



CBP Dispatch Center Facilities Upgrade Houlton Sector



Location:
State of Maine



Business Needs:
To upgrade the existing facility to meet modern communication demands, all while maintaining year-round reliability.

Customer Profile

The Customs and Border Protection (CBP) Houlton Sector Headquarters (SHQ) is located in Hodgdon, Maine. The Houlton Sector covers the entire state of Maine, most notably the point where Interstate 95 crosses the Canadian border. The SHQ Site coordinates US border security with six other stations in Maine and more than 20 remote substations. CBP is one of the Department of Homeland Security's (DHS) largest and most complex components, with a priority mission of keeping terrorists and their weapons out of the U.S. It also has a responsibility for securing and facilitating trade and travel while enforcing hundreds of U.S. regulations, including immigration and drug laws.

Customer Challenge

The Houlton SHQ upgrade is part of a nation-wide DHS effort to modernize communications systems and bolster national security. The primary challenge of the project was to prepare the facility, originally constructed in 1965, for communications requirements of the 21st Century without interruptions to mission critical communications and dispatch activities. This upgrade involved preparation of a temporary dispatch center, relocation of existing dispatch equipment to the temporary location and renovation of existing dispatch center to accommodate new consoles. Additionally, a new and taller communications tower was required in order to adequately serve the entire Houlton Sector. Due to the mission critical nature of the work, everything had to be completed with zero downtime within three months of the contract award to meet the tight implementation timelines.

CommDEX Solution

- Modernize existing dispatch facility & Facilitate a temporary dispatch center to maintain operability
- Relocation and replacement of existing equipment between old and new
- Construction of larger communications tower



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CommDEX Roles

CommDEX began by working closely with Motorola and CBP to determine functional and operational needs for both the new system and the building. Once the requirements were established, CommDEX developed detailed design and engineering drawings for the dispatch facility and communications tower incorporating the electrical, HVAC and grounding requirements. CommDEX next completed the exterior work of constructing the new tower foundation, erecting new tower, installing external grounding, and furnishing new electrical service prior to the impending Maine winter. Inside the facility, CommDEX installed disconnects with automatic transfer switches, uninterruptible power supply units, electrical distribution, HVAC units, and all required conduits, cable trays, conductors and grounding to prepare Radio Equipment Room, Generator Room, and temporary dispatch area for new system. All of the design and upgrade work that would have normally taken 9-12 months was completed by CommDEX at a record pace - within two months of the Contract award. CommDEX then moved the existing dispatch equipment to the temporary dispatch area to allow uninterrupted upgrade to the existing dispatch center. Dispatch center was then renovated to allow the new equipment to be installed in the facility. CommDEX served as the project lead for the design and renovation of the SHQ facility, working closely with Motorola and CBP representatives to successfully accomplish the project. CommDEX provided design and construction services for facility upgrades as well as the design and construction of a new communications tower. CommDEX developed and maintained the overall project schedule which included Motorola and CBP requirements.



*Design & Upgrade
Duration*

2 Weeks

*From Start To
Completion*

About CommDEX:

CommDEX provides network solutions to telecommunications service providers and manufacturers for the deployment of telecom networks, facilities and supporting systems. CommDEX specializes in designing and implementing mission critical voice and data networks over Wi-Fi, microwave, land mobile radio and other technologies. CommDEX offers a broad, rich portfolio of proven telecom solutions. Its solutions, services and methodologies have been tested and proven in hundreds of customer environments. Its customer base ranges from state, local and federal customers, to large enterprises and equipment manufacturers.

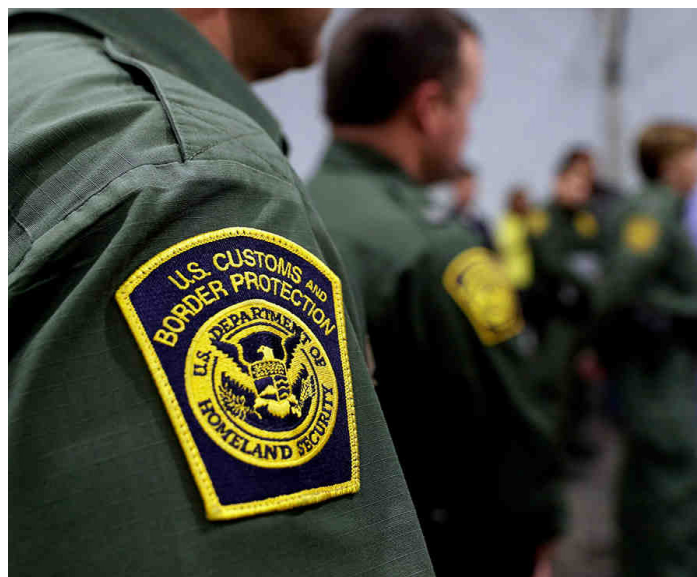
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CommDEX Roles



Facilities Planning and Deployment

Services included design of the 160' tower to be constructed at the new site and a new 12'x38' concrete communications shelter. Improvements were also made to the new RVSS control room. 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 IPbased 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.

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