

# Memorandum



DATE: April 20, 2012

TO: Members of the Public Safety Committee

SUBJECT: **Radio Technology Procurement and Update**

Attached is briefing material on the "Radio Technology Procurement and Update" to be presented to the Members of the Public Safety Committee on Monday, April 23, 2012.



A. C. Gonzalez  
First Assistant City Manager

Attachment

CC: Honorable Mayor and Members of the Dallas City Council

Mary K. Suhm, City Manager

Rosa Rios, City Secretary

Thomas P. Perkins, Jr., City Attorney

Craig D. Kinton, City Auditor

C. Victor Lander, Administrative Municipal Judge

Ryan S. Evans, Assistant City Manager

Jill A. Jordan, P.E., Assistant City Manager

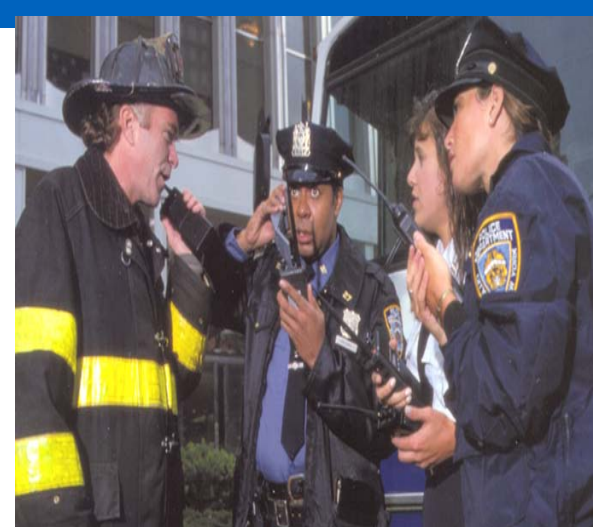
Forest E. Turner, Assistant City Manager

Joey Zapata, Assistant City Manager

Jeanne Chipperfield, Chief Financial Officer

Frank Libro, Public Information Office

Stephanie Cooper, Assistant to the City Manager Mayor/City Council



# Radio Technology – Procurement and Update

Briefing to the Public Safety Committee – April 23, 2012



# Presentation Objectives

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- The objective of this presentation is to provide a review of:
  - January 19, 2011 Radio Technology presentation to City Council
  - RFCSP process for additional radio purchases to achieve Narrowband requirement
  - Where we are with City / County wide Radio Upgrade
  - Next Steps...

## Recent Discussions/Council Action on Radio Technology

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- January 19<sup>th</sup>, 2011, briefing Council on Radio Technology Overview
- January 18<sup>th</sup>, 2011, briefing to Public Safety on Radio Technology Overview
- November 10, 2010, Council authorized a three-year master agreement for multi-band and portable subscriber radios for public safety Resolution No. 10-2846
  - 850 for Super Bowl and upcoming events
  - 1,150 for additional needs over the three-year period

# Current City of Dallas Radio System

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- Is not narrowband compliant; FCC requires compliance by January 2013
- Citywide radio “system” will need to be replaced to meet the current P25 standards;

The system consists of:

- 11,975 Radios
  - 700 Receivers
  - 400 Antennas
  - 250 Transmitters
  - 23 Towers
- Is divided into two radio systems:
    - Public Safety
    - Other Public Service Departments (DWU, STS, Code, SAN, and AVI)

# Narrowband

# Overview of Narrowband

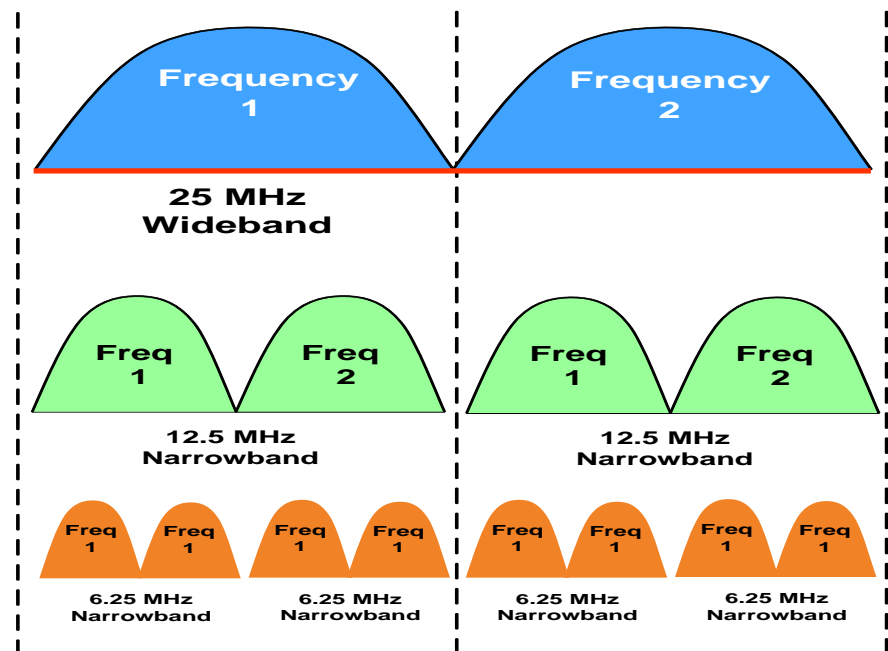
- What is the purpose of Narrowband?
  - The existing wideband UHF and VHF communication frequencies are congested and have limited capacity remaining to expand
- What is Narrowband?
  - Taking the current wideband frequencies and creating new narrower frequencies in order to relieve congestion.

## FCC “Squeeze in More Talkpaths”...

*Currently all of the City’s radios operate on this wideband frequency*

*FCC says: “2-to-1”  
January 2013*

*FCC says: Next Generation,  
date not announced*



# Narrowbanding



**NEW**  
**Technology**

**Narrow Lanes**

**=**

**MORE Lanes**  
**in the same**  
**space**



# P25 Standards

# Overview of P25

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- What is P25?
  - P25 was established by the National Telecommunications & Information Administration, Department of Defense and National Security Agency and became of paramount importance following 9/11
  - P25 is a technology standard defined by public safety professionals
- What are some of the improvements with P25 technology?
  - P25 **improves communications** between emergency and non-emergency service providers
  - **More choices** with radio communication technologies
  - Digital and analog communication **interoperability**
  - **Resolves over-crowding** and congestion of the network
  - **Enhanced security** of voice and data transmission

# **Timeline for P25 Radio System Upgrade**

# Dallas - P25 Radio System Timeline

## Narrowband Radios

- **Phase I** – Complete Narrowband requirements for Public Safety portable and mobile radio devices. These radios are P25 compliant and will operate with any P25 radio system manufacturer. Target Date: **Jan.2013**

## P25 Radio System Upgrade

- ✓ 2008/09 – **Completed** a comprehensive vulnerability assessment of the City's aging radio communication system, and a preliminary outlook of replacement alternatives.
  - 2010/11 – **Completed** an RFCSP and identified a professional engineering firm to serve as the City of Dallas' expert representative in the preparation of technical and functional specifications, and implementation oversight for the City's future P25 radio system.
- **Phase IIA** – Development of RFCSP: Acquire and document detailed P25 radio system configuration / requirements from the City, County and other potential cities and agencies. Target date: **Oct.2013**
- **Phase IIB** – Evaluation of vendor proposals, contract negotiations, and final selection. Target Date: **Aug.2014**
- **Phase III** – P25 Radio System Implementation and System Acceptance Testing **1Q2017**

# **2012 Procurement Process for Narrowband Radios (P25 Complaint)**

# Procurement Process

- Business Development and Procurement Services (BDPS) conducted a pre-advertisement meeting on January 24, 2012
  - Seven vendors attended
- BDPS advertised a Request for Competitive Sealed Proposal (RFCSP) for Single Band and Multiband Radio Equipment
  - Dallas Morning News - February 2 & 9, 2012
- As part of our vendor notification process, 93 electronic notices were sent by the City's web-based procurement system
- Additionally, notifications were sent by BDPS ResourceLINK Team (RLT) to 25 chambers of commerce, and 2 advocacy groups

# Procurement Process (cont'd)

- Pre-proposal conference was held on February 14, 2012
  - 4 companies were represented
    - Motorola Solutions
    - Harris Corporation
    - Lazo Technologies
    - Continental Wireless
- All questions asked during the pre-proposal meeting were posted on the City's bid website for all potential proposers to review
- Four proposals were received on February 22, 2012
  - Motorola Solutions
  - Harris Corporation
  - Relm Wireless Corporation
  - Thales Communications, Inc.

# Procurement Evaluation Criteria

- Evaluation Criteria
  - Price 30%
  - Performance, Functionality, Personnel Usability & Versatility 20%
  - Business Inclusion & Development Plan 15%
  - Availability of Services & Upgrades 15%
  - Reliability, Compatibility & Expansion Capabilities 10%
  - Software Distribution Rights 5%
  - Vendor Qualifications & History of Support 5%



# Evaluation Process

- Evaluation committee consisted of employees from the following departments:
  - Police (2)
  - Fire-Rescue (1)
  - Communications & Information Services (1)
  - Water Utilities (1)
  - BDPS (2) – only evaluated the Business Inclusion and Development and cost
- All proposals were reviewed by the evaluation committee to determine responsiveness to the minimum requirements
- All proposers were invited to present additional details of their submission to the evaluation team
- In addition to the presentation, all proposers provided test units to the City for live field tests and simulated usage

# Results

- Although the City solicited an unbundled procurement to maximize competition, Motorola and Harris provided pricing and incentives based on the master agreement being awarded in its entirety
- Based on the initial rankings from the evaluation team, a request was made to the two highest ranked proposers to provide a Best and Final Offer
- Motorola and Harris provided revised pricing which was utilized to calculate the final overall estimated cost
- Based on the evaluation summary, Motorola is being recommended as the most advantageous proposer with the lowest overall cost to the City

# Scoring and Pricing Summary

\*All proposers submitted unit pricing (quantity x unit price to determine estimated contract amounts)

	Group 1 Portable Multi-band Radio (Handheld)	Group 2 Portable Single-band Radio (Handheld)	Group 3 Mobile Multi-band Radio (In Vehicle)	Group 4 Mobile Single-band Radio (In Vehicle)	Total Solution Cost
<b>Motorola</b>	95.13	91.09	96.60	96.40	<b>\$30,342,000*</b>
<b>Harris</b>	88.60	85.80	77.63	79.23	\$34,072,575*
<b>Thales</b>	58.66	No Bid	No Bid	No Bid	\$19,350,000**
<b>Relm</b>	No Bid	64.48	No Bid	No Bid	\$6,111,735**

Highest ranked	1
Second highest ranked	2
Third highest ranked	3
No bid for group	No Bid

\*Although the City unbundled the procurement to maximize competition, Motorola and Harris provided pricing and incentives based on the master agreement being awarded in its entirety

\*\*Thales and Relm were fully evaluated for the groups they proposed

# Motorola – Evaluation Summary

- Motorola overall pricing is more advantageous to the City
- Motorola has next generation narrow banding
  - Harris equipment does not currently have Time Division Multiple Access (TDMA) but stated the technology would be available at the end of 2012
  - Dallas would be required to physically touch and program each radio once TDMA was made available
    - Estimated cost approximately \$300-\$400 per device
- Motorola in-vehicle radio fits well with existing equipment
  - Harris mobile radio protrudes too far out of the current vehicle consoles making operation of the other equipment in the vehicle difficult
  - Harris provided an option to split the installation of part of the equipment in the trunk which requires additional modifications of the vehicle for an additional cost of \$266 plus labor
- Motorola has GPS in radio base
  - Harris has similar technology in their multi-band radio (Public Safety devices) but does not in their single-band (civilian devices)
  - Harris single-band radio, GPS technology is within the microphone not the actual device. If the microphone comes loose or off the radio, the City would lose GPS capabilities until the microphone was attached
- Motorola has user friendly menu and buttons
  - Harris menu is difficult to navigate, font size is too small on multi-band portables
  - Harris mobile radio knobs are too close together making it difficult to adjust by touch and while wearing protective gear

# Recommendation

- Approve an action item on the Council's April 25, 2012 agenda authorizing a five-year master agreement with Motorola in a total amount not to exceed \$30,342,000 – Financing: Current Funds (\$12,666,097), Water Utilities Current Funds (\$2,876,980), Homeland Security Grant Funds (\$14,798,923)
  - This action does not encumber funds; the purpose of a master agreement is to establish firm pricing for good or services, for a specific term, which are ordered on an as needed basis

# Appendix

## Group I Scoring - Portable (Handheld) Multi-band Radio

	Group Cost	Cost	Performance and functionality, personnel usability and versatility	Reliability, compatibility and expansion capabilities	Availability of Services & Upgrades	Software Distribution Rights	Vendor Qualification & History of Support	Business Inclusion & Development Plan	Totals
<b>Maximum Available Points</b>		<b>30.00</b>	<b>20.00</b>	<b>10.00</b>	<b>15.00</b>	<b>5.00</b>	<b>5.00</b>	<b>15.00</b>	<b>100.00</b>
<b>Motorola</b>	\$13,731,091	28.53	19.00	9.20	13.80	4.60	5.00	15.00	95.13
<b>Harris</b>	\$13,041,241	30.00	14.80	8.00	12.60	4.80	4.40	14.00	88.60
<b>Thales</b>	\$19,350,000	19.86	9.00	5.00	8.00	4.40	2.40	10.00	58.66

Highest ranked	1
Second highest ranked	2
Third Highest ranked	3

## Group 2 Scoring – Portable (Handheld) Single-band Radio

	Group Cost	Cost	Performance and functionality, personnel usability and versatility	Reliability, compatibility and expansion capabilities	Availability of Services & Upgrades	Software Distribution Rights	Vendor Qualification & History of Support	Business Inclusion & Development Plan	Totals
<b>Maximum Available Points</b>		<b>30.00</b>	<b>20.00</b>	<b>10.00</b>	<b>15.00</b>	<b>5.00</b>	<b>5.00</b>	<b>15.00</b>	<b>100.00</b>
<b>Motorola</b>	\$5,798,318	26.69	17.00	9.00	13.80	4.60	5.00	15.00	91.09
<b>Harris</b>	\$5,221,876	30.00	12.80	7.20	12.60	4.80	4.40	14.00	85.80
<b>Relm</b>	\$6,111,734	24.88	9.80	4.60	9.00	4.40	3.80	8.00	64.48

Highest ranked	1
Second highest ranked	2
Third Highest ranked	3



## Group 3 Scoring - Mobile (In vehicle) Multi-band Radio

	Group Cost	Cost	Performance and functionality, personnel usability and versatility	Reliability, compatibility and expansion capabilities	Availability of Services & Upgrades	Software Distribution Rights	Vendor Qualification & History of Support	Business Inclusion & Development Plan	Totals
<b>Maximum Available Points</b>		<b>30.00</b>	<b>20.00</b>	<b>10.00</b>	<b>15.00</b>	<b>5.00</b>	<b>5.00</b>	<b>15.00</b>	<b>100.00</b>
<b>Motorola</b>	\$3,537,778	30.00	18.80	9.40	13.80	4.60	5.00	15.00	96.60
<b>Harris</b>	\$5,488,802	19.43	14.60	8.00	12.40	4.80	4.40	14.00	77.63

Highest ranked	1
Second highest ranked	2

## Group 4 Scoring - Mobile (In vehicle) Single-band Radio

	Group Cost	Cost	Performance and functionality, personnel usability and versatility	Reliability, compatibility and expansion capabilities	Availability of Services & Upgrades	Software Distribution Rights	Vendor Qualification & History of Support	Business Inclusion & Development Plan	Totals
<b>Maximum Available Points</b>		<b>30.00</b>	<b>20.00</b>	<b>10.00</b>	<b>15.00</b>	<b>5.00</b>	<b>5.00</b>	<b>15.00</b>	<b>100.00</b>
<b>Motorola</b>	\$7,274,813	30.00	18.80	9.20	13.80	4.60	5.00	15.00	96.40
<b>Harris</b>	\$10,320,654	21.23	14.60	7.80	12.40	4.80	4.40	14.00	79.23

Highest ranked	1
Second highest ranked	2