



MYR Group has a long history in the successful management and construction of electrical substations and switchyards, within the most challenging of conditions and environments.

As one of the nation's largest and established electrical contractors, MYR Group's suite of electrical construction services provides clients with quality staffing and resources, as well as the ability to mobilize experienced teams and equipment throughout the nation.



**SUBSTATION  
CAPABILITIES**



# CAPABILITIES

## CONSTRUCTION/INSTALLATION

MYR Group has over a century of nationwide experience managing the construction and installation of these various substation elements related to new construction and upgrades:

- Surveying
- Grading and site preparation
- Foundations
- Fencing/surface rock
- Grounding
- Duct banks, oil containment systems, SWPPPs and site drainage systems
- Conduits
- Power cable
- Control cable
- Structural steel
- All types of high voltage equipment - circuit breakers, switches, transformers, etc.
- Reactors and capacitor banks
- Overhead cables and jumpers
- Static var compensator (SVC) systems
- Bus work, aluminum bus welding
- Control buildings
- AC/DC panels
- Relay and control systems
- Fault recording equipment
- Communications - fiber installation, splicing, SCADA, coaxial cable
- Restoration services
- Testing and commissioning
- Solutions for modernization of substation protection and control assets

## PRE-CONSTRUCTION

Our expertise in pre-construction services is based on years of industry experience, and the skills and knowledge of our pre-construction team. We offer the following services:

- Conceptual budgeting/estimating
- Multiple cost estimates at various stages of design
- Constructability reviews
- Schedule analysis
- Advance purchase of long lead items
- Construction optimization and value engineering
- Analysis and implementation of optimal pricing models

## MATERIALS MANAGEMENT

We offer flexible capabilities to best meet client needs and preferences. Our ability to plan and control material disbursement increases schedule adherence and cost-effectiveness. Our Quality Control team is involved with these efforts to ensure compliance with engineering/client standards and schedule/cost control for accurate reporting. We have corporate-wide alliances with material vendors for preferred pricing and service. Our experience and offerings include:

- Procurement
- Expediting
- Receipt inspection
- Spare part recommendations
- Materials witness testing
- Storage
- Security
- Tracking of lost or damaged equipment or materials

## PROJECT CONTROLS & REPORTING

The right combination of software management tools, proper initial project set-up, timely and accurate data input, continuous tracking of progress, a meaningful reporting structure, strong information management and corrective action plans are all integral elements in delivering successful project controls and reporting systems to clients. Elements include:

- Project-specific work and cost management plans
- Master schedule and budgeting
- Staffing plans
- Experienced/qualified project management/field personnel
- Project-specific communications plan
- Implementation and oversight of the following plans/programs : Health & Safety, Subcontracting, Equipment, Procurement, QA/QC
- Ability to provide a range of billing, reports, forecasts, accruals, etc.

## EPC

We provide complete Engineering, Procurement and Construction (EPC) services through strategic alliances with leading engineering companies, and offer all aspects of turnkey construction: project management, engineering, materials procurement, construction, permitting, and environmental services. Providing single-source capabilities offers opportunities to reduce job costs and improve schedule adherence for clients. A single point of contact for all job components leads to more effective project management, which provides the ideal vehicle for continuous improvement and helps ensure that cost/schedule commitments are met.

## ENVIRONMENTAL COMPLIANCE

Whether independently managing environmental programs or working with other entities directly responsible for environmental management, MYR Group expects employees to exercise the highest environmental standards to protect people and the environment and comply with applicable environmental and workplace safety laws and regulations. Elements include:

- Employee orientation and training
- Hazardous materials management
- Waste management
- Spill prevention control and countermeasure
- Storm water pollution prevention plans (SWPPP)
- Dust control
- Land preservation and restoration
- Work in environmentally sensitive areas –wetlands, tribal lands, archaeological/historical sites
- Wildlife and biological protection
- Responsible sourcing of materials
- Reporting, documentation and recordkeeping

## QA/QC

Our Quality Assurance/Quality Control (QA/QC) Program encompasses all project-related activities, including where applicable: constructability reviews, materials management and procurement, manufacturing, installation and construction, testing, and commissioning, as required. We ensure our program is compatible with contract requirements and provides for effective measures to ensure that all construction work and materials are in strict compliance with all applicable specifications and requirements. Program elements include:

- Procurement and procurement performance
- Document control
- Installation and construction
- Testing and commissioning

## FLEET

We own and operate one of the largest fleets of specialized electrical construction equipment in the United States. Since 1891, we have been an industry leader in the development of next-generation specialty equipment and are one of the few organizations that have the ability to continually invest in additional equipment and tooling to meet the anticipated demands of our clients. These capabilities allow us to quickly and efficiently deploy necessary resources to various projects and to perform multiple concurrent projects throughout the country.



Our depth and breadth of experience in substation construction allows us to successfully execute projects of all scopes and sizes. The following examples are representative large new construction and upgrade projects completed over the past decade:

### **Clover Substation for PacifiCorp - UT**

This EPC project included construction of the 345kV/138kV Clover Substation on a new, 120-acre site, including site work, foundations, conduit, grounding, structural steel, rigid and wire bus. Equipment included ten 345kV breakers, three 138kV breakers, 345 and 138kV switches, 345 and 138kV CCVT's, 345kV wave traps and two control buildings. The project also included installation of OPGW and ADSS communications, including splicing and terminations. We also relocated a 345/138kV, 448 MVA transformer from Terminal Substation to Clover Substation and expanded the existing Nebo Substation to include an additional breaker bay. Construction work also involved routing three existing 345kV lines and one 138kV line in and out of the new substation.

### **Grimes Substation for MidAmerican Energy - IA**

Site preparation included drainage with surface water containment, sewer, and well systems. Installations included a control building with AC/DC systems, panels, cable tray, and all wiring, concrete pier foundations, six motor and 12 group operated 345kV switches, nine 161kV and two 15kV switches, six 345kV and three 161kV gas filled circuit breakers, control and power cables for duct system, welded aluminum bus on steel bus supports, and a complete communication system including towers for antennas and fiber optic facilities.

### **Clarks Corner Substation for NYSEG - NY**

This project included construction of the new Clarks Corner Substation - installation of above and below-grade electrical equipment and steel, two 345/115kV transformers, a 115kV ring bus, capacitor bank, foundations, civil construction, cable trenching and fencing. The project was designed to reinforce NYSEG's Ithaca-area electricity delivery system.

More project examples listed on back...

# PROJECTS



## Cedar Point Substation for RES Americas - CO

Three engineer-procure-construct (EPC) projects were associated with the overall construction and operation of Cedar Point 250 MW wind farm. Substation construction was completed for two new 230/34.5kV stations, Cedar Point East and Cedar Point West. Both stations included all engineering, procurement and civil site works, plus installation of foundations, steel and buswork, 230/34.5kV power transformer, 230kV circuit breakers, switches, capacitor banks, reactors, power factor compensation system, control buildings, relay & control panels, power and control cables plus testing and commissioning work. The project also included constructing the Missile Site 230kV Capacitor Switching Station consisting of installing breakers, switches, capacitor banks, power & control cable plus electrical testing.

## Three Mile Knoll Substation for PacifiCorp - ID

This EPC project consisted of the construction of a new 345kV/138kV substation and approximately 10 miles of new 138kV transmission line to accommodate six different lines from the new substation. Substation work included site work, foundations, conduit, grounding, structural steel, rigid and wire bus. The project included installation of a new 345/138kV 700 MVA transformer, a relocated 138kV 28 MVA transformer, a new 345kV 100 MVA reactor, five 345kV breakers, 14 138kV breakers, 138kV capacitor bank, 345kV and 138kV switches, 345kV and 138kV CCVT's 345kV wave traps, and a control building.

## Quantum Leap Substation Construction and Upgrade Program for PacifiCorp - UT

This multi-year, design-build alliance included both new substation construction for over 30 substations as well as the conversion of high-side voltages, bay additions and revisions to low-side circuit exits on more than 60 existing substations and systems. Voltages ranged from 345/138kV to 138/12kV. Work also included the construction of a fiber optic communication network between substations and fiber optic testing and terminations, commissioning.



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