

## State of Tennessee North Data Center Facility Modernization

Nashville, TN

The 46,000 SF of office areas and other areas in the State's 32-year-old, 77,500 SF Data Center Facility were renovated and modernized. This project was done in conjunction with upgrades to the data center's electrical infrastructure as noted in the "State North Data Center Reliability Improvements" Case Study. Portions of the infrastructure and the entire interior of the building were revitalized and modernized while maintaining sensitivity to the data center operations. The lighting, power, security, public address, and fire alarm systems were systematically decommissioned wing-by-wing as the new systems were installed, while keeping the data center operational.

Puckett Engineering's solutions included the following:

- Evaluation of various lighting technologies for replacement of the interior lighting throughout the offices and data center spaces.
- High efficiency fluorescent and LED lighting with programmable controls. Linear up/down lighting in the open office areas.
- Upgrades and additions to the power distribution system to accommodate increased staff occupancy and related loads.
- Surge protection for power distribution system.
- Power for general-use and mechanical systems.
- UPS power for the office I.T. and other office critical systems and spaces.
- Power distribution and branch circuits designed to handle power system harmonics from electronic equipment.
- Fire alarm system upgrades for the entire facility.
- Replacement of the access control system for the entire facility, including redundant servers, fail-over capability with the State's south data center, and biometric readers for the data center area.
- Replacement of the video surveillance system for the entire facility, utilizing Network Video Recorders and IP cameras. Included fiber optics for outdoor and long distance cameras. Included lightning/surge protection for outdoor cameras.
- Replacement of public address system for the entire facility, including white noise system.
- Special considerations and coordination during design and construction for maintaining daily operations and minimizing interruptions to electrical systems during the work. No downtime to data center operations.
- Construction administration services.

### PROBLEM OR NEED

Facility outdated for current and future needs.

### PUCKETT SOLUTIONS

Site and facility assessments.

Energy efficient direct/indirect lighting.

Upgrades to power infrastructure.

Fire Alarm system.

Video Surveillance system.

Access Control system.

Public Address system.

Surge protection for power and systems.



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Year Completed: 2014

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