



Joint System Owners Customer Information Meeting
Wednesday, August 15, 2018
Environmental Service Building



City of Tacoma

Steve Victor, Deputy City Attorney
253-591-5638
svictor@ci.tacoma.wa.us

Pierce County Emergency Management

Scott Heinze, Interim Director
253-798-7143
scott.heinze@piercecountywa.gov

Presenters: Scott Heinze, Interim Director – Pierce County Emergency Management
Steve Taylor, Information Technology Manager – City of Tacoma
Tim Lenk, Communications Systems Manager – Pierce County Emergency Management

Questions & Answers Discussed During the Presentation

1 – Q What does the system upgrade from 7.15 to 7.17 mean and what does it include?

1 – A “7.xx” refers to the software/hardware versions and features of Motorola’s P25 digital radio systems. The 700MHz and 800MHz systems were both at version 7.13 when they became operational in 2015. Motorola generally releases new versions annually with new or enhanced features, and support each version for 4 years.

Tacoma and the CCN each have System Upgrade Agreements (SUA) with Motorola for hardware, firmware and software upgrades every two years. Tacoma and the CCN upgraded from version 7.13 to 7.15 in 2016 and 2017, respectively. Tacoma completed the 7.17 upgrade in August 2018. The CCN will implement 7.17 in mid-2019.

The Tacoma 7.17 upgrade provided

- Upgraded software and licenses for all system servers, routers, switches and controllers
- 61 hardware components replaced with new components

2 – Q What are some of the technology challenges when it comes to in-building coverage?

2 – A Both 700MHz and 800MHz were designed for on-street coverage throughout their respective coverage area. In-building coverage often exists when radio sites are in close proximity to buildings. Environmental challenges with building construction materials such as steel, reflective glass and shadowing are also factors that affect in-building coverage.

3 – Q Are vehicular repeaters a good solution for in-building coverage?

3 – A Several Fire agencies are considering implementation of a vehicular repeater (VR) process. A VR makes use of a mobile radio connected to a logic device. The concept is that the mobile radio with its vehicle mounted antenna will transmit a higher power signal inside a nearby building compared to on-scene portables at the same event. Conversely, the probability for portable transmissions inside the building to reach outside have the potential to improve.

Depending on how a VR is configured, radios on scene may experience some loss of features such as emergency and unit ID as well as require additional radio system channel capacity. Depending on how the primary responding agency implements VR, supporting agencies may not be able to communicate through the VR on scene. Functional testing by any agency considering VR deployment is strongly recommended before making a purchase and deployment decision.

- 4 – Q** What are some policy and/or legislative actions that could help mitigate those in-building coverage challenges?
- 4 – A** The in-building NFPA requirements are being enforced by plans review for new commercial and multi-dwelling residential developers. Now, there is a need to determine how the increasing Distributed Antenna Systems / Bi-Directional Antennas (DAS / BDA) plans and inspections can be reviewed in a timely manner. There is also an increasing need for annual inspections to ensure the DAS/BDA is properly functioning.

5 – Q What are some of the efficiencies gained with backhaul sharing?

5 – A The common practice of municipal and state governments sharing each other’s existing backhaul networks where possible (instead of purchasing new equipment) is cost effective.

“Backhaul” refers to the microwave and fiberoptic networks used to connect the master, radio and dispatch sites to each other. The backhaul networks distribute system data and information where needed so the radio systems can function properly and reliably. The cost to connect an individual site can often approach \$100,000 plus ongoing annual O&M costs.

Pierce County operates a countywide microwave network and Tacoma operates a municipal fiberoptic plus a smaller microwave network. Significant radio system cost avoidance has been achieved by sharing each other’s backhaul networks to connect radio and dispatch sites such as DuPont, Puyallup, Graham, Pierce County Jail and South Sound 911 dispatch.

6 – Q What data would the system owners look at when it comes to talk-group consolidation, and who should be included in those discussions?

6 – A By understanding agency talk group usage and dispatcher call loading, the system owners, in collaboration with fire, law enforcement and dispatch, could make recommended changes to talk groups and templates established in 2013.

7 – Q What are the system owners doing to unify the systems, and how long is it going to take?

7 – A The system owners, together with iXP Corporation, have begun the development of a strategic plan for unified radio communications. The framework is expected to be completed in late 2019. The strategic plan will include key projects and initiatives for operational and business processes, financial modeling, technology integration, customer requirements, customer support and governance. Stakeholders and interested parties will have opportunities to provide input and receive progress updates.

WELCOME

Joint 800 MHz / 700 MHz Radio System Owners Customer Engagement Meeting



City of Tacoma
W A S H I N G T O N

August 15, 2018
9:00am – 10:30am



Environmental Service Building (ESB) – West Room

City of Tacoma

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AGENDA

- **Work happening separately and in coordination to improve efficiency and effectiveness**
- **Update on efforts to unify the networks**
- **Opportunity for radio system customers to ask the systems technology experts about current functionality and operability questions**



SYSTEM OWNERS COLLABORATION

- **Things we do today separately**
 - **Bi-annual radio system version upgrades**
 - **Asset management**
 - **Financial modelling**
 - **Physical radio programming**
 - **Long range planning**
 - **Infrastructure support**



SYSTEM OWNERS COLLABORATION

- **Coordinated work we are doing together**
 - **Alias changes**
 - **ISSI Coordination**
 - **Coordinated radio ID model**
 - **Coordinated programming templates**
 - **Coordinate in-building coverage approval processes with Fire Marshall**
 - **Tech Talk – technical coordination**
 - **Joint training**
 - **Back Haul sharing**
 - **Coordinated dispatch console encryption**
 - **Site sharing**



SYSTEM OWNERS COLLABORATION

- **Processes we are analyzing for potential improved efficiency and effectiveness**
 - **Vetting non-Motorola P25 subscriber equipment**
 - **Radio network support**
 - **Contracting – Preferred vendor list**
 - **Talk Group efficiencies**
 - **System and physical security**
 - **Asset management – common platform**
 - **Data driven decision making**
 - **Coordinated product line platforms**
 - **Unified subscriber support**



Single Unified System

Update on efforts to unify the networks

- **System owners working to identify operational requirements**
 - **IXP Systems Review - understanding existing infrastructure and operations**
- **Researching potential approaches to unifying the system**
 - **Including a cost model for a unified system**



Customer Engagement Forum

- **What would you like to ask about current equipment functionality and system operability?**



Next Steps

- **Next customer engagement meeting first week of December**
 - **Provide updates on processes we are analyzing for potential improved efficiency and effectiveness**

