

## CASE STUDY **Calexico Border Patrol Station Relocation**

### CUSTOMER PROFILE

Customs and Border Protection's Border Patrol Station (BPS) located in Calexico, CA is being moved to a new location approximately one mile away from the current location. CBP will move into a temporary facility that has been built on the new site while the new building is being constructed. As part of this move, all Remote Video Surveillance System (RVSS) activities will need to be moved to the new location which affects all the video links, radio interoperability, backhaul, server equipment, and facilities required to support these operations.

### COMMDEX SOLUTION

CommDEX is supporting CBP in this move by providing all services required to relocate the communications and RVSS operations including the construction and development of the supporting facilities required. This includes the following major areas:

- Tower site design and engineering
- Installation of an interoperability gateway system to manage radio communications
- Civil development and construction of the new tower site
- Facilities upgrade of the RVSS control room in the temporary facility
- Installation of a new temporary microwave link between the existing and new RVSS locations
- Relocation of the 16 microwave links providing connectivity for the existing RVSS system
- Installation of new RVSS system in the new facility including
  - New IP video encoders
  - New video wall
  - New RVSS operator positions
  - Networked video recorders
- Radio equipment
- All planning and engineering services including
  - Communications interoperability planning
  - Network planning for the new IP video components
  - Backhaul and transport planning

### COMMDEX ROLES

**Development of a Common Interoperability Solution** To facilitate communication with CBP agents in the field as well as other agencies such as DEA and IVECA, an interoperability gateway was supplied to connect radio and telephone resources together at the Calexico BPS control center. Through meetings with CBP representatives, CommDEX personnel assessed the communications requirements of personnel at the Calexico station and designed an interoperable solution using the MOTOBRIDGE Interoperable IP system to connect the existing resources together.

**Facilities Planning and Deployment** services to design the 160' tower to be constructed at the new site as well as a new 12'x38' concrete communications shelter and improvements to the new RVSS control room were also included in the project. By reviewing supplied specification documents and visiting the site, CommDEX developed a plan that incorporated current design needs as well as addressing future growth.

**Microwave Path Studies and System Design** CommDEX worked with the equipment manufacturers to ensure the microwave path studies and path designs incorporated the requirements of CBP for operations, interoperability and survivability, using state-of-the-art design applications. The microwave network was designed to ensure that all new paths were designed to "5-nines" (99.999%) reliability criteria, and sustained network reliability during changes in propagation. An additional path was designed to allow for connectivity between the existing and the new facility to ease the transition of the RVSS equipment and minimize downtime to the users.

**RVSS System Improvements** CommDEX included all equipment and services to upgrade the existing RVSS camera network to an IP-based solution including a Digital Video Recorder (DVR) that would capture the IP video streams for all camera locations. New IP video encoders were included for all camera sites as well as upgrades to the existing transport network to accommodate the IP traffic. This coupled with a new RVSS control center including video wall and operator equipment provides a modern and efficient operation that enhances CBP's mission.

**Commissioning and Testing of Equipment** As the final phase of the project, engineering oversight of the commissioning and operational testing of the system was included to bring all new systems online and manage the transition from the existing facility. This process was engineered to minimize downtime and operational impact to the users.