Public Safety Radio System
August 6, 2018
Project overview

Phase I: Needs Assessment
  - Coverage
  - Capacity
  - Resiliency & Redundancy
  - Interoperability
  - Encryption

Phase II: RFP
  - Development
  - Response
  - Review
  - Selection

Phase III: Build Out
  - Contract
  - Detail Design Review
  - Tower Construction
  - Equipment Installation
  - Training
Federal Engineering, Inc.

• National consulting firm operating for 35 years

• Full spectrum communication center & wireless services:
  • Emergency Call Centers, Emergency Operations Centers, CAD/RMS, 911, Next Gen 911, and Public Safety Answering Points
  • Land mobile radio voice, wireless data, broadband, backhaul, and emerging LTE mobile communications systems

• Independent 3rd party – vendor neutral

• RFP specifications based on specific client and functional requirements

• Assisted clients with 100’s of RFPs, implementation, etc.
Federal Engineering, Inc.

- 10 years experience in Iowa
  - State of Iowa – Statewide Master Plan for public safety radio system
  - State of Iowa – RFP, procurement support, implementation support
  - State of Iowa Department of Corrections – needs assessment, RFP, procurement support
  - City of Davenport – system needs/requirements, RFP, procurement support, implementation support

- Projects Similar to Des Moines
  - El Paso, TX
  - Nashville, TN
  - Portland, OR
  - ARMOR, State of Minnesota 50+ Counties
  - ORION, Hampton Roads region
    - Hampton, Newport News, Virginia Beach VA
### Executive Summary

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Motorola</th>
<th>RACOM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coverage on system</strong></td>
<td>City, County, Regional &amp; State</td>
<td>City, County</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>9 Site Simulcast 12 Channel</td>
<td>6 Simulcast 12 Channel</td>
</tr>
<tr>
<td><strong>Resiliency</strong></td>
<td>1 Backhaul single path</td>
<td>3 Backhaul single path</td>
</tr>
<tr>
<td><strong>First Responder Safety</strong></td>
<td>SAME function operable or interoperable</td>
<td>DIFFERENT function operable and interoperable</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>Representation by law – State</td>
<td>Self governed by users – County</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>$12 Million</td>
<td>$6.3 Million + Unknown User fees</td>
</tr>
<tr>
<td><strong>Effectiveness &amp; ROI</strong></td>
<td>Single System – Statewide Interoperability</td>
<td>Multiple Systems – Interoperability challenges</td>
</tr>
<tr>
<td></td>
<td>Includes Hardware for Updates</td>
<td>Hardware extra when needed</td>
</tr>
</tbody>
</table>
Coverage - Impacts

- Operable (day to day) Communications and Interoperable (with other agencies) Communications are on the SAME system.

- Operable (day to day) Communications and Interoperable (with other agencies) Communications are on DIFFERENT systems.
  - RACOM for operations
  - ISICS is the State wide interoperability
Operable Coverage
60 mile inside Homes / Light Commercial Building (12 dB)
Coverage - Portable on Street Statewide Interoperable on System

MOTOROLA

RACOM

Portable

Portable
Capacity

MOTOROLA

- 7-9 Simulcast Towers
- 12 Channels
- 22 Talkpaths
- Talkgroups
- Radios

RACOM

- 6 Simul
- 12 Channels
- 22 Talkpaths
- Talkgroups
- Radios
Resiliency

**MOTOROLA**

- 3 Cores
  - Buena Vista
  - Polk
  - Linn

- Microwave Backhaul
  - Single path to core from
    - DSM Dispatch

**RACOM**

- 2 Cores
  - Polk
  - Marshall

- Microwave Backhaul
  - Single path to core from
    - Windsor Heights Tower
    - DSM South Tower
    - Core in Marshalltown
First Responder Safety

MOTOROLA

RACOM

OPERABILITY
☑️ Dispatch Talk over top
☑️ Emergency Button
☑️ Coverage

INTEROPERABILITY ON ISICS
☑️ Dispatch Talk over top
☑️ Emergency Button
☑️ Coverage

OPERAIBILITY
☑️ Dispatch Talk over top
☑️ Emergency Button
☑️ Coverage

INTEROPERABILITY ON ISICS
☐ Dispatch Talk over top
☐ Emergency Button
☐ Coverage
First Responder Safety
Motorola

Des Moines Dispatch
✓ Talk over any user
✓ Hear all First Responders at all times
✓ Emergency Button voice & data
✓ Same coverage for all responders
  ▪ Requires a single console patch
First Responder Safety

RACOM

Des Moines Dispatch
- CAN NOT - Talk over ALL user
- CAN NOT - Hear ALL First Responders at all times
- Emergency Button voice & NO GPS or Radio IDs
- NOT - Same coverage for all responders
  ▪ Requires a single console patch
Governance

• Local enhancement
• ISICS is managed and governed by state & local public safety representatives
• Iowa code 80.28 and 80.29
• ISICS is following Department of Homeland Security (DHS) for Regional Intrastate Governance Guide for Interoperable Communications Efforts

• CIRPSCS - Central Iowa Regional Public Safety Communications System - Sheriff to negotiate for 30+ agencies
• Polk County contract expires 2024
• SARA – Shared Area Radio Agreement - managed and governed by user counties in partnership with RACOM, we may have a voting seat
Long Term Effectiveness & ROI

1. Radio System
   - Users to Understand
   - Taxpayers to Fund

2. Radio Systems
   - Users to Understand
   - Taxpayers to Fund

- Benefits
  Des Moines no matter where helps comes from

- Benefits only agencies with 28E agreements on the system
Proposed Cost
Need Assessment estimated $10.8 - $15.2 Million

**Motorola – Blue**

**RACOM – Gray**

Less Desirable - Red

- **MOTOROLA**
  - $12 Million
- **RACOM**
  - $6.4 Million

- ISICS is a State funded system
- Local enhancement by Constructing 2-4 sites

- CIRPSCS is a Polk County leased system
- **Unknown future cost**
  - Unknown user fees for years 8, 9, 10 and beyond (2026 -2028+)
  - Hardware refresh to run system is not included
Further Points of Interest

Findings from conversations with WestCom, Dallas & Polk Counties and Senior City Leadership

• All are happy with their selected communications solution
• All recognize ISICS as the future for interoperable communications in Iowa
• All expressed being on RACOM complicates Interoperability - can be done at additional cost and with coverage differences
• Polk County does not have a plan or funds to update their system to Phase 2 (doubles voice efficiency & capacity) unless RACOM is awarded our project.
• Internally – make the best decision for the long term and avoid needing to change directions at end of the initial agreement
Team Recommendation

MOTOROLA

• Coverage
• Capacity
• Resiliency
• First Responder Safety
• Governance
• **Proposed Cost**
• Effectiveness & Long Term ROI
Next Steps

- Intent to award
- Council Workshop – Aug 6
- Council Agenda to Authorize – Aug 6
  - Consultant for Build Out
  - To negotiate contract with Motorola
- Work expected to be completed in 2021
Questions - Discussion