

CASE STUDY

Mission Critical/Power Quality

Metro Nashville Emergency Communications Center, P25 Radio Upgrades

Nashville, TN

To meet the growing demands of public safety digital radio communications, the Metro ECC needed to upgrade their radio systems to meet the APCO Project 25 (P25) digital radio standards. The goal of P25 is to enable public safety responders to communicate with each other and, thus, achieve enhanced coordination, timely response, and efficient and effective use of communications equipment. Puckett Engineering's solution for providing reliable critical infrastructure for the new P25 radio communications equipment included the following:

- Coordination with Motorola engineers for equipment to be replaced, new equipment being added, and the power and redundancy requirements for each piece of equipment.
- Modification of existing radio equipment circuits and addition of new circuits from existing Power Distribution Units (PDUs) for supplying the new radio equipment.
- Supplied redundant power supplies and redundant equipment from UPS system "A" or UPS system "B", as applicable for redundancy. The existing UPS systems are configured for 2N redundancy.
- The design incorporated wiring methods for compatibility with power system harmonics caused by nonlinear electronic loads.
- Identification of devices with equipment I.D. and circuit I.D. in order to readily identify equipment and circuit numbers. In addition, color coding of nameplates were utilized to quickly identify whether a circuit is supplied from emergency or UPS power.

Construction administration services were also provided.



Radio Room

PROBLEM OR NEED

Radio systems required critical infrastructure upgrade to support the P25 digital radio standards.

PUCKETT SOLUTIONS

Redundant power for critical equipment.

Incorporated wiring methods for compatibility with power system harmonics.

Identified devices for readily identifying circuits and power source.

Year Completed: 2013

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