



"Unleashing the Power of Technology"

**Federal
Engineering®**

Federal Engineering, Inc.

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STATEMENT OF WORK (SOW)
Issued: 10/19/2020

**AMENDMENT TO FEDERAL ENGINEERING CONTRACT
ASSIGNMENT TO MERA**
Dated: 7/1/2020

**MERA EMERGENCY RADIO AUTHORITY (MERA)
PHASE 2 NEXT GENERATION WIRELESS COMMUNICATIONS
CONSULTING SERVICES
MARINCA-PSMR-IMPL**

1. INTRODUCTION AND ISSUES

1.1 Project Overview

The Marin Emergency Radio Authority (MERA) has retained the services of Federal Engineering, Inc., (**FE**) since 2017 to provide project management and technical support during project initiation, planning, and design for their new P25 Phase 2 trunked radio system.

By extending the current professional services contract, **FE's** project management and technical support role provides continuity through site construction, equipment fabrication and testing, installation, system testing, cutover, and final acceptance. **FE** will continue to advise and provide information in a timely manner to MERA's construction management firm as well as the Next Generation (Next Gen) Implementation Coordinator and help coordinate between radio system vendor activities and construction activities.

FE will track and manage scope and schedule for the trunked radio system implementation and provide oversight and management of the radio system vendor's specific activities. We will also provide oversight for the transition from the existing radio system to the new P25 Phase 2 radio system.

A Senior Consultant will continue to serve as the Project Manager for implementation of the radio system. This Project Manager will report to AECOM's Next Gen Program Manager under the project structure implemented on July 1, 2020.

The **FE** Senior Consultant will provide services to the project for 40 hours per week for 47 weeks per year with the remainder being vacation and holiday time. We anticipate the project management and technical support tasks outlined below will require 40 hours per week of effort. However, the Senior Consultant will support other MERA project areas in addition to those outlined below, including tasks outlined in Section 3 Optional implementation Support Services, within the 40 hours per week effort as requested in order to help the project to reach a successful and timely conclusion.

2. TASKS TO BE PERFORMED

2.1 Task 1: Implementation Project Management

Implementation support services guide a project from the initiation, planning, and design review phases through installation, testing, and final cutover. **FE** will assess the vendor's plan for remaining activities before major commitments are made and will provide MERA management with recommendations in order to mitigate risk and create a proactive project management environment. We will continue to assess if the radio system vendor's implementation plan is consistent with the contract regarding system requirements, schedule, and cost milestones. Our implementation support tasks will align with the vendor's schedule to provide oversight and management of the vendor's specific activities.

FE will coordinate with MERA to determine which of the following tasks will be necessary based upon the radio system vendor's implementation tasks and schedule, and MERA'S requirements:

1. Participate in internal project status teleconferences, weekly or as required.
2. Participate in weekly on-site project status meetings as required.
3. Participate in other project meetings as required.
4. Participate in radio system vendor's project status meetings.
5. Facilitate technical meetings with the radio system vendor when required.
6. Provide project historical information and context during meetings as needed.
7. Attend MERA Board meetings and assist in the preparation of staff reports as requested.
8. Participate in MERA Operational Issues Working Group Meetings to provide information regarding project progress and issues to group members and to gain user feedback.
9. Assist in the preparation of briefings for MERA member agencies when requested.
10. Assist in the development of project execution processes as they relate to milestone processing, effective communications across teams, roles and responsibilities, and documentation formats.
11. Review frequency plans, coordination, and license applications as required and provide feedback to MERA.
12. Monitor FCC licenses deadlines with regard to slow growth construction.
13. Prepare and maintain an independent punch list of items during implementation activities including issue, responsible party, target date for completion, actual date of completion, and resolution.
14. Assist MERA in resolving vendor implementation issues, oversee the vendor's punch list development and resolution process, identify vendor performance issues, and make appropriate recommendations to MERA.
15. Coordinate actions such as risk mitigation with MERA'S Program Manager.

16. Receive and review the monthly project schedule from the radio system vendor and forward to the AECOM Next Gen Program Manager, highlighting areas of concern.
17. Submit a monthly project status report to the AECOM Next Gen Program Manager covering the implementation of the radio system.
18. Receive and review future project submittals from the radio system vendor, and then provide feedback to the vendor and approval recommendations to MERA as appropriate.
19. Assist MERA with change order negotiations, if any.
20. Verify that credit change orders are executed for any reductions in the radio system vendor's project scope.
21. Review meeting minutes prepared by the radio system vendor and provide corrections if necessary.

2.2 Task 2: Outstanding Design Review Items

1. **FE** will review those portions of the detailed design review that are not yet complete and identify areas of deficiency based upon contract requirements and previous design discussions. **FE** will document identified deficiencies in a punch list and provide recommendations to correct them.
2. **FE** will assist MERA with change order negotiations, if any, resulting from the review of these items.

2.3 Task 3: Site Preparation / Construction Activities

During the site acquisition, preparation, and construction phase, **FE** will:

1. Support MERA lease negotiations with site owners.
2. Review site construction drawings to verify compatibility with the new radio system.
3. Review construction bid packages for technical completeness and accuracy as they relate to the new radio system.
4. Review field modifications and construction design changes to verify compatibility with the new radio system.
5. Advise the Next Gen Construction Manager regarding radio system-related issues.
6. Provide project historical information and context to the Next Gen Construction Manager.
7. During site construction, respond to contractor questions regarding requirements for the new radio system.
8. Observe site modification and construction activities to verify that the work meets the requirements for the new radio system.
9. Review the results of site final construction inspections as they relate to the new radio system, and monitor the correction of punch list items.

10. Provide project historical information and context to Next Gen Implementation Coordinator.
11. Support the Next Gen Implementation Coordinator in the preparation of dispatch sites by agencies for the installation of new dispatch equipment.
12. Support the Next Gen Implementation Coordinator in the preparation of fire station alerting sites by agencies for the installation of new equipment.
13. Support the Next Gen Implementation Coordinator in the installation of wi-fi access points for the remote programming of user radios.

2.4 Task 4: Factory Testing, Equipment Delivery, and Installation Verification

For the radio system, **FE** will:

1. Respond to radio system vendor questions that surface during the fabrication of equipment at the factory and during factory staging setup.
2. Monitor the vendor's development of interface software that will work between the fire station alerting system and the existing Computer-Aided Dispatch software.
3. Attend factory staging of the system at the various vendors' facilities acting as MERA's technical advisor to assess functional compliance.
4. Conduct an independent inventory of equipment upon delivery to each site to confirm that MERA has received what they paid for. The completed inventory will be provided in the form of a spreadsheet.
5. Oversee the radio system project implementation tasks to assess timely completion and adherence to schedule.
6. Monitor baseline testing of the Gen I system before relocation of that equipment begins as part of Next Gen site readiness activities.
7. Coordinate opportunities for Marin County radio technicians to observe installation and commissioning activities, providing them with greater familiarity with the new system.
8. Inspect each project site to determine if the dispatch and radio equipment installations are in accordance with the specifications, meet industry workmanship practices, and are within equipment standards. For the following inspection-related activities as identified in the vendor's schedule, FE will typically:
 9. Observe the equipment installation and initial testing including antenna, transmission line, radio system infrastructure equipment, and microwave equipment.
 10. Prepare punch list of deficient items.
 11. Observe the results of the radio system vendor's final site tests.
 12. Review each site's punch list and determine if it includes deficiencies noted during the site preparation and test verification. Determine that corrective actions are taken before any punch list items are removed.

13. Review installation and testing results for the Fire station Alerting System and the County Jail's Distributed Antenna Systems and prepare a punch list of deficient items. Confirm that corrective actions are taken before any punch list items are removed.
14. Observe the installation of equipment grounding upgrades at existing sites and inspect them to determine compliance with industry grounding standards.
15. Coordinate interaction between the radio system vendor and dispatch personnel in developing dispatch console screen configurations.
16. Provide input during the process of ordering mobile and portable radios.

2.5 Task 5: Coverage and System Functional Testing

FE will perform the following testing activities as identified in the vendor's schedule:

1. Observe the coverage tests as MERA'S representative. **FE** will accompany the system vendor for the coverage testing to assess methodology, testing equipment calibration, and data collection completeness.
2. Review coverage test results.
3. Attend final system functional testing and assess the test results.
4. Provide a document to MERA that identifies coverage and system testing results and a punch list for the vendor to correct deficiencies in the test documentation. **FE** will review the independent punch list and vendor punch list and assess retesting results to confirm that the deficiencies have been corrected.

2.6 Task 6: System Acceptance and Cutover

FE will perform the following activities regarding system acceptance and cutover:

1. **FE** will work with MERA and the radio system vendor on the development of the subscriber fleet map and will review the subscriber fleet map to identify deficiencies or areas for improvement.
2. Prior to the system acceptance process, **FE** will review the final vendor cutover plan and identify deficiencies or areas for improvement to MERA. **FE** will assist MERA in negotiating final changes to the cutover plan with the vendor.
3. **FE** will monitor the 30-day Operational Test, evaluate any failures that occur, and coordinate resolution by the radio system vendor.
4. Final system acceptance will begin after the system tests have been successfully completed by the vendor and the fully functional system has been delivered. **FE** will oversee acceptance testing activities, assess the testing results, and make any necessary recommendations for the vendor to correct deficiencies noted during the testing.
5. Upon completion of system acceptance testing and correction of deficiencies, including punch list and documentation items, **FE** will make a written recommendation to MERA regarding acceptance of the system and cutover.

6. *FE* will observe the cutover to determine if cutover procedures are executed properly and success criteria met.
7. *FE* will monitor the disposition of existing infrastructure as it is decommissioned.

2.7 Task 7: Documentation

FE will perform the following activities regarding system documentation:

1. Assess the delivery and adequacy of manuals identified in the contract.
2. Determine if the corrections have been made to the final manuals by the vendor after final system acceptance testing and discrepancies are corrected.
3. Review and assess the accuracy of as-built drawings.
4. Review training plans and curricula and make recommendations for modifications as necessary to MERA.

3. OPTIONAL IMPLEMENTATION SUPPORT SERVICES

FE can provide optional services, in addition to the services outlined in Section 2, if required by MERA, according to the hourly rate schedule. Optional assignments may consist of any of the following services not already included in the services outlined in Section 2, and are outside of the 40 hour per week anticipated effort to support MERA project areas as requested to help the project to reach a successful and timely conclusion:

- *FE* may conduct system capacity analysis or improvement studies
- *FE* may conduct site analysis and radio system analysis
- *FE* may offer informal advice or conduct technical research
- *FE* may assist in administrative issues such as FCC license modifications or renewals
- *FE* may interface MERA management and radio systems users
- *FE* may provide support during decommissioning activities
- *FE* may generate RFPs, RFIs, and RFQs
- *FE* may review proposals from vendors
- *FE* may conduct meetings with vendors and assist MERA in contract negotiations
- *FE* may perform program planning and design reviews
- *FE* may perform analyses of radio operations and system/technology utilization and develop improvement recommendations
- *FE* may conduct special presentations on select subjects
- *FE* may provide support in areas such as consulting, operations, engineering, or administration for public safety technology including, but not limited to, land mobile radio, Next Generation 9-1-1, CAD, RMS, and PSAP-related services

- *FE* may perform other tasks as directed by the MERA Program Manager
- *FE* may conduct program review meetings or technical seminars
- *FE* may conduct oral presentations on requested subjects
- *FE* may generate program plans using Microsoft Project and other software
- *FE* may generate brief memoranda, reports, or white papers on findings
- *FE* may participate at meetings to support findings or to discuss assignments

4. SCHEDULE

This amendment assumes a two-year implementation period and will begin January 1, 2021.

5. STAFFING/ORGANIZATION

An *FE* Senior Consultant will serve as the Project Manager. This individual will be on-site in Marin County for the project implementation period.

6. ESTIMATED ANNUAL COST

Services defined in Section 2 (Tasks 1-7) of this SOW will be billed at a discounted fixed price of \$784,320.00. *FE* will notify MERA should additional support hours be required during implementation and this SOW will be amended in writing via a mutually agreeable addendum. The labor rates for these services are documented in the fee schedule in Schedule A.

The on-site *FE* Project Manager will be full-time on the project for the entire two-year period.

7. INVOICING

FE will submit monthly invoices in the amount of \$32,680.00 each month (over the course of 24 months), starting Feb 1, 2021.

8. COST FOR OPTIONAL SERVICES

FE's services for the optional tasks listed in Section 3 will be authorized by mutual agreement between *FE* and MERA. Optional tasks will be performed on a time and materials basis in accordance with the rates in Schedule A for the respective year, or on a fixed-price basis as mutually agreed upon in a task order between *FE* and MERA.

9. BASIS FOR THIS SCOPE OF WORK

1. *FE* professionals will be directed by the MERA Program Manager or his designee according to the assignments to be performed. The scheduling of *FE* resources will be mutually agreed upon based upon the needs of MERA and the availability of the specific *FE* consultants. *FE* will notify MERA should additional funds be needed to complete the required tasks and a mutually agreeable amendment to this SOW will be executed by both parties.
2. *FE* will provide draft and final deliverables electronically to MERA.

3. This proposal assumes that MERA's Program Manager will provide meeting facilities and assumes that MERA's Program Manager will schedule meetings, notify attendees, and arrange for onsite visits unless the Senior Consultant is directed to do so to support the project
4. Any optional or additional tasking beyond the scope of this agreement will be authorized by mutual agreement of MERA and **FE**. Such tasking will be performed on a time and materials basis in accordance with the rates in Schedule A or on a fixed price basis as mutually agreed upon in a task order by MERA and **FE**.
5. **FE's** ability to fulfill this task depends, in part, on the willingness and ability of MERA participants, equipment vendors, service providers, third parties, and others to provide information in a timely manner, and upon the accuracy of the information as supplied. The accuracy of input data, whether provided in electronic or hard copy form, and the recommendations, actions, system designs, system procurements, and license filings resulting therefrom cannot, therefore, be warranted by **FE** nor can the performance, suitability, or reliability of said systems be warranted by **FE**. **FE** accepts no responsibility or liability to any third party in respect to any information or related content delivered by **FE**. This information is subjective in certain respects, and, thus, susceptible to multiple interpretations and may be in need of periodic revisions based on actual experience and subsequent developments.
6. This proposal is based upon a start date of January 1, 2021 and assumes a two-year schedule. The schedule for implementation services may be adjusted with approval by MERA after determination of the vendor's final approved implementation schedule. Delays to the project schedule due to actions or lack of actions on the part of the MERA, MERA participants, third parties, and others including, but not limited to vendor protests, protracted contract negotiations, vendor delays that impact the program schedule and/or costs to MERA will be brought to the attention of the MERA's program manager in a timely manner and will be reduced to writing via a mutually agreed upon contract amendment.
7. MERA has the right to approve/disapprove any staff changes. If MERA does not approve staff changes, this Agreement can be terminated.
8. **FE** will notify MERA should additional funds be needed to complete the required tasks and a mutually agreeable amendment to this SOW will be executed by both parties.

Submitted by *FE*

Authorization to begin work by

Ronald F. Bosco

Ron Bosco, President

Signature

October 19, 2020

Date

Printed name and title

Date

SCHEDULE A
LONG-TERM CONSULTING RATES

Effective January 1, 2021 through December 31, 2022

Principal	\$ 360.00 per hour
Vice President	\$ 325.00 per hour
Assistant Vice President	\$ 290.00 per hour
Director/Chief Consultant	\$ 255.00 per hour
Senior Consultant	\$ 215.00 per hour
Consultant	\$ 185.00 per hour
Senior Analyst	\$ 155.00 per hour
Analyst	\$ 115.00 per hour
Administrative / Computer Services	\$ 80.00 per hour

TERMS AND CONDITIONS

1. Long-term rates do not include state or local taxes.
2. Travel and meals on a per diem basis will be invoiced at actual cost plus 20 percent to account for general and administrative costs.
3. Hours expended for travel in support of any time and materials task orders are billable hours.
4. Invoices will be rendered monthly. All invoices are due and payable 30 days from issuance. Late balances are subject to a finance charge of 1.5 percent per month (or fraction thereof).

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