COUNTY of VENTURA

INFORMATION TECHNOLOGY SERVICES
Terrence Theobald
Chief Information Officer

March 18, 2025

County of Ventura Board of Supervisors

Subject:

Ratification of Submission of the Chief Information Officer's Grant Application to, and Acceptance of Grant Award in the Amount of $963,000 from the U.S. Department of Justice FY24 Community Oriented Policing Services (COPS) Technology and Equipment Program Invitational Solicitation to Support the Ventura County 700 MHz Regional Public Safety Radio Project; Approval and Authorization to Execute a Change Order to the Motorola Solutions Incorporated (MSI) Contract, Increasing the Contract from $32,239,081 to $34,953,889 (an Increase of $1,505,623), for the Continued Implementation of the 700 MHz Regional Public Safety Radio System ; Authorization for the Auditor-Controller to Process the Necessary Accounting Transactions. **(RECOMMENDATION NO. 3 REQUIRES 4/5 VOTE.) (Levine Act Item)**

Recommendations:

1. Ratification of Submission of the Chief Information Officer's Grant Application (Exhibit 1) to, and Acceptance of Grant Award in the Amount of $963,000 from the U.S. Department of Justice FY24 Community Oriented Policing Services (COPS) Technology and Equipment Program Invitational Solicitation to Support the Ventura County Regional Public Safety Radio Project.

2. Approve, and authorize the Ventura County Chief Information Officer or designee to execute a change order to the Communications and Services Agreement with Motorola Solutions Incorporated (hereafter the MSI Contract) approved by your Board on June 20, 2023, increasing the contract from $32,239,081 to $34,953,889 (an increase of $1,505,623), for equipment and services to be purchased under the COPS grant and for enhancements to the public safety microwave system not included in existing the agreement.

3. Authorize the Auditor-Controller to process the accounting transactions necessary to establish appropriations and unanticipated revenues as follows (4/5ths vote required):

Increase/Decrease	Budget Division	Account Level	Amount
Increase	4850	Services and Supplies	$1,505,623
Increase	4850	Intergovernmental Revenues	$ 963,000
Decrease	Fund I510	Unrestricted Net Position	$ 542,623

*Rounded to the nearest whole dollar.
**Only capital costs and the first year of support and subscriptions Included. Ongoing Maintenance to be budgeted within 4850 on completion of Capital Project.

Reason for Ratification:

Ventura County Information Technology Service Department (ITSD) petitioned the County Executive Office and received approval to participate in the submission of COPS grant applications (Exhibit 1). Because COPS grant applications are highly competitive, requesting approval for acceptance was deferred until, and if, any of these grant applications were successful.

Fiscal Impact:

	FY2024-25	FY2025-26
Revenues	$ 963,000	$ 0
Costs	$ 963,000	$ 542,623
Net County Costs	$ 0	$ 542,623

Funding Sources: Department of Justice FY24 Community Oriented Policing Services (COPS)
Fund I510 Fund Balance
Match Requirement: None.

Executive Summary:

The Information Technology Services Department is advancing the regional public safety radio network by enhancing its resilience, maintainability, and operational efficiency through the adoption of advanced technologies funded by the COPS grant and facilitated by an MSI Contract change order. Key initiatives include:

- Cirrus Central Core: Implementation of a geo-redundant virtual backup core to ensure continuity of mission-critical communications during outages, cyber-attacks, or natural disasters. Features include seamless failover, comprehensive management services, and a 5-year subscription to enhance system reliability.

- GenWatch 3: Deployment of a centralized radio network management system offering real-time monitoring, GPS tracking for radios, and robust reporting

capabilities. This system improves resource allocation, response times, and officer safety while simplifying administrative tasks.

- Hosted Radio Management: Transition to a cloud-based radio management system for efficient, secure, and scalable remote management of radios across multiple jurisdictions, reducing operational costs and improving flexibility.

- Public Safety Microwave Enhancements: Upgrades to the microwave backhaul network using adaptive modulation technology to optimize performance, increase bandwidth, and enhance reliability during adverse conditions.

These advancements will significantly bolster the regional public safety radio system, ensuring uninterrupted critical communication for first responders and supporting the safety and well-being of the community.

Discussion:

The Information Technology Services Department is continuing its engagement in regional collaboration and design engineering for upgrading the existing regional public safety radio network. To date, eleven (11) public agencies have signed the Memorandum of Understanding to join the system.

The COPS grant (Recommendation 1) will provide funds for the purchase of equipment and services through the MSI Contract change order (Recommendation 2) that will increase the resiliency and maintainability of the Regional Public Safety Radio System, including:

- The initial purchase, installation, and first year of maintenance for Cirrus Central Core, a backup, virtual core sub-system,
- The initial purchase, installation and first year of maintenance for Genwatch 3, a radio network management system, and
- The first year's subscription to Hosted Radio Management for 2,400 radios.

<u>Cirrus Central Core.</u>

Modern radio systems are essentially digital networks with a core set of servers and routers at their heart. These servers and routers manage registered radios and communications electronics functions. Our current core sub-system has internal redundancy, which provides a level of protection against component failures. However, it is not geo-redundant, meaning that it remains vulnerable to site-specific disasters or widespread outages.

To mitigate this risk, implementing a geo-redundant backup core is crucial. The CirrusCentral Core, provided by Motorola Solutions, offers a virtual backup core that

significantly enhances the resilience of the regional public safety radio system, ensuring we are well-prepared for any unexpected system failure. Whether the threat is a cyber-attack, equipment failure, natural disaster, or terror attack, the backup core provides immediate value by seamlessly assuming critical core functions necessary to maintain continuity of mission-critical communications electronics.

In the event of a core sub-system failure, the CirrusCentral Core's geo-redundant cloud backup ensures that critical call processing functions are rerouted seamlessly. This failover process prevents disruptions to our public safety radio system, keeping dispatchers and first responders connected and informed.

Additionally, the package includes comprehensive management services with unlimited administrative user accounts, 24/7 monitoring for 24 sites, and historical data storage. The Astro Connectivity Service (ACS) is a managed connectivity service that integrates radio sites, core, and cloud services as an end-to-end solution. MSI will design, provide, and implement a tailored transport solution to meet the specific needs of our regional public safety radio network.

The proposed change order includes a 5-year subscription to the CirrusCentral core, management package, and ACS subscription services. Notably, the first year of maintenance is covered by the COPS grant. This investment will significantly enhance the resilience and reliability of our public safety radio system, ensuring that our first responders and dispatchers can maintain critical communications even in the most challenging disaster situations, thereby protecting public safety and supporting our community's well-being.

Genwatch 3.

The GenWatch3 system is a comprehensive software solution designed to enhance the management and performance of the regional public safety radio network. It offers centralized monitoring and management of the radio system, providing real-time activity tracking, resource management, and historical data storage. The system features robust reporting capabilities, real-time visualization through map-based views and dashboards, and customizable critical notifications.

GenWatch3 enables system administrators to optimize operational efforts, predict future trends, make data-driven decisions about resource allocation, and quickly identify and address potential issues. By consolidating data from multiple sources and offering in-depth analysis tools, GenWatch3 simplifies reporting, validates decisions, and ultimately saves time for administrators managing complex regional public safety radio networks.

The GenWatch3 system software support subscription is a comprehensive package that ensures optimal performance through regular software updates and major version upgrades. The subscription covers database maintenance and updates performed by

Genesis support personnel, ensuring ongoing compatibility with our regional public safety radio system.

Unified Event Manager (UEM) alarms in GenWatch3 significantly enhance the management capabilities of our regional public safety radio network. This integration provides improved monitoring and prioritization of system health, allowing administrators to analyze trends and proactively maintain high service quality. It helps control the flood of alarms, ensuring critical events are not overlooked during high-volume situations. The UEM Enhancement offers detailed alarm information, including specific device details, timestamps, and clear event descriptions, aiding in faster issue resolution and early detection of potential device failures. By centralizing UEM alarm data within GenWatch3, system administrators benefit from a single location for monitoring and managing system data, complete with browser-delivered visualization tools.

GPS location capabilities for subscribers in the GenWatch3 system enhances its functionality and value for public safety radio network management. This feature allows system administrators to monitor the real-time location of every GPS-enabled radio on the Motorola radio system, improving response times to emergencies such as an officer-down situation. The system offers map-based visualizations, customizable viewing privileges, and the ability to filter location data by member agency, ensuring sensitive information is shared on a need-to-know basis.

The GenWatch3 system provides a robust and comprehensive solution for managing our regional public safety radio network. It enhances operational efficiency, decision-making, and officer safety.

Hosted Radio Management

The MSI Contract change order involves shifting from a locally hosted radio management system to MSI's cloud-based radio management system. This transition is necessitated by the participation of multiple jurisdictions with distinct and separate networks within regional public safety radio system. MSI's cloud-based radio management system offers several significant advantages over traditional on-premises server-based solutions.

This cloud-based system provides increased efficiency, flexibility, and scalability for public safety agencies. By enabling remote management and programming of radios, administrators can update and configure devices from any location with internet access, dramatically reducing the time and resources required for these tasks. What once took months can now be accomplished in minutes.

The cloud-based approach also enhances security measures, improves reliability through redundancy, and reduces maintenance costs by eliminating the need for on-site hardware and IT support. Real-time updates, centralized management capabilities, and automatic software updates further enhance operational agility, ensuring that radios always have the latest features and security patches.

Additionally, the cloud-based solution's ability to easily scale with growing fleets, coupled with its centralized inventory management and configuration tracking, makes it a more cost-effective and future-proof option. This centralized management allows participating agencies to streamline their radio management processes and improve overall operational efficiency. By leveraging these cloud-based capabilities, we can ensure that our regional public safety radio system remains robust, secure, and highly efficient, supporting the critical communication needs of its public safety agencies.

Enhancements to the Public Safety Microwave

The public safety microwave is the backhaul or transport system that connects all the radios sites and sub-system core together to form a network. In addition to improvements funded by the COPS grant, the MSI Contract change order modifies the public safety microwave system design. The proposed change order involves a significant design and equipment upgrade for the new microwave network, specifically the implementation of adaptive modulation. This technology dynamically adjusts the modulation scheme in response to changing radio channel conditions, such as path loss, interference, and weather changes.

Adaptive modulation allows microwave links to operate at higher capacities most of the time, while maintaining a guaranteed minimum quality of service during poor conditions. Instead of being designed for the worst-case scenario, these links can burst to higher rates when conditions allow, ensuring higher data throughput and reliability. For example, a link can switch from a higher modulation scheme to a lower scheme during adverse conditions to keep the link alive without losing connection.

This approach maximizes spectral efficiency, enabling more information to be transmitted over a given bandwidth. It also allows for the use of smaller antennas, longer link lengths, and higher availability targets, all without compromising on link distance or reliability. Adaptive modulation provides traffic prioritization, ensuring that delay-sensitive traffic such as voice communications is maintained normally even during poor channel conditions.

The implementation of this new design will be handled by MSI, in partnership with Nokia. Nokia will furnish and install the necessary microwave radios, test and turn-up the newly installed equipment, and complete the connections between the microwave radios and transmission lines. They will also install new antennas, standard mounts, and transmission lines at all sites and decommission the existing radios, antennas, and waveguide systems. The scope of work includes frequency selection, FCC license applications, engineering services, performance testing, and documentation.

This upgrade to adaptive modulation will significantly enhance the network's efficiency and resilience, providing increased bandwidth, reliability, and optimized performance for our public safety communications. It ensures that the microwave links can adapt to

varying environmental conditions, maintaining high-quality service and ensuring that critical communications remain uninterrupted.

ITSD's fiscal department will ensure that its local competitive bid process conforms to applicable Federal Office of Management and Budget policies during procurement. Additionally, ITSD will maintain invoices, tracking, and required COPS grant documentation and adhere to the Public Utilities Commission requirements during the performance period.

Strategic Plan:

Accepting these grant funds and approving this change order to the MSI contract aligns with the County of Ventura's Strategic Plan by ensuring ITSD invests in reliable and sustainable technology infrastructure. This initiative strengthens the foundation our public safety partners depend on to deliver critical services to the residents of Ventura County.

The County Executive Office, the Auditor-Controller's Office, and County Counsel have reviewed this letter. If you have any questions, please contact me at (805) 654-2744 or Karla Mairena at (805) 339-4266.

Terrence Theobald
Chief Information Officer

TT/KM/JN: jp

Attachments:
Exhibit 1 – COPS Grant Application
Exhibit 2 – COPS Grant Award Letter
Exhibit 3 – Change Order #001
Exhibit 4 – Change Order #001: Exhibit 1
Exhibit 5 – Change Order #001: Attachment A