



STARS

STATEWIDE AGENCIES RADIO SYSTEM

Senate Finance Committee

September 20, 2007

STARS Systems Integrator Contract

Colonel W. Steven Flaherty, State Police Superintendent, and Mark Moon, Vice President and General Manager of Motorola, signed a \$329-million contract between Motorola and the Commonwealth of Virginia on July 13, 2004 for the design, construction, and implementation of the Statewide Agencies Radio System (STARS).

A ceremonial contract signing was held on July 16, 2004 in conjunction with a press conference. The implementation phase of STARS is now underway.

Scope of the STARS Contract

STARS will provide a Project 25 multi-channel trunked digital voice and data wireless communications system that is specifically designed for public safety requirements.

The existing State Police microwave radio network's technology and capacity will be upgraded and disaster recovery alternate paths will be added.

The STARS contract will provide essential public safety grade communications that can operate seamlessly throughout the Commonwealth for 21 state agencies and facilitate interoperability with local and federal government agencies.

Communications within the Tunnels

STARS is providing VHF and 800 MHz wireless communication coverage for six tunnels in the Commonwealth of Virginia: Big Walker Mountain, East River Mountain, Hampton Roads, Elizabeth River Downtown, Elizabeth River Midtown, and Monitor/Merrimack.

The design allows for mobile radio, portable radio, and computer data communications within the tunnels.

Mobile Data Applications

The Mobile Data Computers installed in law enforcement vehicles will provide the following to the Commonwealth:

- ❑ Law enforcement queries such as Wanted, Missing, Sex Offender, Gang, Concealed Handgun and DMV records checks
- ❑ Intra-agency and inter-agency text messaging
- ❑ Interface with the VSP Computer Aided Dispatch (CAD)
- ❑ Automated Vehicle Location (AVL)
- ❑ A Verizon air card is being added to provide the primary mobile data transport. This will allow larger messages and files to be sent at a higher speed (DMV Photos, Wanted and Missing person photos).

Network Operations Center

The Network Operations Center (NOC) at the State Police Headquarters is operational on a 24/7 basis to identify faults, and remotely correct alarm conditions or dispatch technicians.

Transmitter Sites

The transmitter sites in STARS will consist of 76 microwave tower sites and 45 collocated Land Mobile Radio sites. These sites will support the land mobile radio voice, microwave radio, mobile data, and alarm and control networks.

Communications equipment at each site will be housed in a protective building that is monitored for technical functions, protected with emergency power systems, and includes sophisticated grounding systems to protect from lightning damage.

Participating Agencies

Alcoholic Beverage Control
Capitol Police
Charitable Gaming
Chesapeake Bay Bridge &
Tunnel Police
Conservation and Recreation
Corrections
Emergency Management
Environmental Quality
Fire Programs
Forestry
Game and Inland Fisheries
Health

Juvenile Justice
Military Affairs
Mines, Minerals, and Energy
Motor Vehicles
State Police
Transportation
Virginia Information Technologies
Agency
Virginia Marine Resources Commission
Virginia Port Authority
Federal Partnership for Interoperable
Communications

STARS Program Oversight

The STARS Management Group is a board established by Executive Order 28 (2002). On November 1, 2005 Executive Order 101 (2005) continued the STARS Project through October 31, 2008. The board is composed of the following Secretaries:

- Administration
- Agriculture and Forestry
- Commerce and Trade
- Finance
- Health and Human Resources
- Natural Resources
- Public Safety (Chairman)
- Technology
- Transportation

Implementation Schedule

The STARS Systems Integrator Project is scheduled to be implemented over a six year period.

Operational Stages

- Richmond -- December 2005 - Operational
- Tidewater -- May 2008 - Operational
- Culpeper -- July 2008
- Northern Virginia -- October 2008
- Salem -- April 2009
- Appomattox -- May 2009
- Wytheville -- September 2009

COMLINC

- ❑ **C**ommonwealth **L**ink to **I**nteroperable **C**ommunications allows Dispatchers in counties and cities to establish up to eight radio patches. For example, a sheriff's deputy can be patched to a Fire Department, regardless of the radio frequencies used by each Department. Dispatchers can conference with each other to set up patches or coordinate activities.
- ❑ One of eight patches goes back to the STARS so the localities can patch to any of the 21 STARS agencies.
- ❑ Advance features such as emergency ID and AES encryption will work on COMLINC.
- ❑ COMLINC is a full feature interoperability solution connecting counties, cities, and state agencies.
- ❑ The ComLIC systems has been successfully used in the Richmond Area for Presidential visits and NASCAR events.

COMLINC

The following 16 localities are operational.

- Amelia
- Caroline
- Charles City
- Chesterfield County
- Essex
- Goochland
- Hanover
- Henrico
- King George
- Lancaster
- New Kent
- Northumberland
- Nottoway
- Powhatan
- Richmond County
- Westmoreland

COMLINC

- ❑ Roanoke and Lynchburg located in our Appomattox and Salem Divisions were awarded a \$2.4 million COPS grant and will select an interoperability solution this month for up to 27 localities.
- ❑ The Department of State Police has applied for a \$4 million COPS Grant to provide COMLINC to 44 localities in our Richmond, Wytheville, and Salem Divisions.
- ❑ Preliminary work has begun to apply for a Department of Commerce \$5 million Grant for 48 localities to complete the state.

Major Accomplishments By Division

- ❑ **Richmond** – Towers and Communications Center are complete. The Division went operational December 21, 2005.
- ❑ **Tidewater** – All towers (except Accomack) and the Communications Center are complete. The Division went operational June 12, 2007. Final acceptance is pending the Accomack site and full resolution of robotic voice transmissions and DVRS issues.
- ❑ **Culpeper** - All five tower sites have 100% design approved. Two sites are complete and three are in BCOM permitting.

Major Accomplishments By Division (Cont)

- ❑ **Appomattox** – Seven of nine sites have 100% design approved. Three sites are complete.
- ❑ **Salem** – Five of nine sites have 100% design approved. One site is ready for construction.
- ❑ **Wytheville** – Four of 14 sites have site sketches approved.
- ❑ **Fairfax** – Two of five sites have 100% design approved. One site is complete.
- ❑ **All Divisions**, all agencies 64% of the 21 STARS agencies vehicles have had STARS radios installed.

Building Construction

- ❑ **Richmond and Tidewater** Divisions Communications Centers have been renovated and gone from five dispatch consoles to eight. They are operational.
- ❑ **Culpeper** Division Communications Center has 100% design approved and is pending a BCOM permit for construction.
- ❑ **Appomattox** Division Communications Center is the same design as Culpeper and is pending 100% design approval.

Building Construction (Cont)

- ❑ **Salem** Communications Center will be in the Zone Two Control Center in Salem. Substantial completion is on schedule for October 2007.
- ❑ **Wytheville** Communications Center will not be renovated as planned. New STARS consoles will go into the existing room. A new building is planned that will house the counties of Wythe, Bland, Town of Wytheville, and State Police dispatchers.
- ❑ **Fairfax** Communications Center will go into the new Fairfax County Public Safety & Transportation Operations Center.

Bond Funding

- **Virginia Public Building Authority Revenue Bonds –**
The General Assembly authorized \$159,300,000 in 2004 and \$201,900,000 in 2006 totaling \$361,200,000 in Bond Funds to complete the STARS Project.

Through August 31, 2007, \$194,445,086 of Bond Funds have been spent.

- **General Funds –**
An annual General Fund Appropriation of \$2,510,000 is used to fund the STARS staff, consultant services (CTA Communications), FCC Attorney Fees, supplies, and equipment.

STARS Issues

- ❑ Robotics in voice calls – STARS users are experiencing garbled voice transmissions on intermittent basis.
- ❑ Denied access - Portable radios work through a Digital Vehicular Repeater System (DVRS) that allows law enforcement officers to talk on a portable radio through the car radio to the dispatcher. The Portable radio users are experiencing tones that tell them the radio has been denied access to the network. It is occurring too frequently. A second generation software is in the testing phase to correct this problem.
- ❑ Mobile Data Software – The original production of the software included three inboxes. This configuration was not practical; a two inbox solution is being tested. The software has not been able to document message delivery.

Department Action to Address the STARS Issues

- Effective August 29, 2007, the installation of equipment into any STARS vehicle was suspended until further notice.

- On September 13, 2007, the Department conducted a meeting with Motorola Representatives regarding the major issues of Robotics and denied access. A plan was developed to have the Department furnish two engineers and Motorola to furnish a minimum of two engineers to determine the cause of the problem and provide a solution to eliminate the robotics and deny access issues. The solution is to be provided by October 1, 2007. If a solution cannot be provided, the Department at that time, will explore the possibility of suspending any further build out of the system until the issues can be resolved.

- The Department is also working with Motorola regarding the Data delivery issues. Since the critical problem at this time is radio communications, the data issues are a secondary issue at this time.