Address: 520 Topeka Way, Unit 2
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Web: https://castlerockmicrowave.com/

CASE STUDY

Aurora Water Fortifies Security with Wireless Network Application

Upgrading Systems for Video

Aurora Water serves 375,000 people southeast of Denver, Colorado

"Castle Rock Microwave was wonderful to work with. They were very flexible – we threw them additional requirements from our IT department at the beginning of the project, such as coordinating with public safety, and they handled them easily."—Elizabeth Carter, Principal Engineer for Treatment, Aurora Water.

EXECUTIVE SUMMARY

When a risk management assessment study from a grant with the Department of Homeland Security revealed a need to improve security with video surveillance of its facilities, Aurora Water knew it would need to upgrade bandwidth on its aging microwave network in order to support that requirement.

After issuing an RFP, Aurora Water selected Castle Rock Microwave for the project. Key accomplishments were:

- Upgraded communication system to handle video
- Replacing existing radios without disrupting network service
- Inspecting and repairing network configuration issues
- Coordinating successfully with multiple stakeholders
- Accomplishing the project on time and on budget

CHALLENGES

Aurora Water initially installed a microwave network using 11 GHz Alcatel radios in 2011. With 155 Mbps of bandwidth, the seven-site network delivered SCADA and IT productivity traffic.

At the direction of Homeland Security, Aurora Water conducted a security assessment in early 2019 and discovered a need to improve security with video surveillance at its facilities throughout the city. Meeting this need would involve upgrading network bandwidth and coordinating replacement of microwave radios on towers shared with public safety agencies, all without interrupting communications services during radio changes.

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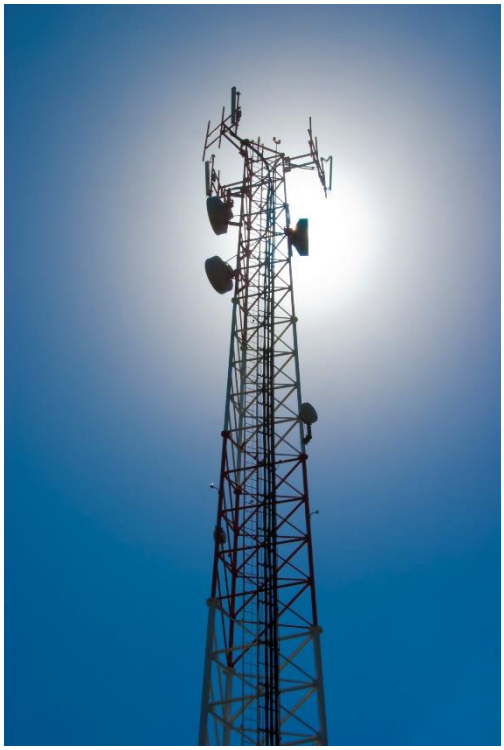
Key Points:

- Replacing existing radios on towers during winter weather without disruption
- Obtaining new FCC licenses
- Permitting issues involving county and public safety agencies
- Changing requirements as the project moved forward

"Without this project, we wouldn't have been able to meet DHS requirements for security, but we now have a microwave network we can build on for at least ten years." –Elizabeth Carter, Principal Engineer for Treatment, Aurora Water.

SOLUTION

Aurora Water selected Castle Rock Microwave for the project. Castle Rock Microwave designed a new network using Cambium Networks PTP820C radios operating on 11 and 23GHz frequencies, delivering between 519 Mbps and 1.2 Gbps of throughput – more than enough bandwidth to support video traffic from cameras in the field.



Castle Rock Microwave replaced one radio at a time on the network's protected ring topology, so that traffic could flow around the ring in the opposite direction when a radio was disconnected. This prevented any disruption to service on the network.

In addition, the Aurora Water and Castle Rock Microwave teams worked together to meet licensing and permitting requirements. This involved coordinating with city, county and federal government officials to secure buy-in from multiple stakeholders.

RESULTS

- Upon completion of the radio installations, Aurora Water could begin deploying video surveillance cameras to meet Homeland Security requirements. The agency now can support video and other future applications with ease thanks to the higher bandwidth being delivered.

- The overall project ran from December 2019 through May 2020 and involved just six weeks of field work by Castle Rock Microwave for power and radio provisioning and was delivered on-time and at budget.

- During installation, a misconfigured, legacy switch caused the system to go down, potentially impeding traffic flow. CRM assisted in reconfiguring the switch to operate properly saving them costly time in troubleshooting this issue.

- The system was cut over with any loss or disruption of service

For a free evaluation of your wireless systems capability for advanced applications, please contact sales@castlerockmicrowave.com.