

For the Council Meeting of January 22, 2007

Agenda Item No.: 4.2 (c)

TO: Mayor and City Council
THROUGH: Robert G. Wells
City Manager
FROM: Gerald F. Moore
Chief of Police
SUBJECT: Radio System Controller Upgrade

ISSUE:

Should the City Council approve Resolution No. 2007-6 transferring \$215,000 within the city services fund radio communications division in order to upgrade the existing 800 MHz Radio System internal controllers with a newer model, which will extend the system life to 2013 and allow the option of increasing the number of talk channels?

RECOMMENDATION:

City Council approve Resolution No. 2007-6 transferring \$215,000 from city services fund, radio communications division materials and services to city services fund, radio communications division capital outlay in order to upgrade the existing 800 MHz 6809 radio system controllers with MTC3600 radio system controllers.

BACKGROUND:

In 1990, the City of Salem began leasing radio communication systems from outside vendors and purchasing 800 MHz trunked radios to operate on those leased systems. In 1994, the City purchased and installed an 800 MHz SmartNet Trunked Radio System (SmartNet System) from Motorola and began operating their own system and discontinuing the leased service.

The primary components, or "brains," of the SmartNet System are the 6809 system controllers. Two controllers are located at the central communications site and one at each of the radio system tower locations.

In 2004, Motorola ceased support for expanding (adding more talk channels to) existing systems using the 6809 controller. In 2008, Motorola will no longer provide maintenance for the controller and parts will only be available while supplies last.

The City of Salem's SmartNet System has five voice channels. There are many more than five groups of users on the system, but the system is limited to five concurrent users talking at one time. If a sixth person attempts communication when five other users are already talking, the

sixth user will receive a "beep" tone, or "system busy," and will have to wait until one of the other five users complete their transmission.

The Fire Department, Public Works, Parks Department, and Community Enforcement are all users of the SmartNet System. Under normal daily activity, it is rare for radio system users to experience a "system busy" condition. However, during emergency situations when radio communications are critical, the frequency of "system busy" conditions increase significantly. As an example, during the recent fire at McMahon Furniture, there were ten "system busy" conditions in a fifteen minute period prompting a temporary restriction of radio system use to fire personnel only.

A primary method of reducing "system busy" conditions is to increase the number of talk channels available in the system. This can only be accomplished if we first replace the 6809 controllers.

In addition, the existing radio system controllers will not allow for adding transmit/receive sites, nor will they allow for adding radio dispatch consoles. By replacing the 6809 controllers with the MTC3600 model, we would be able to expand sites and add radio dispatch consoles.

Since the SmartNet System is nearing it's end of life, staff has begun planning for a full system replacement to address the long term radio communications needs of the City and to address interoperability needs for public safety in the region. This full system replacement will require significant funding and is likely more than five or six years into the future.

It does not make good sense to operate critical complex radio communication systems for several years with key system components no longer being supported and maintained by the manufacturer.

FACTS & FINDINGS:

1. Motorola will no longer provide maintenance to the existing 800 MHz Radio System Controllers in 18 months, nor can the existing controllers add additional voice channels (frequencies).
2. The existing 800 MHz Radio System has experienced "system busy" during emergency situations indicating more need to talk on the radio system than capacity allows.
3. The existing 800 MHz Radio System Controllers do not allow for system expansion, including transmitter sites, receive sites or dispatch consoles.
4. Upgrading the existing system as suggested will solve these issues until a full system replacement occurs in the future. Replacement of the existing system is likely to be at least five years from now.

5. Purchasing the MTC3600 Controllers will extend the life of the existing system to 2013, allow the expansion of voice channels, allow additional sites for better coverage and allow additional consoles in the dispatch center.
6. Funds for the controller upgrade system are contained in the 2006-07 radio communications budget. The total cost of the upgrade is \$275,000 of which \$65,000 is in capital outlay. Staff is recommending the additional \$215,000 needed be transferred from materials and services to capital outlay.