa Consulting Services II, LLC
75757 Highway 1082
Covington, LA 70435

CONSULTANT
CLIENT

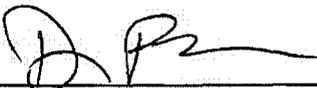

BC

(2) Sandy County Board ("CLIENT")
1210 Golden Gate Drive
Suite # 1250
Poplison, NE 68046

and/or to such other person(s) and address(es) as either party shall have specified in writing to the other.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized representatives.

CONSULTANT
Tusa Consulting Services II, LLC

By: 
DOMINIC FTUSA

9/18/15
Date

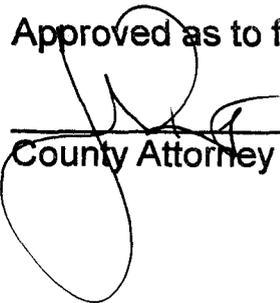
CLIENT



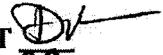
By: Brenda L. Carlisle

9/22/15
Date

Approved as to form:


County Attorney

CONSULTANT
CLIENT


BC

SARPY COUNTY, NEBRASKA

REQUEST FOR PROPOSALS

Professional Consulting Services for the Radio System Upgrade Project For the 911 Communications Department

PROPOSALS DUE:
12:00 p.m., Friday, August 14, 2015

General Information

Notice to Consultants

Sarpy County is seeking proposals for Professional Consulting Services for the Radio System Upgrade Project for the 911 Communications Department. The successful Consultant will enter into a Contract that incorporates both the RFP along with the submitted proposal.

Proposals will be received Monday through Friday 8:00 a.m. to 4:45 p.m. except holidays, until 12:00 p.m., Friday, August 14, 2015. Proposals shall be clearly marked "Consulting Services for the Radio System Upgrade Project."

Submit one (1) original, four (4) copies and an electronic copy (such as a CD) of the completed proposal. The electronic document should consist of one (1) file of the proposal.

Requests for information and clarification questions must be received by August 6, 2015 at 12:00 p.m. in order for Sarpy County to have time to issue an addendum.

Proposal criteria must be received from Beth Garber, Purchaser, 1210 Golden Gate Drive, Suite 1220, Papillion, NE 68046, (402) 593-4476, bgarber@sarpy.com or via the internet at www.sarpy.com.

Consultants that obtain specifications from the internet sites are responsible for obtaining any addenda that may be added at a later time.

Proposals must be sent to:

Beth Garber
Sarpy County Purchasing Office
1210 Golden Gate Drive, Suite 1220
Papillion, NE 68046

Proposals not addressed and delivered to the above person will not be considered. Proposals received after the above stated time and date will not be considered.

All Proposals submitted shall be valid for a period of ninety (90) days following the final date for submission of Proposals.

Sarpy County will not be liable for costs incurred by Consultants for proposal preparation, printing, demonstration, or any other costs associated with or incurred in reliance on proposal creation. All such costs shall be the responsibility of the Consultant.

The Proposals shall include all charges and applicable taxes, F.O.B. Destination, freight prepaid, Sarpy County, Nebraska. The Consultant need not include sales tax in the bid. Sarpy County will, upon request, furnish the successful Consultant with a completed State of Nebraska Tax Exempt Form 13 upon acceptance of the successful Consultant's proposal.

The Sarpy County Board of Commissioners reserves the right to reject any or all bids and to waive minor informalities.

In the event of conflict between unit price and extended price, unit price shall prevail.

Procedures for Evaluation and Awarding of Bid

Evaluation will be done by Beth Garber, Sarpy County Purchaser along with personnel from the 911 Department, Administration and various key personnel as determined by the County. After evaluation the Purchaser will make a recommendation to the County Board of Commissioners for award. This recommendation and pending award will be made at a public meeting of the Board of Commissioners. Agendas are available each Friday afternoon on our internet site www.sarpy.com. The Commissioners award the bid by majority vote.

The following factors will be used to consider the award of the bid, where applicable:

- a) Compliance with all requirements.
- b) Price.
- c) The ability, capability, and skills of the Consultant to perform.
- d) The character, integrity, reputation, judgment, experience, and efficiency of the Consultant.
- e) The quality of previous performance.
- f) Whether the Consultant can perform within the time specified.
- g) The previous and existing compliance of the supplier with laws.
- h) The life-cost of the personal property or services in relation to the purchase price and specified use.
- i) The performance of the personal property or service taking into consideration any commonly accepted tests and standards of product, service, usability and user requirements.
- j) The energy efficiency ratio as stated by the supplier.
- k) The life-cycle costs between alternatives for all classes of equipment, the evidence of expected life, the repair and maintenance costs, and the energy consumption on a per year basis.
- l) Such other information as may be secured having a bearing on the decision.

Terms and Conditions

1. Information, Discussion and Disclosures

Any information provided by Sarpy County to any Consultant prior to the release of this Request for Proposal ("RFP"), verbally or in writing, is considered preliminary and is not binding on Sarpy County.

The Consultant must not make available nor discuss any cost information contained in the copy of the proposal to or with any employee of Sarpy County from the date of issuance of this RFP until the contract award has been announced, unless allowed by the Sarpy County Purchasing Department in writing for the purpose of clarification or evaluation.

No interpretation of the meaning of the specifications, or other bidding documents, or correction of any ambiguity, inconsistency, or error therein will be made orally to any Consultant.

Every request for such interpretation or correction should be in writing, addressed to the Sarpy County Purchaser, Beth Garber, 1210 Golden Gate Drive, Suite 1220, Papillion, NE 68046 or

bgarber@sarpy.com. **Requests must be received by August 6, 2015 at 12:00 p.m. in order for Sarpy County to have time to issue an addendum. Requests received after deadline may not be considered.** In case Sarpy County finds it expedient to supplement, modify, or interpret any portion of the bidding documents prior to the proposed bid date, such procedure will be accomplished by the issuance of written addenda to the RFP which will be mailed or delivered to all prospective Consultants at the respective addresses furnished for such purpose.

2. Addenda

All addenda will become part of this RFP and must be responded to by each Consultant.

All addenda must be acknowledged in writing in the bid submitted by the Consultant.

This RFP, any subsequent addenda, and any written responses to questions take precedence over any information previously provided.

3. Confidentiality of Documents

Sarpy County considers all information, documentation and other materials requested to be submitted in response to this proposal to be of a non-confidential and/or non-proprietary nature and therefore shall be subject to public disclosure under Neb. Rev. Stat. § 84-712.05(3).

Consultants are hereby notified that Sarpy County strictly adheres to all statutes, court decisions, and opinions of the Nebraska Attorney General with respect to disclosure of RFP information.

Any “proprietary, trade secret, or confidential commercial or financial” information must be clearly identified, in a separate sealed envelope, at the time of bid/proposal submission. **Pricing information is not considered financial information and therefore is not considered Confidential.** Please note: even if Consultant believes pricing information is confidential and includes it in a separate, sealed envelope, such information will be read aloud and entered into record during the public bid opening. For all other appropriately identified proprietary, trade secret, or confidential commercial or financial information, the Consultant will be required to fully defend, in all forums, Sarpy County’s refusal to produce such information; otherwise, Sarpy County will make such information public upon request.

4. Non-Discrimination Clause

Pursuant to Neb. Rev. Stat. §73-102 (Reissue 2009), Consultant declares, promises, and warrants it has and will continue to comply fully with Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C.A. §1985, et seq.), and the Nebraska Fair Employment Practice Act, Neb. Rev. Stat. §48-1101, et seq. (Reissue 2010), in that there shall be no discrimination against any employee who is employed in the performance of this Contract, or against any applicant for such employment, because of age, color, national origin, race, religion, creed, disability or sex.

5. Conflict of Interest Clause

Pursuant to Neb Rev. Stat. §23-3113 (Reissue 2012), the parties hereto declare and affirm that no officer, member, or employee of the County, and no member of its governing body, and no other public official of the County who exercises any functions or responsibilities in the review or approval of the undertaking described in this Contract, or the performing of services pursuant to this Contract, shall participate in any decision relating to this Contract which affects his or her personal interest, or any corporation, partnership, or association in which he or she is directly or indirectly interested; nor shall any employee of the County, nor any member of its governing body, have any interest, direct or indirect, in this Contract or the proceeds thereof.

6. Payment Terms

The successful Consultant shall submit itemized invoices for payment based on agreed upon milestones. Sarpy County will make payment to the successful Consultant within thirty (30) days after receipt of invoice and satisfactory completion of the milestone.

7. Supplemental Terms and Conditions/Modifications

Any supplemental terms, conditions, modifications, or waiver of these terms and conditions must be in writing and signed by the Sarpy County Board Chairman and the Consultant.

8. Termination

Either party may terminate the Contract with ninety (90) days' written notice to the other.

9. Residency Verification

The Consultant agrees to comply with the residency verification requirements of Neb. Rev. Stat. §4-108 through §4-114. The Consultant is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

If the Consultant is an individual or sole proprietorship, the following applies:

The Consultant must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at www.das.state.ne.us.

- a) If the Consultant indicates on such attestation form that he or she is a qualified alien, the Consultant agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the Consultant's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

- b) The Consultant understands and agrees that lawful presence in the United States is required and the Consultant may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. Sect. 4-108.

10. Breach

Should Consultant breach, violate, or abrogate any term, condition, clause or provision of this agreement, the County shall notify Consultant in writing that such an action has occurred. If satisfactory provision does not occur within ten (10) days from such written notice the County may, at its option, terminate this agreement and obtain an alternate provider to provide all required materials. This provision shall not preclude the pursuit of other remedies for breach of contract as allowed by law.

11. Insurance Requirements

The Consultant shall not begin work under this Agreement until all insurance certificates have been filed with the Sarpy County Clerk.

Consultant shall not commence work on this Contract until he/she has obtained all insurance required under this Section and such insurance has been approved by Sarpy County, nor shall Consultant allow any subcontractors to commence work on his/her subcontract until similar insurance required of the subcontractor has been so obtained and approved.

The following insurance coverages shall be kept in force during the life of the Contract and shall be primary with respect to any insurance or self-insurance programs covering the County, its commissioners/supervisors, officials, agents, representatives and employees. These insurance coverages shall specifically state, or be endorsed to state, that thirty (30) days' notice shall be given to the County in the event of cancellation of, or material change in, any of the coverages.

Workers' Compensation and Employers Liability Insurance

The minimal acceptable limits shall be the statutory limits as required by the State of Nebraska for Coverage A, Workers' Compensation and \$500,000 each accident for Coverage B, Employers Liability.

Commercial General Liability Insurance

Coverage should include broad form coverage written on a commercial general liability form and written on an occurrence basis. The coverage must protect against claims for damages resulting from bodily injury, including death, personal injury and property damage.

The minimum acceptable limits of liability shall be \$1,000,000 each occurrence. If the coverage contains a general aggregate, such limit shall not be less than \$2,000,000. The products/completed operations limit shall not be less than \$2,000,000. The County is to be named as an additional insured on the insurance coverage required under this section.

Automobile Liability Insurance

Coverage shall be against claims for damages resulting from bodily injury, including death and property damage, which may arise from the operations of any owned, hired or non-owned automobile. The minimum acceptable limit of liability shall be \$1,000,000 Combined Single Limit for each accident. The County is to be named as an additional insured on the insurance coverage required under this section.

Certificate of Insurance

The Consultant shall furnish the County with a certificate(s) of insurance evidencing the coverages required in this section. If the certificate(s) is shown to expire prior to completion of all the terms of this Contract, the Consultant shall furnish a certificate(s) of insurance evidencing renewal of its coverage to the County. The County is to be included as an additional insured on the Commercial General Liability and the Automobile Liability insurance coverage required under this section.

The Consultant shall require each and every Subcontractor performing work under this Contract to maintain the same coverages required of the Consultant in this Section, and upon the request of the County, shall furnish the County with a certificate(s) of insurance evidencing the Subcontractor's insurance coverages required in this section.

Insurance Company

All insurance coverages herein required of the Consultant shall be written by an insurance company or companies transacting business as an admitted insurer in the State of Nebraska or under the Nebraska Surplus Lines Insurance Act. All insurance companies must possess a minimum A.M. Best Insurance Company rating of A-. Upon request by the County, the Consultant shall furnish evidence that the insurance company or companies being used by the Consultant meet the minimum requirements listed in this section.

Upon request by the County, the Consultant shall furnish the County with complete and accurate copies of the insurance policies required within this section. If at any time during the life of this Contract, the Consultant's insurance coverages and limits do not meet or exceed the minimum insurance requirements presented in this section, the Consultant is required to notify the County within thirty (30) days of any deviations from the minimum requirements presented in this section.

12. Assignment

The Consultant may not assign this Contract without the prior written consent of the County.

13. Independent Contractor

The Consultant shall in the performance of the Contract at all times be an independent contractor and not an employee or agent of the County. The Consultant, its officers, employees and agents shall at no time represent the Consultant to be other than an independent contractor or represent themselves to be other than employees of the Consultant.

14. Indemnity

The Consultant shall indemnify and save harmless Sarpy County, its officers, employees and agents from all loss, claims, suits or actions of every kind and character made upon or brought against Sarpy County, its officers, employees, or agents, for or sustained by any party or parties as a result of any act, error, omission or negligence of said Consultant or its servants, agents, and subcontractors; and also from all claims of damage in fulfilling this Contract.

15. Deviations

Once the bid has been accepted by Sarpy County, no deviations from the specifications will be accepted without prior written approval of Sarpy County.

16. Tobacco Free Notice

The use of tobacco is not permitted within the facilities or on the property of leased and owned Sarpy County buildings at any time including, but not limited to lawns, sidewalks, parking lots and vehicles on authorized County business.

General Information

1. Statement of Professional Services Requested

The County is seeking proposals to provide professional consulting services from a qualified consulting team to conduct a review of the County's existing communications system and to evaluate a proposal submitted by Motorola to upgrade the system.

The selected firm must be familiar with public safety police, fire and emergency medical communications systems, operations and systems methodologies with an extensive track record in communication system operations, design and implementation.

It is the County's intentions to evaluate the proposals received based on the qualifications, requirements and need described herein and identify the firms that best meet these needs. The County reserves the rights to invite firms for follow up interviews in order to make a final selection that we believe will best support our specific goals and requirements.

2. Background

Sarpy County is located in the Omaha metro area with 241 square miles and a population of 169,331. The County is home to the Cities of Papillion (population 21,921), Springfield (population 1,615), LaVista (population 17,562), Gretna (population 5,584), Bellevue (population 53,663) and Offutt Air Force Base.

Sarpy County operates an 800 MHz trunked radio system which provides service to all Sarpy County public safety and many public works agencies. The public safety agencies are comprised of the Sarpy County Sheriff; Bellevue, La Vista and Papillion Police Departments; Bellevue and Papillion paid fire departments; Springfield and Gretna volunteer fire departments.

The Sarpy County agencies operate approximately 1500 user radios on the system. There are also approximately 5000 guest ID's programmed on the system for interoperability with users of systems operated by the State of Nebraska and other agencies in the area.

The current system was purchased in 1994. It was installed and became operational in 1995.

The 800 system replaced many incompatible conventional systems on various frequency bands and made interoperable communications possible between all agencies everywhere in the County for the first time.

The current system is comprised of a Motorola three-site, ten-channel, analog and digital mixed-mode simulcast voice radio infrastructure, a complementary three-site 800 MHz mobile data infrastructure, a six-site simulcast UHF fire pager altering system along with primary and back-up 911 dispatch sites.

The current system has received several upgrades including the replacement of the Motorola IMP zone controller with an Astro 25 7.11 CORE with SmartX and Motorola MCC7500 dispatch consoles.

User agencies have been incrementally replacing analog mobile and portable radios with digital capable models in anticipation of migration to a fully digital system in the 2015-2016 timeframe when new 9600 P25 digital infrastructure will replace the existing end of life base stations.

3. Scope of Work

Existing Conditions Analysis

Consultant shall become familiar with the County's existing 800 MHz voice radio system infrastructure including the trunked radio system controllers, site controllers, base stations, antennas, transmission lines, transmitter combiners, receiver multi-couplers, microwave site connectivity, and network fault management system.

Consultant shall verify Motorola's determination that the infrastructure is at end of life. Consultant shall also review the existing system radio frequency coverage to assess how well the portable in-building coverage provided by the existing three site system meets user requirements.

Motorola Proposal Evaluation

Consultant shall be able to complete the following:

- a. Evaluate the needs of the County's users for in-building coverage.
- b. Completely review the Motorola proposal including all aspects of the system design.
- c. Evaluate the proposed P25 Phase Two capable base station infrastructure with respect to meeting operational and capacity requirements for the future life of the system.
- d. Provide a comprehensive review of Motorola's coverage maps and provide any recommended changes.
- e. Assess the life cycle costs of the Motorola proposal.

- f. Review and provide recommendations for the final Motorola contract.
- g. Review a coverage acceptance test plan and note any recommended changes.

Optional Bid Item – Construction Supervision

As an option to the base bid, consultants shall provide assistance with the supervision of construction of any infrastructure development required based on final system design. Consultant will also review all pay requests and change orders.

4. Coordination with 911 Communication Agency Representatives

Sarpy County has developed a coordinating committee with members of various County agencies. The selected Consultant shall work with this committee throughout the project, including but not limited to milestone meetings and progress updates.

5. Qualifications

Proposals shall be from qualified, independent Consultants who can provide direct assistance with assessing, planning, design and implementation oversight of the specific elements described in this RFP. Qualified consultants must demonstrate that the firm has expertise in the following areas:

- a. A minimum of five (5) years of verifiable experience with similar projects.
- b. Previous system design, replacement or upgrade experience that is similar in both size and scope to that requested in this RFP.
- c. Demonstrated experience with Motorola Smartzone and Astro25 wide area trucked radio systems.
- d. Complete familiarity with all aspects of the APCO 25 Phase One and Phase Two standards.
- e. Familiarity with Motorola life cycle planning including SUS, SMA, SUA and MAP support options.
- f. Demonstrated experience with assisting customers in developing system life cycle costs analysis for similar communications systems.
- g. Complete familiarity with TSB-88 and TSB-88 based coverage predictions methods.
- h. Working familiarity with coverage predictions produced by Motorola's HYDRA system.
- i. Experience with conducting, supervising and/or analyzing in-building RF coverage surveys to ensure that a proposed system will meet expectations.
- j. Experience with coordinating and working between multiple agencies to ensure coordination and support by all parties.
- k. Experience with construction supervision in projects of similar size and scope.

6. Proposal Content & Format

The proposal submitted shall follow the below format. Proposals shall be submitted on 8 ½" x 11" double sided paper.

- a. Introduction Letter. (2 page limit) Shall contain a brief statement of the project understanding along with the consultant contact information including name, (branch) office location, phone number and email.

- b. Table of Contents. Each page should be numbered for ease of reference.
- c. Cost Proposal. (3 page limit) Shall be the total cost for the project including personnel, travel and expenses. This cost should be a not-to-exceed amount. Include hourly rate(s) categorized by role/responsibility and skill level that might be applicable to any changes/additions to the scope of work. The optional bid item of construction supervision shall be included directly after the not-to-exceed amount of the base bid. If necessary, the County reserves the right to extend the agreement per the change order policy.
- d. Overview of the Firm. (6 page limit) Provide a general overview of the business, size and background along with summarizing the firm's capabilities and areas of expertise relative to the services sought by the County. The overview should include an organizational chart showing the anticipated team members and overall reporting structure.
- e. Experience. (10 page limit) Proposals shall contain the following:
 - i. Identification of each person responsible for directing the work to be performed under the contract. For each individual with identified responsibilities, the Consultant must include a statement of the percentage of each person's time that will be devoted to this project and a complete resume.
 - ii. Demonstration of the Consultant's relevant previous experience and qualifications for successfully completing the requirements of this RFP including not less than three (3) references from the past three (3) years of similar size and scope projects. The list must include summary descriptions of the comparable projects along with the names of the companies along with a contact names, addresses, phone numbers and email addresses.
 - iii. If a partnership or joint venture is expected, the proposal must specify who will act as the lead Consultant for the purposes of assuming contractual responsibility. All subcontractors need to be identified within the submitted proposal including anticipated project role and previous experience.
- f. Understanding of Scope of Work. (10 page limit) Proposals shall contain the following:
 - i. Proposal must contain a detailed description of how the consultant proposes to carry out the requirements set forth in this RFP including a high level overview of anticipated milestones and a schedule for completion of each task or identified milestone.
 - ii. Proposal shall breakdown the tasks to be performed by the Consultant including specifics regarding anticipated deliverables and staff hours.
 - iii. Proposal to include a list of resources, data or other assistance which the consultant expects to receive from the County and/or municipalities in order to complete each task in the scope of work.
- g. Proposed Agreement. If available, Consultant shall attach the standard agreement proposed to be used for this RFP. The Agreement should take into account this RFP along with the proposal submitted by the Consultant.

Sarpy County Purchasing Department

SARPY COUNTY COURTHOUSE
1210 GOLDEN GATE DRIVE, SUITE 1220
PAPILLION, NE 68046



Brian Hanson, Purchasing Agent
(402) 593-2349
Debby Peoples, Asst. Purchasing Agent
(402) 593-4164
Beth Garber, Purchasing/Contract Administrator
(402) 593-4476

Addendum #1
Professional Consulting Services
For the
Radio System Upgrade Project

Question #1: The referenced solicitation has a very short response timeframe. Responses are typically required within four to five weeks for similar solicitations; the County has requested proposal delivery a little over three weeks from the release date. Respondents must also allow ample time for shipment for an on-time delivery of the proposals, which in essence shortens the response timeframe. This short a timeframe may hinder the ability to provide the County with a proposal. In order to develop a comprehensive response that meets the requirements of the RFP and the expectations of the County, and to provide ample time for delivery, will the County grant a two-week extension to the due date for proposals?

Response: No. The dates listed within the RFP remain unchanged.

Question #2: In the factors used for the award, as listed, could you expand on how our response should address g-k?

Response: The Procedures for Evaluation and Awarding of Bid Section of the RFP is for reference purposes only. This section does not need to be directly addressed within responses.

Question #3: Is it correct to assume there is no expected work scope in the dispatch centers as MCC7500 consoles are already in place and operational?

Response: Correct.

Question #4: Does the County have an expected timeline for the project?

Response: General Information; 6. f. i. requests consultants propose anticipated milestones and schedule for completion. Vendors must define their project timeline within the proposal submitted.

Question #5: Is the proposal from Motorola that is expected to be reviewed an overview or was it in response to a RFP thus offering the complex information for a complete review?

Response: The proposal provided by Motorola is expected to be highly detailed including a complete needs assessment, system design description, equipment lists, acceptance test plan, coverage acceptance test plan, statement of work, proposed project schedule, contract documentation and pricing. The proposal will include a provision for a detailed design review/contract design review process so the selected consultant's recommendations and any necessary revisions can be incorporated into a final contract document.

**All other terms and conditions remain the same.
Addendum must be acknowledged within the Proposal submitted.**

Sarpy County Purchasing Department

SARPY COUNTY COURTHOUSE
1210 GOLDEN GATE DRIVE, SUITE 1220
PAPILLION, NE 68046



Brian Hanson, Purchasing Agent
(402) 593-2349
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(402) 593-4164
Beth Garber, Purchasing/Contract Administrator
(402) 593-4476

Addendum #2 Professional Consulting Services For the Radio System Upgrade Project

Question #1: Was the current Motorola proposal a sole source or competitively bid?

Response: The proposal from Motorola was not competitively bid because of the unique nature.

Question #2: Re: #6 – Proposal Content & Format: We understand the proposal response is to be printed on both the front and back of the paper, does each side of the paper count as a separate page?

Response: Yes.

Question #3: As a follow up to the County's response to Question #5 in Addendum #1:

Has the County already received a proposal from Motorola, or is a proposal forthcoming? The Addendum response implies the proposal has not yet been received. If not, is there an expected delivery date for this proposal?

In either case, is the proposal based upon Motorola's independent assessment of the County's needs, or has the County provided specific requirements and performance criteria to Motorola?

Response: The County is expecting to receive the Motorola proposal in August. The proposal was developed by Motorola in response to the County's request to provide a solution that both addresses the end of life issues with the existing RF infrastructure and provides the coverage and capacity necessary for the future as Sarpy County continues its growth. The process has involved numerous meetings between Sarpy County staff and Motorola's sales and engineering team in order to define the requirements and performance criteria including number of sites, site locations, coverage capabilities, and system features.

Question #4: Does the County require any submissions other than the response to the RFP's technical requirements (such as insurance forms, non-discrimination clause, conflict of interest clause, etc.)?

Response: Proposals shall follow the format as listed in General Information; 6. Proposal Content & Format. No other information is required. Should additional information or clarification be needed, the County reserves the right to request such information from consultants.

Question #5: By what date are the final Q&A answers and addenda to be distributed?

Response: Questions are due to the County on August 6, 2015 at 12:00 p.m. This addendum addresses all questions received by this deadline.

Question #6: Does the existing and/or will the planned system upgrade include satellite receiver sites that are not at locations of the transmitters listed in the license WPYQ729? If so, how many and where located?

Response: Neither the existing nor the proposed system includes the use of satellite receiver sites.

Question #7: Does the existing and/or will the planned system upgrade include any distributed antenna systems or bi-directional amplifier (DAS/BDA) sites? If so, how many and where located?

Response: This is not part of the current Motorola project scope.

Question #8: Will Motorola or Sarpy County be able to provide a complete list of subscriber inventory with details as to digital capability being equipped or capable of being equipped?

Response: Sarpy County has a complete inventory of all units currently using the system and has been working with user agencies so they are aware of the project's impact and their options to upgrade or replace equipment. Per the RFP; General Information; 4. Coordination with 911 Communication Agency Representatives – the consultant will work with the coordinating committee throughout the project.

Question #9: Will Motorola furnish the data entry summary sheets that correspond with Coverage Maps generated on Hydra?

Response: Sarpy has requested that Motorola include in their proposal the complete technical details used in the system design including all the parameters used for their coverage map predictions such as site name and locations, coordinates, elevation, antenna types, antenna heights, antenna gains, coax losses, transmitter power, ERP and ERS.

Question #10: 6. Are the NPSPAC parameters available for the license WPYQ729? These would include any special transmitter antenna directional patterns, height and ERP restrictions that were determined when the system was licensed per the NPSPAC regional committee recommendations.

Response: Neither the existing 800 trunked system nor the proposed system employs the use of frequencies in the NPSPAC spectrum.

**All other terms and conditions remain the same.
Addendum must be acknowledged within the Proposal submitted.**

Proposal

***Professional Consulting
Services***

for the

***Radio System Upgrade
Project***

for

Sarpy County, NE



Submitted by

TUSA CONSULTING SERVICES



tusa | Consulting Services
Raising the Bar in Radio Communications

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Attachment A - Resumes

INTRODUCTION (RFP Section 6.a)

Sarpy County, Nebraska, is seeking proposals to provide professional consulting services from a qualified consulting team to conduct a review of the County's existing communications system and to evaluate a proposal submitted by Motorola to upgrade the system

Tusa Consulting Services (TCS) specializes in the assessment, analysis, design, procurement and deployment of large public safety radio systems. TCS is thoroughly familiar with public safety police, fire and emergency medical communications systems, operations, and system methodologies. TCS has worked with all of the major vendors offering P25 systems and subscriber products and has Country-wide experience with the development of public safety radio system solutions. TCS understands the County's requirements and is fully capable of providing the requested services.

The following is a response to the requirements of the RFP, following the "Proposal Content & Format" directions on page 10 of the RFP. Every attempt has been made to be brief and concise, yet to provide the level of detail requested.

This proposal has been prepared and submitted by:

Jack Hart – Senior Consultant
Tusa Consulting Services – Midwest Region
P.O. Box 901810
Kansas City, MO 64190
Telephone: 816-550-7475
jack.hart@tusaconsulting.com

TCS acknowledges receipt of the following Addenda:

Addendum #1 – received 7/31/2015 via email

Addendum #2 – received 8/6/2015 via email

COST PROPOSAL (RFP Section 6.c)

Sarpy County, NE - Cost Proposal				
Task	Detail	Hours	Cost	Expenses
1	EXISTING CONDITIONS ANALYSIS	50	\$7,500	\$1,750
	Inspect system assets			
	Determine end-of-life of existing system elements			
	Assess current system coverage, provide maps			
	Interview users (system performance/requirements input)			
	Submit "Existing Conditions Analysis" report			
2	MOTOROLA PROPOSAL ANALYSIS	50	\$7,500	\$2,200
	Evaluate in-building coverage requirements			
	Review Motorola proposal			
	Evaluate Phase II infrastructure for future needs			
	Review Motorola coverage maps			
	Assess life cycle costs of Motorola proposal			
	Provide recommendations for the final Motorola contract			
	Review coverage acceptance plan and note changes, if needed			
	Submit "Motorola Proposal Analysis" report			
			\$15,000	\$3,950
Total Base Bid (Tasks #1 and #2)			\$18,950	
The following estimate is based upon projects of similar scope; final cost to be determined by vendor schedule.				
3	CONSTRUCTION SUPERVISION (optional) - assuming 1 Year Project Schedule	600	\$90,000	\$ 8,000
	Review executed contract and project plan			
	Attend kickoff meeting			
	Finalize project schedule and budget			
	Establish responsibility matrix			
	Attend Factory Staging/support Factory Acceptance Testing			
	Supervise installations at sites and dispatch			
	Participate in Acceptance Testing (operations and coverage)			
	Support project closeout (review "As-Builts")			
			\$90,000	\$ 8,000
Total - Optional System Implementation Support			\$98,000	
TCS hourly rate is \$150 for assigned personnel				
Expenses are estimated and will be invoiced at cost.				
Prices for Tasks #1 and #2 are not-to-exceed				

OVERVIEW OF THE FIRM (RFP Section 6.d)

TCS COMPANY BACKGROUND

Tusa Consulting Services (TCS) was founded in 1992 by Dominic (Nick) Tusa when he began providing contract engineering services to consulting companies and public safety customers. In 2005 TCS transitioned into a full-featured consulting services company with the addition of other radio systems specialists to the organization, many of whom have more than 30 years' experience in the radio communications field. The TCS team currently includes 20 consultants and support professionals. To obtain additional information about TCS, please visit our website: www.tusaconsulting.com.

EXPERIENCE and EXPERTISE

TCS experience and expertise spans the entire range of land-mobile radio services and technology. The following provides a brief overview of in-house capabilities and services:

a. Assessment, Design and Implementation of VHF, UHF and 700/800 MHz Radio Networks

TCS services include radio system assessment, user interviews, site inspections, hardware specification, development of site requirements, propagation studies, drive-testing, FCC/APCO license application submission, spectrum management, preparation of cost analyses, evaluation of vendor proposals, and supervision of installation, testing & acceptance.

Typical radio system configurations designed by TCS include analog, digital, conventional, and trunked repeater systems (VHF, UHF and 700/800 MHz), remote receiver systems for improved portable radio operations, paging systems, siren alert networks, vehicular repeaters, bi-directional amplifier (BDA) systems for in-building coverage solutions, fire station alerting systems, distributed antenna systems (DAS), dispatch centers, mobile data systems, alarm networks, transit radio networks, and conventional/IP interconnectivity systems using wireline, fiber and microwave.

b. Design of Simulcast/Multi-Site Radio Networks

Many system users require the enhanced coverage and spectrum efficiency which simulcast (SIMULTaneous broadCAST) configurations can best provide; many VHF/UHF narrowband transition solutions required adaptation of multi-site simulcast designs in order to provide pre-narrowband coverage. Trunked radio networks, which utilize "pooled" repeaters that are automatically assigned for use on an on-demand basis, also depend upon simulcast technology for wide-area coverage.

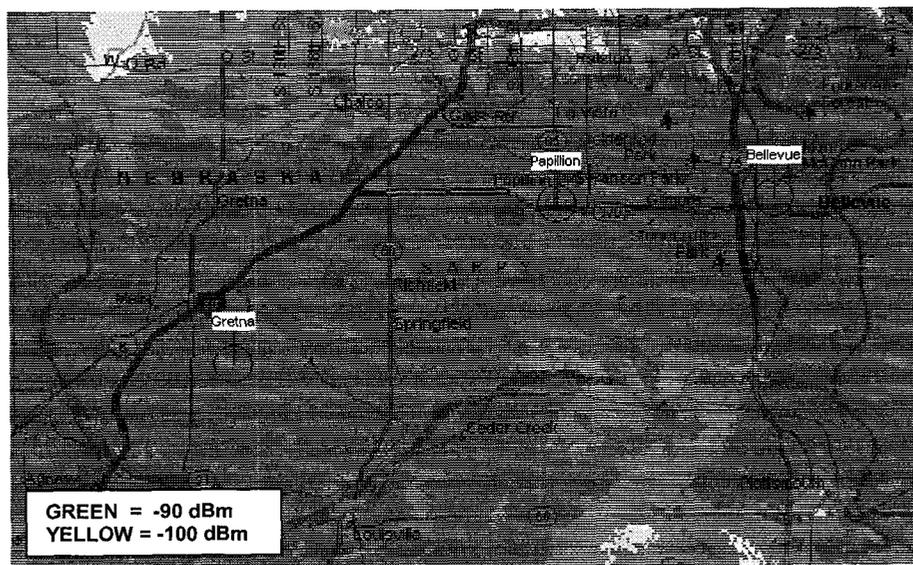
Simulcast systems are composed of multiple sites that transmit on the same frequency at the same time, thus providing radio-spectrum-efficient wide-area coverage. We have successfully designed, procured, and deployed both conventional and digital simulcast systems in rural, suburban, and urban locations.

c. Radio Signal Coverage Analysis

TCS utilizes several software-based tools to analyze system coverage/performance.

- *ComSite™* is a highly accurate prediction tool used to assess current-system coverage (radio signal propagation) and analyze new-site/new-system designs.
- *RAPTR™* is used for in-depth interference analysis and simulcast system performance investigation.

These software tools allow us to rapidly design coverage-compliant radio systems to a level of reliability and accuracy not available in previous-generation applications. The propagation modeling software clearly highlights those specific areas that do not meet established coverage criteria, thereby alerting the system's designer to potential coverage gaps. If the predicted coverage does not meet the established design criteria throughout a desired geographical service area, the designer can adjust system variables (site locations, antenna types, tower heights, etc.) until the predicted coverage coincides with the desired service area.



PROPAGATION MODEL EXAMPLE (*ComSite™*)

d. Radio Sites

As part of our system analysis process, we catalog all viable radio sites within the defined service territory. TCS has developed a software tool that merges the FCC's Antenna Site Registration (ASR) database with Google Earth™. It allows us to quickly locate candidate tower sites as we investigate various system configurations. The software utilizes a link that provides detailed tower information as well as ownership information.

TCS has extensive experience with the development of new tower sites (often called "greenfield" or "raw land" sites), and rooftop sites. Our consultants have developed thousands of new sites across the Country. TCS has managed FAA tower clearance application processes and FCC Antenna Site Registration (ASR) applications.

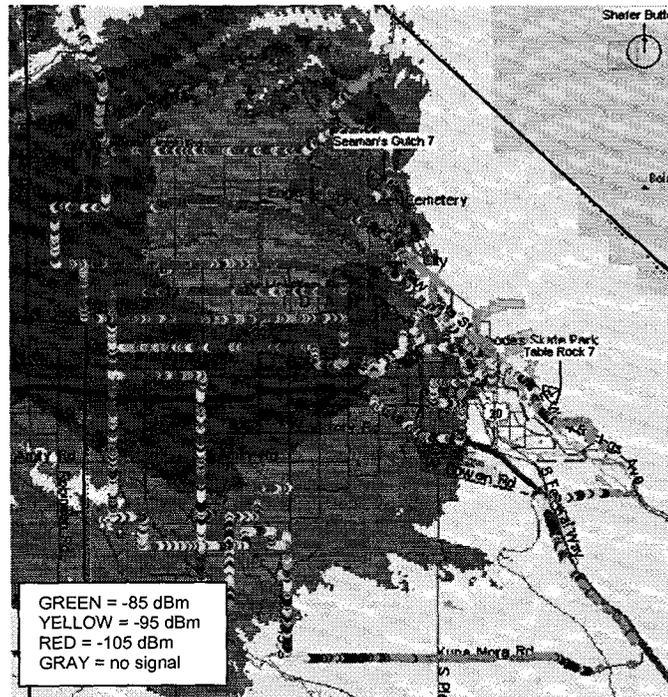
e. Real-Time System Coverage Testing

Depending upon project requirements, TCS has available specialized test equipment that could be used to collect actual, scientifically verifiable signal level measurements ("drive test data") of a client's radio system service area, or of a neighboring system's coverage. This service feature can be provided as part of the overall system assessment task, if required. A continuously-transmitting radio channel is required for this type of testing.

The process of collecting signal level data in the field complies with industry-recognized techniques described by TIA/TSB-88. The signal collection equipment used by TCS is manufactured by Berkeley-Varitronics (Metuchen, NJ). It utilizes specialized programmable radio receivers which are capable of collecting up to 512 samples per second. These receivers can collect data from as many as twelve transmitter sites at a time, operating in the VHF, UHF, 700 and/or 800 MHz radios bands. The portable equipment can be installed in any vehicle, and, once activated, will automatically collect coverage measurement data and GPS location while the vehicle is driven along selected routes. The resulting collected data is stored in a file and then plotted on a map, allowing the coverage along each route to be easily analyzed.

System drive testing can be used to establish a benchmark for "before and after" coverage analysis. Once system improvements/enhancements are made, a subsequent drive test can be conducted and compared to the benchmark.

In the following drive test sample, the drive test results are overlaid on a propagation coverage plot. It can be seen how the two complement each other. This particular drive test is for a 700 MHZ APCO 25 digital radio system.



DRIVE TEST EXAMPLE

f. Spectrum Management

FCC licensing of radio systems requires the submittal of applications that must clear numerous levels of frequency coordination oversight by approved frequency coordinators, such as APCO (Association of Public Safety Communications Officials). The process becomes even more complex when co-channel protection must be considered (a major issue when using VHF and UHF radio frequencies). In the past, the identification of available frequencies and evaluation of co-channel interference has been a time consuming and tedious task, particularly for heavily congested geographic areas.

TCS has developed a proprietary software tool ("*EZ-Spectrum™*") that enables our engineers to identify "orphan" or otherwise available frequencies for use in the expansion of radio systems and to more efficiently and accurately assess new sites or existing configurations with respect to interference protection.

EZ-Spectrum™ has most recently been instrumental in identifying expansion channels for public safety radio systems in the states of Florida, Georgia, Missouri, Kansas, Mississippi, North Carolina, Louisiana, and Pennsylvania. Please visit www.ez-spectrum.com for details.

g. Development of Technical Specifications, Requests for Proposal (RFP), System Procurement, Proposal Evaluations, and Contract Negotiation Support

TCS has supported procurements (RFP, RFQ's, etc.) for radio systems in Kansas City, Clay and Cass counties in Missouri; New York City, NY; Lancaster County, PA; Floyd County, GA; Sedgwick County, KS; Saline County, NE; Will County, IL; and Dubois County, IN, amongst others. These RFP's have covered narrowband conventional system upgrades and simulcast voice and paging networks, through multi-site regional digital trunked networks. TCS has created a comprehensive RFP package that addresses everything from radio equipment specifications through site construction guidelines. TCS is familiar with the products and service offerings of all major vendors. Our vendor-neutral approach enables us to develop broad-based requirements that do not "exclude" vendors. Our evaluation process utilizes a checklist that assesses compliance with each RFP requirement, thus allowing for a timely and efficient evaluation and vendor selection. TCS has supported the award of contracts to Harris, Motorola, Cassidian/Tait, and E.F. Johnson.

h. Project Management/Implementation Supervision

TCS provides comprehensive Project Management services that support single-site upgrades through city-wide and regional system deployments. Our expertise ranges from site selection/acquisition/design, construction supervision, installation oversight, and system testing. TCS oversees vendor implementation performance in regards to deliverables, milestones and costs. We utilize industry-standard project tracking tools such as Microsoft Project, and track schedule and budget performance throughout a project's duration.

i. Thorough Knowledge of All Radio Communications Standards

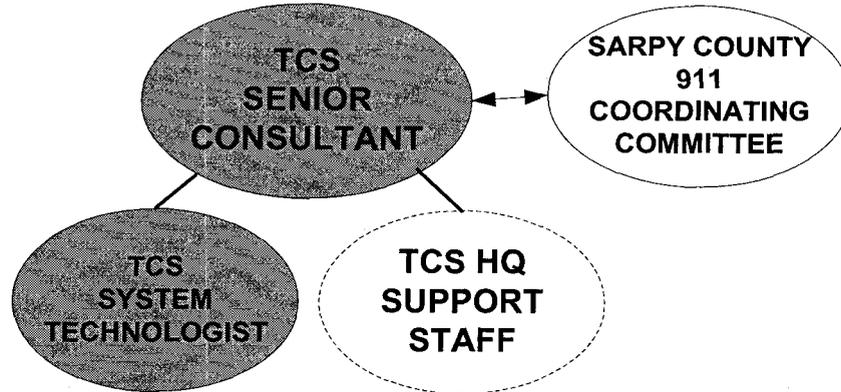
TCS has developed conceptual design solutions for radio system projects utilizing EDACS, SMARTNET, SMARTZONE, TETRA, APCO 16, APCO P25 (Phase I and Phase II) and DMR. We have designed conventional/narrowband analog and digital solutions, simulcast systems, paging systems, dispatch centers, and mobile data networks. Our team members have a thorough understanding of technologies such as DMR (NextEDGE, MotoTRBO), OpenSKY, GSM, FDMA, CDMA, TDMA, LTE and HF SSB. We also have extensive practical experience with the design and installation of point-to-point interconnectivity networks using microwave, fiber, and wireline technologies.

PROJECT TEAM

The proposed TCS Sarpy County Project Team will consist of:

Jack Hart – Senior Consultant, Project Leader

Don McGee – Senior System Technologist



Project team experience and capabilities will be presented in the following section.

EXPERIENCE (RFP Section 6.e)

PROPOSED PROJECT TEAM (6.e.i)

Jack Hart – Senior Consultant, Project Leader

Jack will act as the overall TCS Project Manager and will be the primary TCS contact. He has more than 40 years’ experience with the design and deployment of large-scale radio networks, including some of the first multi-site public safety trunked radio system implementations, through multi-state cellular network design, deployment and operations, and city/county/regional P25 systems. Jack is currently based out of Kansas City, MO.

Sarpy County Project Role: Jack will be the lead consultant for the Sarpy County project. Jack has extensive experience with Motorola systems and proposals. He will conduct the system assessments and user interviews, and lead the coverage analysis and Motorola proposal review tasks.

Don McGee – Senior System Technologist

Don has an extensive radio systems engineering background, primarily with Harris (and its predecessors). He was instrumental in the development of the RAPTR™ propagation-modeling tool that is used by many engineering firms to assess system coverage and simulcast performance. Since joining TCS, Don has specialized in radio coverage design, coverage testing, traffic analysis, simulcast interference analysis/mitigation, and software tool development. Don is based out of Windham, NY.

Sarpy County Project Role: Don will assist with coverage analysis of the existing system and evaluation of the Motorola proposal in regards to Phase II coverage, channel capacity, traffic analysis, and Phase II simulcast design.

Complete Resumes for Jack Hart and Don McGee are in Attachment A.

TCS HQ Support Staff will assist with the Motorola proposal review.

Statement of Percentage of Time Devoted to Project

TCS develops its fee structure based upon our extensive experience with similar projects. It is not practical to assign resources to a project on a full-time basis; the cost would be prohibitive and there would be a lot of “down time”, as there always is. The assigned Project Team members will be available to support the project on an as-required basis. The assigned Senior Consultant/Project Leader will be available 24/7 via email or telephone and will attend all scheduled meetings. TCS will meet all project milestones as described in the Sarpy County RFP.

DEMONSTRATION OF RELEVANT EXPERIENCE (6.e.ii)

The following three (3) references are provided to demonstrate TCS’s experience and qualifications for successfully completing the requirements of the County’s RFP:

1. Cass County – Missouri – 2012-2014

Cass County is comprised of 5 dispatch centers that serve more than 45 agencies, including the county sheriff, city-level police and fire departments and multiple volunteer fire departments, emergency management, and public works agencies. With the FCC’s narrowbanding mandate pending, the Emergency Services Board selected TCS to provide a thorough County-wide assessment and develop an upgrade plan for the many VHF systems, or to design a County-wide P25 800 MHz digital radio system. After comparing costs and benefits, the County decided to pursue the County-wide P25 system design. TCS provided site acquisition services, developed an RFP for the system, assessed the submitted design,

and supervised the implementation of the Motorola system. This system serves more than 1,200 users and is now part of the Midwest's 5-county regional digital network known as the Metropolitan Area Regional Radio System (MARRS).

Kris Turnbow - Chairman
Cass County Emergency Services Board
801 S. Commercial Street,
Harrisonville, MO
Telephone: 816-935-5519
turnbowkp@att.net

2. Lancaster County, Pennsylvania - 2013-present

Lancaster County operated a combination of VHF low-band, VHF hi-band and UHF analog conventional radio networks supporting countywide police, fire and emergency medical service. The County's Communications Center provides dispatch services for 74 Fire Departments, 21 EMS agencies and 28 Police Departments, with an active radio subscriber fleet of approximately 6,000 units. The County initially constructed an 800MHz OpenSky™ TDMA trunked radio network; however, for various reasons, the system was never operationally commissioned. TCS developed the initial P25 system RFP which was awarded to ARINC (as the system integrator, with Cassidian as the radio system vendor). The County has retained TCS to assist ARINC with implementation supervision of the 24-site UHF T-band P25 system. The system is currently in the testing/acceptance phase.

Mr. Michael Weaver, Director - Lancaster County-Wide Communications
PO Box 487
Manheim, PA
Telephone: 717-664-1101
mweaver@lcwc911.us

3. Platte County, Missouri – 2011-2013

Platte County was operating a VHF system that was going to need a major overhaul in order to comply with the 12/31/2013 narrowbanding mandate. The County retained Tusa Consulting Services to assess its current VHF system and provide recommendations for a VHF upgrade or transition to the then-evolving regional 800 MHz P25 system. TCS provided a VHF upgrade design and a budgetary cost to join the regional 800 MHz system. The County Commissioners, and a Communications Committee made up of County residents, voted to pursue the P25 800 MHz solution. TCS provided a conceptual design, identified needed sites, and assisted with vendor contract negotiations (Motorola sole source). TCS also supervised system implementation. The P25 system was completed in 10 months (5 sites and 2 dispatch centers). Platte County is part of the regional MARRS system.

Sarpy County, Nebraska – Professional Consulting Services Proposal – Radio System Upgrade

Captain Anthony Avery
Platte County Sheriff's Office
415 Third Street, Platte City, MO 64079
816-858-2424

Nebraska Projects

Lancaster County - TCS developed a plan for Lincoln Electric System (LES) to transition to Nebraska's Statewide VHF P25 digital system prior to the Narrowband mandate date of December 31, 2012.

Saline County - TCS assessed the County's UHF public safety radio system and proposed a UHF remote receiver system to improve portable coverage, and a UHF paging design to support volunteer fire departments in the County. TCS developed an RFP for the new designs and evaluated the submitted proposals. The system is currently in the acceptance testing phase.

METROPOLITAN AREA REGIONAL RADIO SYSTEM

The following information is provided to provide Sarpy County with information regarding a unique system that TCS has been responsible for designing and deploying. This large regional system has been acknowledged as an example of how large interoperable networks should and can be developed.

Tusa Consulting Services is the lead consultant in the evolutionary design and deployment of the Metropolitan Area Regional Radio System (MARRS) in the Midwest U.S. This 700/800 MHz P25 system currently covers five counties, across two states (Missouri and Kansas). The system serves a population of approximately 1.2 Million residents, covering approximately 4,000 square miles.

The MARRS system supports 24 Public Safety Answering Points (plus two Regional backup PSAP's), with 44 radio tower sites, and 28,000 users. The system is entirely seamless in operation, designed for portable-on-hip service. MARRS is a system-of-systems, with each of the five member counties operating and administering their own multiple-site "simulcast cells" with all sites tied together with multiple microwave "loop" systems and redundant system management resources. Every subscriber radio in the region is programmed with local, county, regional, and state talkgroups. The regional microwave network is currently being used to support the rollout of NG911 telephone systems for all PSAP's, eliminating costly and unreliable wireline telephone connections.

TCS continues to augment this system by adding in local municipalities and expanding services to current users. A recent project, just completed in July 2015, transitioned the City

P25 SYSTEM PROJECTS

P25 digital systems began to be deployed following the events of September 11, 2001. The FCC's 2013 Narrowbanding mandate that impacted conventional VHF and UHF systems prompted many agencies to transition to new P25 platforms versus spend large amounts of money trying to upgrade their VHF or UHF systems. Finally, users of APCO 16 systems (Motorola Smartnet/Smartzone™ and Harris EDACS™) have been advised that product support for this technology is ending in the 2017 timeframe. In the meantime, new P25 system manufacturers have made inroads in penetrating the marketplace. And, Phase II P25, using TDMA technology, is starting to be deployed.

The following is a list of P25 projects supported by Tusa Consulting Services:

<u>Agency</u>	<u>System Vendor</u>
Ada County, ID	Motorola
Barrow County, GA	Motorola (P II)
Bonneville County, ID	Raytheon/Tait/AVTEC
Cass County, MO	Motorola
Floyd County, GA	Harris
Franklin, TN	Motorola
Gordon County, GA	Harris
Hillsborough County, GA	Harris
Independence/Blue Springs, MO	Motorola
Jackson County, MO	Motorola
Johnson County, KS	Motorola
Kansas City, MO	Motorola
Lancaster, PA	ARINC/Cassidian
Mobile County, AL	Harris
Mississippi State University, MS	Harris
New Bern, NC	Harris
Overland Park, KS	Motorola
Platte County, MO	Motorola
Sedgwick County, KS	Cassidian/Tait
Sumter County, FL	Motorola
Tallahassee, FL	Motorola
West Palm Beach, FL	Harris
Will County, IL	E.F. Johnson (P II)
Wyandotte County, KS	Motorola

UNDERSTANDING OF SCOPE OF WORK (RFP Section 6.f)

PROJECT APPROACH (6.f.i)

The Sarpy County Scope of Work, as outlined in the RFP (Section 3, page 9), outlines three tasks:

1. Existing Conditions Analysis
2. Motorola Proposal Evaluation
3. Construction Supervision (optional)

The following is a detailed description of how TCS will address these tasks:

1) Existing Conditions Analysis – 50 TCS Staff hours

TCS will inspect the County's Motorola Smartnet/Smartzone system in order to gain an understanding of how the system has been configured, and to be able to relate system performance observations to the physical configuration. All equipment will be assessed in regards to suitability for continued use, or if it needs to be replaced (for example, transmit combiners and receiver multicouplers obtained during the Sprint/Nextel "rebanding" program have ongoing value and do not necessarily need to be replaced...a new-system vendor will propose to provide all new equipment, even when it isn't needed).

Motorola has announced their APCO 16 systems have reached end-of-life and that support for certain elements has, or soon will, be ending. According to system information provided in the RFP, the County has already transitioned to the Motorola MCC7500 radio dispatch console product; this probably replaced the Motorola Gold Elite™ consoles that have been unsupported for several years. And, the County's move to the 7.11 Smart X CORE platform mitigates the obsolescence issues related to the older controllers. This essentially leaves the RF infrastructure as the major end-of-life element.

TCS will develop coverage maps that will be used to assess current coverage, especially in regards to portable coverage and in-building signal penetration.

2) Motorola Proposal Evaluation – 50 TCS Staff hours

TCS has been reviewing proposals for all major vendors for many years as a result of our up-front involvement with the creation and publication of system RFP's. Each vendor has its own "methodology" for responding to RFP's. Quite often, some vendors over-design to be compliant, while others under-design to be competitive.

The following addresses each task as outlined in the County's RFP Scope of Work, section 3, page 9:

a. Evaluate the needs of the County's users for in-building coverage

As part of the initial "Existing Conditions Analysis" task described previously, TCS will meet with the County's user representatives to solicit system performance input and determine what new features they might need. One task within this process is to develop a list of "critical buildings" that have, or will require, in-building coverage (schools, hospitals, jails, public safety buildings, malls, etc.). The locations of these sites can be overlaid on Motorola's proposed coverage map and the buildings that might need coverage enhancement can be identified. Coverage can be improved in these buildings by means of (1) system antenna adjustments, (2) installation of remote receivers for improved talk-back, or (3) the application of bi-directional amplifier (BDA) technology. Should BDA's be required, TCS recommends the County directly engage subcontractors who specialize in BDA systems; Motorola will only subcontract the work and mark it up. TCS has extensive experience with the design and application of BDA systems.

b. Completely review the Motorola proposal including all aspects of the system design

Radio system upgrades should be guided by defined operational and technical requirements developed by the user. Otherwise, a vendor might tend to drive the design based upon their own assumptions (or a sales quota). In recent projects, similar in scale to Sarpy County's project, TCS has consistently eliminated thousands, if not hundreds of thousands, of dollars of unneeded equipment and/or services. This is especially relevant when third-party services being proposed are based upon "estimates" (site design and construction services, for example). TCS will thoroughly review the Motorola P25 Phase II proposal from the system design and parts lists, through training, warranty and spare parts offerings.

If the County's three-site mobile data, UHF simulcast fire paging, or microwave systems are impacted by the Motorola proposal, they will be included in the TCS assessment.

c. Evaluate the proposed P25 Phase Two capable base station infrastructure with respect to meeting operational and capacity requirements for the future life of the system

P25 Phase II simulcast designs typically require sites to be closer-spaced than they were for legacy trunked systems. TCS will closely review Motorola's design in regards to proper site spacing, simulcast overlap, and system configuration. Additionally, TCS will conduct a traffic analysis that assesses current and future channel/traffic capacity, taking into account current system loading and the impact of Phase II.

d. Provide a comprehensive review of Motorola's coverage maps and provide any recommended changes

Motorola's standard coverage map submissions are based upon estimated Bit Error Rate (BER) performance (Motorola's BER maps are typically "very green" and stop at county borders). TCS requires additional maps showing portable-radio-on-hip talk-out and talk-in signal strength coverage. TCS RFP's always require a vendor to provide all site design parameters (types of antennas used, gains, heights, azimuths, estimated radiated power [ERP], tower-top receive amplifier gain figures, etc.) so that TCS can conduct an independent coverage and performance analysis.

e. Assess the lifecycle costs of the Motorola proposal.

TCS will determine if any proposed equipment might not have long-term lifespans. In some cases, we have negotiated "technology refresh" commitments for future equipment upgrades. New systems should have an overall lifespan of at least 15 years. Other non-system elements also need to be reviewed for long-term suitability (towers, shelters, generators, HVAC systems, backup power systems, etc.). Some lifecycle costs can be mitigated by taking advantage of the Motorola Software Upgrade Assurance (SUA) service offering which protects the customer from certain equipment obsolescence due to regularly-scheduled system software upgrades.

f. Review and provide recommendations for the final Motorola contract.

We are very familiar with each major vendor's negotiation processes and know how to get the best system for the best price (especially when end-of-quarter or end-of-year sales goals can be discount-influencing factors!). Major items to be documented in the contract are performance guarantees, assurances of milestone completions, and pricing guarantees. Spares, warranty, maintenance services, and training also have to be clearly defined in the final contract if they were not specified previously. Some of Motorola's service offerings are more beneficial than others (such as SUA). If required, TCS can provide on-site support during contract negotiation meetings.

g. Review a coverage acceptance test plan and note any recommended changes.

Motorola prefers to validate coverage results based upon measured BER performance; however, that does not always indicate "acceptable coverage". TCS RFP's always require signal strength, BER, and DAQ (Delivered Audio Quality) tests. The combination of these three measurements is used to assess compliance with established performance criteria.

A task that is often overlooked is the connection and testing of legacy systems (interoperability radios, siren control systems, door controls, fire paging/station alert

systems, and logging recorders). TCS requires provisioning of those connections, and demonstration of acceptable operation of each feature, to be part of Motorola’s deliverables.

3) Construction Supervision (optional)

Once the vendor’s contract has been fully executed, the project’s implementation phase starts. The following tasks are typical:

- Project Kickoff meeting/project team introductions
- Schedule and budget review
- Detailed Design Review
- Attend system Factory Staging and participate in Factory Acceptance Test
- Site acquisition/design/construction
- System installation
- System testing (coverage and functional)
- System cutover
- Formal System Acceptance
- Project closeout (review of “as-builts”)

TCS has supported dozens of projects of this type. Major tasks taken on by TCS include vendor management, schedule and budget oversight, construction/installation supervision, and problem resolution (which keeps the project moving along). At all times, we are the client’s “advocate”, and eyes and ears.

Should the County elect to assign the Construction Supervision phase to TCS, details regarding the above tasks can be discussed.

BREAKDOWN OF TASKS (6.f.ii)

From a high-level overview, the three project tasks can be completed in the following timeframes:

<u>TASK</u>	<u>TIMEFRAME*</u>	<u>TCS Staff</u>
Existing Conditions Analysis	15 days	50 hours
Motorola Proposal Evaluation	20 days	50 hours
Construction Supervision (optional)	1 year (estimated)	600 hours

*Each timeframe allows sufficient time for County coordinating committee review and assessment of TCS draft findings and recommendations, and final reports.

COUNTY-PROVIDED RESOURCES (6.f.iii)

In order for TCS to meet its proposed project timeframe goals, it would be helpful if the County could provide this information upon project initiation:

- County-identified single Point-of-Contact
- FCC licenses
- System configuration diagrams
- Site information and access to sites
- List of all equipment obtained through 800 MHz/Nextel Rebanding
- User agencies contact information and equipment inventories (inventories to be verified)
- Recent system upgrade documentation (MCC7500 consoles and Smart X)
- Motorola P25 Phase II proposal document

SUMMARY

Tusa Consulting Services possesses the experience and expertise required to fulfill the Radio System Consulting Services needs of Sarpy County. TCS specializes in Public Safety Radio Systems, only.

TCS fully understands the County's requirements and has the experienced people resources available to address the required tasks within the timeframes stated. And, we have extensive experience with Motorola proposals and system implementations.

TCS looks forward to an opportunity to review our proposal with Sarpy County's 911 Coordinating Committee.

Affirmations:

- *TCS will comply with all requirements of the Non-Discrimination Clause, Conflict of Interest Clause, Residency Verification, and Insurance Requirements as described in the RFP.*
- *TCS is not affiliated with any radio system manufacturers or suppliers.*

ATTACHMENT A

PROJECT TEAM RESUMES

Jack Hart

Communications system professional, experienced in the design, deployment and management of public safety radio and cellular networks. Specializes in the assessment, design and implementation of city, state and region-wide radio networks. Expert in civil design, permitting/zoning, and construction of radio sites and associated dispatch centers.

Experience

2008-Present: Tusa Consulting Services

Senior Consultant

- Conventional VHF & UHF systems
- APCO P25 system design, RFP development, and deployment
- Regional P25 system design and implementation
- DMR systems, microwave & fiber networks, in-building systems

2001-2008

Public Safety Radio Systems Consulting

- IXP Corp. – Support of New York City's NYPD and FDNY post-9/11 dispatch consolidation and radio modernization project
- Piercon Solutions – upgrade of radio systems and dispatch centers for South River and Metuchen, NJ

1990 – 2001

Cellular Systems Design and Deployment

- AT&T Bell Laboratories – Cellular radio system base station development
- VP Engineering, Cellular One/AT&T Wireless – design and deployment of 800 MHz Analog/TDMA Cellular network in NY/NJ, and 1900 MHz PCS Digital Cellular systems in Washington DC, MD, PA, MA & RI
- VP Engineering, Nextel – management of IDEN network in NY, NJ & CT
- Chief Technical Officer – Sprint PCS Affiliate – NY, VT, NH

1985-1990: Motorola – Glen Rock, New Jersey

Program Manager

- Deployment of cellular systems in NY, NJ, PA, CT, RI & MA
- *Area Program Manager*
- 800 MHz Simulcast Trunked Networks : Albany and New York City, NY; New Britain, CT; City of Boston, MA; Cambridge, MA; Providence, RI; Con Edison, NY; NJ State Police and NJ Transit; 900 MHz SMR systems

1970-1985: New York Telephone/Bell System

AT&T AMPS/NYNEX, New York Telephone Company Special Services

- initial RF design of cellular systems in NY, NJ, RI, MA, IL, AZ, FL, CA - designed the "Cellular Emergency Callbox"
- support of data communications, two-way radio, mobile telephone and microwave systems

Key Clients

- New York City – NYPD and FDNY
- NY City Transit Authority
- Canton Public Safety – MI
- Ada County, ID
- Kansas City, MO
- Platte County, MO
- Cass County, MO
- Washington County, WI
- Riley County, KS
- Saline County, NE
- Bonneville County, ID
- Wyandotte County, KS
- Dubois County, IN
- Will County, IL
- Page County, IA
- Oklahoma City, OK
- NYU Medical Center, NY
- Ministry of Health, IRAQ
- City of Hyderabad, INDIA

Key Qualifications

- Radio System Assessment
- VHF/UHF/800 Conventional and Digital Radio Systems Design & Procurement
- RF Design/Propagation Analysis/Field Testing
- Site Acquisition & Construction
- Dispatch Center design
- Project Management
- Mobile Data Systems
- Cellular systems

Don McGee

RF Engineer with more than 30 years' experience specializing in radio network design, coverage analysis, traffic analysis, simulcast system performance investigation, coverage testing, and interference analysis/mitigation.

Experience

2013 - Present: Consultant – Tusa Consulting Services Consultant

- Subject matter expert for Tusa Consulting
 - Supports all system design efforts
 - Provides trunked radio system traffic analysis
 - Specialist in simulcast system performance review

2011- 2014: Communications International System Engineer

- Coverage and System Design
- Interference Analysis and Resolution
- Engineer Training and Mentorship
- Sales Support

1990 - 2011: Harris Corporation and Predecessor Companies (M/A-COM, Com-Net Ericsson, G.E.) System Engineer

- Manager, System Engineering
- Manager, International Sales Engineering
- Manager, RF Integrity Group
- Contributor to/co-author of RAPTR, Falcon, TYPHON and numerous other coverage design and testing software tools

1978 - 1990: E-Systems and Successor Companies Design/Systems Engineer

- Contributor to ASPRIN coverage design software

Key Clients

- Harris Corporation
- Motorola Solutions
- Tait Radio
- EF Johnson
- Communications International
- Eastern Communications
- Daley-Wells
- Domestic and International
- County, State, National Level

Key Qualifications

- Radio Coverage Design
- RF Propagation Analysis
- Coverage Testing
- Traffic/Loading Analysis
- Interference Analysis/Mitigation
- Software Tool Development

Interests

- Amateur Radio

APPENDIX C

For clarification the following is the interpretation of Project Approach section in the proposal Appendix B.

PROJECT APPROACH

2) Motorola Proposal Evaluation

d. Provide a comprehensive review of Motorola's coverage maps and provide any recommended changes.

Consultant will evaluate Motorola's recommended tower sites compared to other viable radio sites in the County in regards to coverage and cost efficiency.

e. Assess the lifecycle costs of the Motorola proposal.

Consultant will also evaluate lifecycle costs of new tower construction, tower leases and required radio equipment to determine that Motorola's proposal is the most cost effective solution to provide the required coverage.

f. Review and provide recommendations for the final Motorola contract.

Consultant will be present during negotiations with Motorola.