

Cynergy Electric Company, Inc.

Water-Waste Water Treatment Plant Blue Plains Washington DC Nitrification Facilities Upgrade Switchgear Replacement Contract #100210

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Cynergy performed a \$17.4 million contract for the DC Water and Sewer Authority Blue Plains to the existing electrical substations: Nitrification Sedimentation Basin Unit Substation (NSBUSS) & Nitrification Reactor Unit Substation (NRUSS) to the 75-year old facility were replaced. The project entailed keeping the existing pumping station operational during the construction process. The new equipment was installed in stages and energized. Individual circuits were transferred from the existing equipment to the new equipment with outages of 8 hours or less. After all circuits were transferred the existing equipment was decommissioned and removed.

Principle features of the project were as follows;

- NRUSS-Replace and consolidate the B switchgear, replace the existing transformers with two new 5kV/480V cast coil 2500KVA transformers, replace and consolidate seventeen (17) 480V MCCs with new consolidated MCCs and power panels, and demolish existing switchgear and transformers.
- Provide new conduit and wiring from the new consolidated B MCCs and power panels to the newly installed junction box interfaces located in the Nitrification Reactor pipe gallery.
- Replace the local control panels for the Nitrification Reactor A, B and C influent sluice gates. Provide power to the Nitrification Reactor A, B and C influent sluice gates, existing effluent gates and the dewatering gates from power panels.
- Modify Reactor existing effluent gate control, keep existing actuator and open/close type of gate. Provide status and control to PCCS.
- NSBUSS-Replace and consolidate the C switchgear, replace the existing transformers with two new 5kV/480V cast coil 2500KVA transformers, replace the existing 480V MCCs with new 480V MCCs, and demo existing switchgear and transformers.
- Replace 112 nitrification sedimentation basin influent gate actuators and new stainless steel bases. Provide new conduit and wiring to the nitrification sedimentation basin influent gates.

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- Associated demolition, architectural, structural, HVAC, electrical work and connection of all controls to PCCS.
- Provide an Arc Flash and coordination study
- Provide NETA testing of all new equipment

Commissioning and field testing were a large component in the project. Third party testing was provided for all medium and low voltage equipment, and cables. Factory field services were provided for the switchgear, control panels and actuators. Hands on training, classroom training and operation and maintenance manuals were provided for all operational systems.