

Three-Question Matrix and Reference Checks

RFP Number: R1422515P1

**RFP Name: Public Safety Radio APCO Project 25 700MHz
Communication System**

Ranking (Not Alphabetical)	1	2
Firm Name	Motorola Solutions, Inc.	Harris Corporation
Questions		
1. Have the vendors taken any exceptions to the County's Standard Terms and Conditions?	YES	NO
2. Do the vendors have comparable government experience?	Federal Law Enforcement Training Center, NM. Orange County Environmental Protection Div. Massachusetts Military Training Range	Orange County Sheriff's Dept. Seneca Creek State Park, MDNR. Pennsylvania Game Commission. Statewide Lead Reclamation
3. Have the vendors' references been checked?	YES (Attached)	YES (Attached)



Vendor Reference Verification Form

Broward County Solicitation No. and Title:

R1422515R1 Public Safety Radio APCO Project 25 700 MHz Communications System

Reference for: Motorola Solutions, Inc.

Organization/Firm Name providing reference:

St Johns County Fire Rescue

Contact Name: Chief Jeff Prevatt

Title: Asst. Fire Rescue Chief Reference date: 06/09/2016

Contact Email: jprevatt@sjcfl.us

Contact Phone: 904-209-1702

Name of Referenced Project: Project 25 - 800 MHz Interoperable Radio System

Contract No.

Date Services Provided:

Project Amount:

12/20/2011 to 03/18/2013

\$ 24,500,000.00

Vendor's role in Project: ☒ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Provide a county wide Project 25 - 800 MHz Radio System. This included the construction of 11 towers and 11 equipment shelters. This also provided dispatch consoles for 3 dispatch centers and installed about 2000 radios.

Please rate your experience with the referenced Vendor:

Needs Improvement

Satisfactory

Excellent

Not Applicable

1. Vendor's Quality of Service

- a. Responsive
- b. Accuracy
- c. Deliverables

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2. Vendor's Organization:

- a. Staff expertise
- b. Professionalism
- c. Turnover

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3. Timeliness of:

- a. Project
- b. Deliverables

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4. Project completed within budget

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5. Cooperation with:

- a. Your Firm
- b. Subcontractor(s)/Subconsultant(s)
- c. Regulatory Agency(ies)

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Additional Comments: (provide on additional sheet if needed)

THIS SECTION FOR COUNTY USE ONLY

Verified via: X EMAIL VERBAL Verified by: Bonnie B. Maney Division: Tech Consultant Date: 09/23/2016

Questions for System Users.

Firm providing information:

St Johns County

Manufacturer of your radio system:

System Type:

ASTRO Project 25 800 MHz

Software Release:

Start 7.11 Now 7.14

All questions below should be answered, if possible.

- A. Dispatch Questions Regarding the Radio Dispatch Console System (Do not include console furniture, seating or other systems at the position). Answer each question from a sliding scale of 1 -5; 1 indicating lowest satisfaction and 5 indicating highest performance.

1. How is the voice quality from field units? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated, and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

Exceptionally clear transmissions without distortion. No repeat issues.

2. How do the field units hear dispatcher voice quality? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

Dispatcher voice quality to field units has exceeded our expectations.

3. How easy is the console screen to manipulate? (Consider screen operation, simplicity/complexity of screen layout, alias and ID display, ability to customize and save per dispatcher, headset operation, footswitch and mouse)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

Exceptional ease of use from most experienced to newest dispatcher.

4. What operational features do you like about the radio dispatch consoles? Please answer with as much information as you need.

Screen is easily customized; patching is accomplished without issues.

5. What operational features do you dislike about the dispatch consoles? Please answer with as much information as you need.

None. Consoles very user friendly.

B. System Manager/Administrator Questions

1. How well does the system provide the operational coverage that was sold and promised by your system vendor? If needed, what action is the system vendor taking to improve coverage and resolve any coverage issues?

Coverage is exceptional

2. How well does the System Management System meet your needs for reports, data, and up to the minute information and event monitoring to manage and evaluate the health and usage of your system?

Very Good

3. Are you receiving the level of technical support from the system vendor that was contracted for and promised?

Yes

4. What impressed you favorably about the vendors' purchasing, installation and project management processes?

Their overall project management team

5. What could the vendor have done better?

N/A

6. How many change orders were needed to get the system that you wanted, and what did they encompass? Do you feel they were necessary?

We had a few change orders; the major one was we changed portable models.

C. Fire Service User Questions

1. In the past few years there has been much discussion about digital radio operation in high noise fireground applications. Please indicate the quality of communications your department has experienced in fireground communications in the following operational scenarios with the radio in a digital mode;
 - a. SCBA donned
 - b. PASS alarm active
 - c. Next to an active pump panel
 - d. Next to K-12 or chainsaw
 - e. In cab with high siren activity

The communications on the fire ground is excellent.

2. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Excellent

3. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Excellent

4. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Very easy, we have XE portables and the firefighter like them.

5. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes, it give excellent coverage and interoperability

6. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Yes

D. Law Enforcement User Questions

1. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Excellent voice quality.

2. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Excellent.

3. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

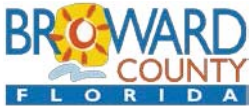
APX series mobiles and portables. At times, challenging to find channels.

4. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes! Very robust - has never gone down due to failure of any type.

5. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Yes. No system failures. Significant increase in coverage with APX series.



Vendor Reference Verification Form

Broward County Solicitation No. and Title:

R1422515P1 Public Safety Radio APCO Project 25 700 MHz Communications System

Reference for: Motorola Solutions, Inc.

Organization/Firm Name providing reference:

Columbia County Sheriff's Office (GA)

Contact Name: John Sherman

Title: Lieutenant

Reference date: 06/16/2016

Contact Email: jsherman@columbiacountyso.org

Contact Phone: 706-541-2819

Name of Referenced Project:

Contract No.

Date Services Provided:

Project Amount:

10/13/2011 to 10/31/2012

\$ 7,000,000.00

Vendor's role in Project: ☒ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

In November 2012, Columbia County Sheriff's Office went operational with a new P25 radio system from Motorola. Our agency currently has approximately 400 radios on this system, and there are approximately 400 additional radios from various County and other public safety agencies utilizing this system.

Please rate your experience with the referenced Vendor:

Needs
Improvement

Satisfactory

Excellent

Not
Applicable

1. Vendor's Quality of Service

a. Responsive

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b. Accuracy

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c. Deliverables

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2. Vendor's Organization:

a. Staff expertise

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b. Professionalism

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c. Turnover

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3. Timeliness of:

a. Project

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b. Deliverables

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4. Project completed within budget

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5. Cooperation with:

a. Your Firm

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b. Subcontractor(s)/Subconsultant(s)

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c. Regulatory Agency(ies)

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Additional Comments: (provide on additional sheet if needed)

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Questions for System Users.

Firm providing information:

Columbia County Sheriff's Office (GA)

Manufacturer of your radio system:

System Type:

P25 800MHz TDMA Digital Radio System

Software Release:

7.11

All questions below should be answered, if possible.

- A. Dispatch Questions Regarding the Radio Dispatch Console System (Do not include console furniture, seating or other systems at the position). Answer each question from a sliding scale of 1 -5; 1 indicating lowest satisfaction and 5 indicating highest performance.

1. How is the voice quality from field units? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated, and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☒ 5 ☐

Wind can be a factor at times. Volume sometimes varies depending on user.

2. How do the field units hear dispatcher voice quality? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

3. How easy is the console screen to manipulate? (Consider screen operation, simplicity/complexity of screen layout, alias and ID display, ability to customize and save per dispatcher, headset operation, footswitch and mouse)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

4. What operational features do you like about the radio dispatch consoles? Please answer with as much information as you need.

The ability to constantly monitor the Activity Log to ascertain which unit is calling and which talk group is being used.

5. What operational features do you dislike about the dispatch consoles? Please answer with as much information as you need.

None.

B. System Manager/Administrator Questions

1. How well does the system provide the operational coverage that was sold and promised by your system vendor? If needed, what action is the system vendor taking to improve coverage and resolve any coverage issues?

Coverage has been delivered as promised.

2. How well does the System Management System meet your needs for reports, data, and up to the minute information and event monitoring to manage and evaluate the health and usage of your system?

Adequate.

3. Are you receiving the level of technical support from the system vendor that was contracted for and promised?

Yes.

4. What impressed you favorably about the vendors' purchasing, installation and project management processes?

Information was timely and accurate about the system. Motorola engineers were very helpful during the process in explaining in layman's terms.

5. What could the vendor have done better?

Nothing

6. How many change orders were needed to get the system that you wanted, and what did they encompass? Do you feel they were necessary?

None

C. Fire Service User Questions

1. In the past few years there has been much discussion about digital radio operation in high noise fireground applications. Please indicate the quality of communications your department has experienced in fireground communications in the following operational scenarios with the radio in a digital mode;
 - a. SCBA donned
 - b. PASS alarm active
 - c. Next to an active pump panel
 - d. Next to K-12 or chainsaw
 - e. In cab with high siren activity

A) Much improved over previous system, B) Very effective, C) No problem, D) unknown, E) No Problem

2. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Very good

3. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Great

4. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Mobiles are easy (push-button operation). Portables work well with large knobs and voice annunciation. APX 6000 1.5, 2.5, 3.5

5. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Absolutely

6. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Yes

D. Law Enforcement User Questions

1. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Voice quality from dispatch is proficient and consistent.

2. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Voice quality between mobiles and portables has always been clear with no issues of background noise.

3. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Radios are easy to operate; consideration should be given to the location/order of talk groups when developing codeplugs.

4. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes

5. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Yes; APX6000 models



Vendor Reference Verification Form

Broward County Solicitation No. and Title:

R1422515R1 Public Safety Radio APCO Project 25 700 MHz Communications System

Reference for: Motorola Solutions, Inc.

Organization/Firm Name providing reference:

Pinellas County Department of Safety & Emergency Services

Contact Name: Jackie Weinreich

Title: Director, Radio & Technology

Reference date: 06/22/2016

Contact Email: jweinrei@pinellascounty.org

Contact Phone: 727-464-3879

Name of Referenced Project: Pinellas Mid-Zone Project

Contract No.

Date Services Provided:

Project Amount:

04-19786/hmm

12/01/2013

to

10/31/2021

\$ 9,000,000.00

Vendor's role in Project: ☒ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Migration to P25, reconfigure North Zone to Aircraft ASR.

Please rate your experience with the referenced Vendor:

Needs Improvement

Satisfactory

Excellent

Not Applicable

1. Vendor's Quality of Service

a. Responsive

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b. Accuracy

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c. Deliverables

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2. Vendor's Organization:

a. Staff expertise

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b. Professionalism

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c. Turnover

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3. Timeliness of:

a. Project

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b. Deliverables

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4. Project completed within budget

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5. Cooperation with:

a. Your Firm

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b. Subcontractor(s)/Subconsultant(s)

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c. Regulatory Agency(ies)

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Additional Comments: (provide on additional sheet if needed)

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Questions for System Users.

Firm providing information:

Pinellas County Radio & Technology

Manufacturer of your radio system:

System Type:

P25

Software Release:

7.14 with multi-year service including 2 upgrades

All questions below should be answered, if possible.

- A. Dispatch Questions Regarding the Radio Dispatch Console System (Do not include console furniture, seating or other systems at the position). Answer each question from a sliding scale of 1 -5; 1 indicating lowest satisfaction and 5 indicating highest performance.

1. How is the voice quality from field units? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated, and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

We do recommend that all field personnel view a training video (provided by Motorola) to ensure they are modulating properly.

2. How do the field units hear dispatcher voice quality? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

Both field units and dispatch personnel positively comment on how clear and concise radio transmissions sound.

3. How easy is the console screen to manipulate? (Consider screen operation, simplicity/complexity of screen layout, alias and ID display, ability to customize and save per dispatcher, headset operation, footswitch and mouse)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

Very easy to configure and use. Training class was less than 15 minutes.

4. What operational features do you like about the radio dispatch consoles? Please answer with as much information as you need.

Ease of configuration.

5. What operational features do you dislike about the dispatch consoles? Please answer with as much information as you need.

N/A

B. System Manager/Administrator Questions

1. How well does the system provide the operational coverage that was sold and promised by your system vendor? If needed, what action is the system vendor taking to improve coverage and resolve any coverage issues?

Motorola meets, and often exceeds, our coverage requirements. We have 10,000 subscriber units from all forms of public safety (and non public safety) agencies operating with clear, reliable communication.

2. How well does the System Management System meet your needs for reports, data, and up to the minute information and event monitoring to manage and evaluate the health and usage of your system?

Meets our needs completely. We are able to obtain valuable information 24/7.

3. Are you receiving the level of technical support from the system vendor that was contracted for and promised?

Absolutely. We have a great working relationship with our local service shop, Suncoast Communications, as well as our system technician, engineer and project manager.

4. What impressed you favorably about the vendors' purchasing, installation and project management processes?

Negotiations were professional, the engineer is completely invested in delivering the best possible solution, the project manager is extremely organized and has a great deal of experience. The entire team has delivered as promised on each of our projects.

5. What could the vendor have done better?

We agreed we should meet more frequently during project implementations. Both sides owned that issue.

6. How many change orders were needed to get the system that you wanted, and what did they encompass? Do you feel they were necessary?

No change orders were necessary. We took the appropriate time to design and plan the implementation.

C. Fire Service User Questions

1. In the past few years there has been much discussion about digital radio operation in high noise fireground applications. Please indicate the quality of communications your department has experienced in fireground communications in the following operational scenarios with the radio in a digital mode;
 - a. SCBA donned
 - b. PASS alarm active
 - c. Next to an active pump panel
 - d. Next to K-12 or chainsaw
 - e. In cab with high siren activity

Transmissions are much more clear and concise. We did provide training videos and Motorola personnel were in the field to conduct training, as well. Our biggest challenge was working with agencies that were allowing their personnel to use non-Motorola public safety accessories, as well as modulating properly.

2. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Extremely clear and consistent. We never need to repeat transmissions.

3. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Clear and consistent - no background noise. We only know the difference in dispatch because of unit ID's, which identify if the transmission is coming from a mobile or portable radio.

4. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

We program individual templates for each agency, to meet their operational needs. The only time we have had to make a change is when they don't realize the impact of a decision they made.

5. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Absolutely. Our system coverage and level of redundancy is exceptional. We are also only at approximately 50% capacity, so we have room to grow for many years.

6. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

All P25 radios are functioning extremely well on our system. We have the following models operating currently: XTS-5000, XTL-5000, XTS-1500, XTL-1500, XTS-2500, XTL-2500, APX-7000, APX-7500, APX-6000, APX-6500, APX-1000.

D. Law Enforcement User Questions

1. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Clear and concise.

2. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Voice quality is consistent, extremely clear - users do not have to repeat transmissions.

3. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Mobile and portable radios are user friendly and are programmed to function optimally for each agency.

4. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Absolutely. Our radio system provides county-wide coverage for all emergency responders and is operational 99.999%. We have a geo-diverse master/prime, as well as a 20 channel ASR (doomsday solution) in the event of a major failure.

5. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

All law enforcement agencies are satisfied with the operation of their radios. Radio models listed above.



Vendor Reference Verification Form

Broward County Solicitation No. and Title:

R1422515R1 Public Safety Radio APCO Project 25 700 MHz Communications System

Reference for: Motorola Solutions

Organization/Firm Name providing reference:

Orange County Board of County Commission, Florida

Contact Name: Richard Steiner

Title: IT Enterprise Supervisor

Reference date: 06/29/2016

Contact Email: Richard.Steiner@ocfl.net

Contact Phone: 407-836-2810

Name of Referenced Project: Orange County Public Safety Radio System Upgrade

Contract No.

Date Services Provided:

Project Amount:

11/01/2010

to

05/01/2012

\$ 36,000,000.00

Vendor's role in Project: ☒ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

The infrastructure contract was \$21M, the console replacement was \$3.5M, and the subscriber radios purchased by the various departments was in the \$13M to \$15M range. This work included a complete radio system and console upgrade to the P25 platform. This project included tower work, labor for system installation, adding additional tower sites, an audio logger with extended storage, and a radio system inventory system.



Please rate your experience with the referenced Vendor:

Needs
Improvement

Satisfactory

Excellent

Not
Applicable

1. Vendor's Quality of Service

- a. Responsive
- b. Accuracy
- c. Deliverables

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2. Vendor's Organization:

- a. Staff expertise
- b. Professionalism
- c. Turnover

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3. Timeliness of:

- a. Project
- b. Deliverables

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4. Project completed within budget

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5. Cooperation with:

- a. Your Firm
- b. Subcontractor(s)/Subconsultant(s)
- c. Regulatory Agency(ies)

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Additional Comments: (provide on additional sheet if needed)

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Questions for System Users.

Firm providing information:

Orange County Information Systems and Services

Manufacturer of your radio system:

System Type:

Motorola P25; version 7.15

Software Release:

7.15

All questions below should be answered, if possible.

- A. Dispatch Questions Regarding the Radio Dispatch Console System (Do not include console furniture, seating or other systems at the position). Answer each question from a sliding scale of 1 -5; 1 indicating lowest satisfaction and 5 indicating highest performance.

1. How is the voice quality from field units? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated, and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

The system was based on 95% portable coverage in medium size buildings. The vendor conducted 2,200 drive test points in 1/2 mile increments for the entire county. All grids passed except for 8.

2. How do the field units hear dispatcher voice quality? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

Initially we had some audio issues with the (older) model consoles which had to be adjusted.

3. How easy is the console screen to manipulate? (Consider screen operation, simplicity/complexity of screen layout, alias and ID display, ability to customize and save per dispatcher, headset operation, footswitch and mouse)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒

We upgraded to the newer consoles in 2013 and are quite happy with the functions and operation of the consoles.

4. What operational features do you like about the radio dispatch consoles? Please answer with as much information as you need.
5. What operational features do you dislike about the dispatch consoles? Please answer with as much information as you need.

B. System Manager/Administrator Questions

1. How well does the system provide the operational coverage that was sold and promised by your system vendor? If needed, what action is the system vendor taking to improve coverage and resolve any coverage issues?
We added additional sites during the project and now have excellent, portable radio coverage throughout the county
2. How well does the System Management System meet your needs for reports, data, and up to the minute information and event monitoring to manage and evaluate the health and usage of your system?
We use an external adjunct product from Genesis for our system reporting.
3. Are you receiving the level of technical support from the system vendor that was contracted for and promised?
Yes, the Motorola support has been excellent both from Motorola as well as the local subcontractor they use.
4. What impressed you favorably about the vendors' purchasing, installation and project management processes?
Motorola assigned a Project Manager who served as a liaison to our organization, this person did an incredible job keeping items on task, conducting regular planning meetings, and communicating to us throughout the process.
5. What could the vendor have done better?
6. How many change orders were needed to get the system that you wanted, and what did they encompass? Do you feel they were necessary?
We didn't make any amendments or changes to our purchase orders, the work was performed within the agreed upon and contracted amounts. Concessions were made that allowed us to modify tasks as needed to meet our needs and the work was performed within the contract amount.

C. Fire Service User Questions

1. In the past few years there has been much discussion about digital radio operation in high noise fireground applications. Please indicate the quality of communications your department has experienced in fireground communications in the following operational scenarios with the radio in a digital mode;
 - a. SCBA donned
 - b. PASS alarm active
 - c. Next to an active pump panel
 - d. Next to K-12 or chainsaw
 - e. In cab with high siren activity

We tested portable radios as part of our evaluation with the items mentioned above. Orange County operates the 4th largest Fire Rescue department in the State of Florida and we have been quite pleased with the digital operation since 2012.

2. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

The digital quality is fine.

3. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

The digital quality is fine.

4. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

We use a variation of Portable radios such as xts 1500, 2500, 5000; APX 7000, 4000, 1000, and 6000. We use XTL 2500 and XTL 5000 mobile radios. Staff are well versed in programming radios and the users are satisfied with the operation of the radios. The Fire Rescue radios have the larger volume knobs which works well in their environment and wearing gloves.

5. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes it does and is well maintained by County and Motorola staff. The system was recently put to the test with events in Orlando, Fla and one buys day during the weeks activities had over 218,000 Push To Talk (PTT) transmissions.

6. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Yes. We use a variation of Portable radios such as xts 1500, 2500, 5000; APX 7000, 4000, 1000, and 6000. We use xtl 2500 and XTL 5000 mobile radios

D. Law Enforcement User Questions

1. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

The voice quality from dispatch is normally excellent. Volume levels are sufficient and consistent, distortion is rare. Requests to have transmissions repeated don't occur often, and are usually due to something other than the radio.
2. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Voice quality between mobile and portable radios is excellent.

3. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Both the mobile and portable radios are easy to operate. We use mainly XTL 2500, XTL5000 Mobiles. In portables we use mainly the APX7000, plus XTS5000, XTS2500 and XTS1500. All are excellent radios.

4. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

The radio system has proven to be exceptionally resilient and reliable.

5. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

We are extremely satisfied with the operation of all our Motorola mobile and portable radios. They have consistently proven themselves to be of the highest quality. They are reliable, durable, user -friendly and probably the best available in the public safety market.



Vendor Reference Verification Form

Broward County Solicitation No. and Title:

R1422515P1, Public Safety Radio APCO Project 25 700Mhz Communication System

Reference for: Harris, PSPC

Organization/Firm Name providing reference:

Harrisonburg-Rockingham Emergency Communications Center

Contact Name: Jim Junkins

Title: Director

Reference date: 08/01/2016

Contact Email: JJJunkins@HRECC.org

Contact Phone: 540-434-2006

Name of Referenced Project: Radio System Project

Contract No.

Date Services Provided:

Project Amount:

to

Vendor's role in Project: ☐ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☐ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

2016 Trunked Radio system upgrade from EDACS-Provoice to P25 Phase 2

Please rate your experience with the referenced Vendor:

	Needs Improvement	Satisfactory	Excellent	Not Applicable
1. Vendor's Quality of Service				
a. Responsive	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Accuracy	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Deliverables	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Vendor's Organization:				
a. Staff expertise	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Professionalism	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Turnover	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Timeliness of:				
a. Project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Deliverables	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Project completed within budget	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Cooperation with:				
a. Your Firm	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Subcontractor(s)/Subconsultant(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Regulatory Agency(ies)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Additional Comments: (provide on additional sheet if needed)

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Verified by: Bonnie B. Maney

Division: Tech Consultant

Date: 09/17/2016

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Questions for System Users.

Firm providing information:

Harrisonburg-Rockingham ECC

Manufacturer of your radio system:

System Type:

Harris P25

Software Release:

SR10A.2

All questions below should be answered, if possible.

- A. Dispatch Questions Regarding the Radio Dispatch Console System (Do not include console furniture, seating or other systems at the position). Answer each question from a sliding scale of 1 -5; 1 indicating lowest satisfaction and 5 indicating highest performance.

1. How is the voice quality from field units? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated, and how often.)

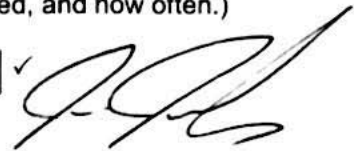
1 ☐

2 ☐

3 ☐

4 ☐

5 ☒



2. How do the field units hear dispatcher voice quality? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated and how often.)

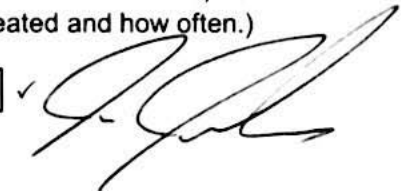
1 ☐

2 ☐

3 ☐

4 ☐

5 ☒



3. How easy is the console screen to manipulate? (Consider screen operation, simplicity/complexity of screen layout, alias and ID display, ability to customize and save per dispatcher, headset operation, footswitch and mouse)

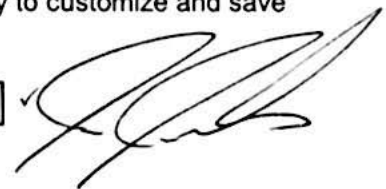
1 ☐

2 ☐

3 ☐

4 ☐

5 ☒



4. What operational features do you like about the radio dispatch consoles? Please answer with as much information as you need.

Ease of talkgroup configuration and paging modules.

5. What operational features do you dislike about the dispatch consoles? Please answer with as much information as you need.

Editing/changes among multiple consoles is a manual file copy process.

B. System Manager/Administrator Questions

1. How well does the system provide the operational coverage that was sold and promised by your system vendor? If needed, what action is the system vendor taking to improve coverage and resolve any coverage issues?

As contracted.

2. How well does the System Management System meet your needs for reports, data, and up to the minute information and event monitoring to manage and evaluate the health and usage of your system?

Very well.

3. Are you receiving the level of technical support from the system vendor that was contracted for and promised?

Yes

4. What impressed you favorably about the vendors' purchasing, installation and project management processes?

Personal involvement of all Harris staff: sales, engineering, training.

5. What could the vendor have done better?

Nothing

6. How many change orders were needed to get the system that you wanted, and what did they encompass? Do you feel they were necessary?

2: Modify schedule and antenna configurations. Neither were Harris' fault.

C. Fire Service User Questions

1. In the past few years there has been much discussion about digital radio operation in high noise fireground applications. Please indicate the quality of communications your department has experienced in fireground communications in the following operational scenarios with the radio in a digital mode;
 - a. SCBA donned
 - b. PASS alarm active
 - c. Next to an active pump panel
 - d. Next to K-12 or chainsaw
 - e. In cab with high siren activity

All tested, all acceptable.

2. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Very well.

3. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Very well.

4. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Easy

5. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes

6. Are you satisfied with the operation of your mobile and portable radios?
- Why or why not?
 - Which make and models?

Yes, XG25P, XG75M, XG100M, XG100P

D. Law Enforcement User Questions

1. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Acceptable

2. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Acceptable

3. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Easy

4. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes

5. Are you satisfied with the operation of your mobile and portable radios?
- Why or why not?
 - Which make and models?

XG25P, XG75M, XG100M



Vendor Reference Verification Form

Broward County Solicitation No. and Title:

Public Safety Radio APCO Project 25 700 MHz Communication System, R1422515P1

Reference for: Harris

Organization/Firm Name providing reference:

Chester County (PA)

Contact Name: John Haynes

Title: Deputy Director 9-11

Reference date: 08/09/2016

Contact Email: JHaynes@chesco.org

Contact Phone:

Name of Referenced Project: Chester County VRP

Contract No.

Date Services Provided:

Project Amount:

02/06/2013

to

02/02/2023

\$ 45,000,000.00

Vendor's role in Project: ☒ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Design, deploy and maintain APCO P25 Digital 700/800 MHz system and provide mobile and portable radios for emergency responders.

Please rate your experience with the referenced Vendor:

Needs Improvement

Satisfactory

Excellent

Not Applicable

1. Vendor's Quality of Service

a. Responsive

☐
☐
☒
☐

b. Accuracy

☐
☐
☒
☐

c. Deliverables

☐
☐
☒
☐

2. Vendor's Organization:

a. Staff expertise

☐
☐
☒
☐

b. Professionalism

☐
☐
☒
☐

c. Turnover

☐
☒
☐
☐

3. Timeliness of:

a. Project

☐
☐
☒
☐

b. Deliverables

☐
☐
☒
☐

4. Project completed within budget

☐
☐
☒
☐

5. Cooperation with:

a. Your Firm

☐
☐
☒
☐

b. Subcontractor(s)/Subconsultant(s)

☐
☐
☒
☐

c. Regulatory Agency(ies)

☐
☐
☒
☐

Additional Comments: (provide on additional sheet if needed)

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Verified via: X EMAIL VERBAL

Verified by: Bonnie B. Maney

Division: Tech Consultant

Date: 09/16/2016

Questions for System Users.

Firm providing information:
Chester County (PA)

Manufacturer of your radio system:

System Type:

Harris

Software Release:

SR10A.1

All questions below should be answered, if possible.

- A. Dispatch Questions Regarding the Radio Dispatch Console System (Do not include console furniture, seating or other systems at the position). Answer each question from a sliding scale of 1 -5; 1 indicating lowest satisfaction and 5 indicating highest performance.

1. How is the voice quality from field units? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated, and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ ✓ *John Han*

Voice quality exceeds expectations. Noise cancellation is outstanding.

2. How do the field units hear dispatcher voice quality? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ ✓ *John Han*

Responders report excellent quality.

3. How easy is the console screen to manipulate? (Consider screen operation, simplicity/complexity of screen layout, alias and ID display, ability to customize and save per dispatcher, headset operation, footswitch and mouse)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ ✓ *John Han*

Telecommunicators report easy to use and maintain.

4. What operational features do you like about the radio dispatch consoles? Please answer with as much information as you need.

Patching is simple and quick. Ability to control speakers.

5. What operational features do you dislike about the dispatch consoles? Please answer with as much information as you need.

Would like ability to tone knock boxes.

B. System Manager/Administrator Questions

1. How well does the system provide the operational coverage that was sold and promised by your system vendor? If needed, what action is the system vendor taking to improve coverage and resolve any coverage issues?

Contract for 97% portable. Testing shows above 98%.

2. How well does the System Management System meet your needs for reports, data, and up to the minute information and event monitoring to manage and evaluate the health and usage of your system?

Very well.

3. Are you receiving the level of technical support from the system vendor that was contracted for and promised?

Yes, the support and explanations have been very good.

4. What impressed you favorably about the vendors' purchasing, installation and project management processes?

Sub-contractor used for installation was incredible.

5. What could the vendor have done better?

More proactive communications during deployment.

6. How many change orders were needed to get the system that you wanted, and what did they encompass? Do you feel they were necessary?

We have had 14 amendments. These include additional radios, additional

C. Fire Service User Questions

1. In the past few years there has been much discussion about digital radio operation in high noise fireground applications. Please indicate the quality of communications your department has experienced in fireground communications in the following operational scenarios with the radio in a digital mode;
 - a. SCBA donned
 - b. PASS alarm active
 - c. Next to an active pump panel
 - d. Next to K-12 or chainsaw
 - e. In cab with high siren activity

From the responders. The quality and noise canceling is outstanding.

2. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Repeated transmissions have not been an issue. Quality is outstanding.

3. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Volume and quality is excellent.

4. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

We use XG 75 and M7300. The responders have been very positive regar



5. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes, we have outstanding coverage and quality.

6. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

XG75 and M3700. Very satisfied

D. Law Enforcement User Questions

1. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Very good repeats are minimal.

2. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Very good. Repeats are minimal.

3. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

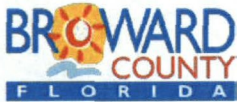
Responders report that radios are very simple to operate.

4. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Responders report the increased coverage and quality improved safety.

5. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Yes, good sound and easy to use. XG 75



Vendor Reference Verification Form

Broward County Solicitation No. and Title:

R1422515P1 - Public Safety Radio APCO Project 25 700MHz Communication

Reference for: **Harris Corporation**

Organization/Firm Name providing reference:

St. Mary's County Government

Contact Name: **Robert Kelly**

Title: **Director**

Reference date: **08/05/2016**

Contact Email: **Bob.Kelly@stmarysmd.com**

Contact Phone: **3014754200 *1013**

Name of Referenced Project: **800MHz Radio Communications System**

Contract No.

Date Services Provided:

Project Amount:

SMC-PSIT-61051

06/29/2012 to 08/05/2016

\$ 34,000,000.00

Vendor's role in Project: ☒ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

St. Mary's County contracted the Turnkey services of a Harris Corporation to engineer, furnish, install and integrate with existing public safety communication systems an 800/700 MHz APCO P25 Phase 2-compliant wireless dispatch communication system. The System includes civil facilities such as, fixed radio equipment, high-capacity microwave telecommunications network, towers, dispatch console electronics, in-building enhancements and end-user subscriber devices.

Please rate your experience with the referenced Vendor:

Needs Improvement

Satisfactory

Excellent

Not Applicable

1. Vendor's Quality of Service

a. Responsive

☐
☐
☒
☐

b. Accuracy

☐
☐
☒
☐

c. Deliverables

☐
☐
☒
☐

2. Vendor's Organization:

a. Staff expertise

☐
☐
☒
☐

b. Professionalism

☐
☐
☒
☐

c. Turnover

☐
☒
☐
☐

3. Timeliness of:

a. Project

☐
☐
☒
☐

b. Deliverables

☐
☐
☒
☐

4. Project completed within budget

☐
☐
☒
☐

5. Cooperation with:

a. Your Firm

☐
☐
☒
☐

b. Subcontractor(s)/Subconsultant(s)

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☐

c. Regulatory Agency(ies)

☐
☐
☒
☐

Additional Comments: (provide on additional sheet if needed)

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Verified via: ☒ EMAIL ☐ VERBAL Verified by: **Bonnie B. Maney** Division: **Tech Consultant** Date: **9/19/2016**

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Questions for System Users.

Firm providing information:

Harris Corporation

Manufacturer of your radio system:

System Type:

Harris Corporation

Software Release:

SR10A.1

All questions below should be answered, if possible.

- A. Dispatch Questions Regarding the Radio Dispatch Console System (Do not include console furniture, seating or other systems at the position). Answer each question from a sliding scale of 1 -5; 1 indicating lowest satisfaction and 5 indicating highest performance.

1. How is the voice quality from field units? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated, and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ ✓ *Handwritten signature*

2. How do the field units hear dispatcher voice quality? (Consider consistent volume, noise or distortion, background noise, need to have transmissions repeated and how often.)

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☒ ✓ *Handwritten signature*

3. How easy is the console screen to manipulate? (Consider screen operation, simplicity/complexity of screen layout, alias and ID display, ability to customize and save per dispatcher, headset operation, footswitch and mouse)

1 ☐ 2 ☐ 3 ☐ 4 ☒ ✓ *Handwritten signature* 5 ☐

We have the older C3 Maestro consoles as the C3 MaestroIP consoles we

4. What operational features do you like about the radio dispatch consoles? Please answer with as much information as you need.

Configurable to meet all our needs.

5. What operational features do you dislike about the dispatch consoles? Please answer with as much information as you need.

The older version does not allow individual dispatcher configurations.

B. System Manager/Administrator Questions

1. How well does the system provide the operational coverage that was sold and promised by your system vendor? If needed, what action is the system vendor taking to improve coverage and resolve any coverage issues?

Our county awarded a 3 phase contract and combine the last two phases i

+

2. How well does the System Management System meet your needs for reports, data, and up to the minute information and event monitoring to manage and evaluate the health and usage of your system?

System Health is monitored by our Harris Technician and reported regularl

+

3. Are you receiving the level of technical support from the system vendor that was contracted for and promised?

Yes, but sometimes technical issues are difficult to identify (sporadic and ir

+

4. What impressed you favorably about the vendors' purchasing, installation and project management processes?

No issues with the purchasing and project management at all.

5. What could the vendor have done better?

Installation and cut-over needed to have more physical human resources c

+

6. How many change orders were needed to get the system that you wanted, and what did they encompass? Do you feel they were necessary?

There have been two change orders issued for this project. Both were initi

+

C. Fire Service User Questions

1. In the past few years there has been much discussion about digital radio operation in high noise fireground applications. Please indicate the quality of communications your department has experienced in fireground communications in the following operational scenarios with the radio in a digital mode;
 - a. SCBA donned
 - b. PASS alarm active
 - c. Next to an active pump panel
 - d. Next to K-12 or chainsaw
 - e. In cab with high siren activity

We have not received any complaints by fire or police on surrounding noise

+

2. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

No issues, the biggest problem is ensuring dispatchers keep the mic to the

+

3. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

In fringe areas where towers have not been constructed portables have less

+

4. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Most users did not take advantage of training offered and use the equipment

+

5. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Yes, two significant objectives with this purchase have been addressed 1)

+

6. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Yes, the system works as sold. XG-75 and M7300's

D. Law Enforcement User Questions

1. How is the voice quality from dispatch? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Same as above

2. How is the voice quality between mobile and portable radios? (Consider constant volume level, noise, distortion, background noise, need to have transmissions repeated and how often)

Same as above

3. How easy are the mobile and portable radios to operate? (Consider ease in finding a channel or talk group, operation with gloves, accidental turning of knobs or switches, general operation) What make and model radios?

Same as above

4. Does your radio system provide the reliability you need to safely accomplish your mission? Why or why not?

Same as above

5. Are you satisfied with the operation of your mobile and portable radios?
 - a. Why or why not?
 - b. Which make and models?

Same as above.