



**MCLEAN ENGINEERING**

Professional Power Engineers Since 1936



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## Message from the President

Thank you for your interest in the services our company has to offer!

McLean Engineering Company, Inc., has been a leader in consulting engineering since 1936, specializing in electric power transmission and distribution systems. Located in Moultrie, Georgia, McLean Engineering today provides **Professional Power Engineering Services** to rural electric cooperatives, municipalities and investor-owned power companies in Georgia, Florida, Alabama and South Carolina.

In the 1930s, E. P. McLean, Sr. recognized the importance of the newly created Rural Electrification Administration (REA) and the emergence of municipally owned central station electric systems. He founded E. P. McLean Engineering Company in 1936 and was instrumental in the creation and development of many of the REA cooperatives in Florida and South Georgia, including Seminole Electric Cooperative, Inc., the statewide cooperative serving Florida.

Over the years, the firm has assisted in the growth of many rural electric cooperatives and municipal systems to meet their increasing electrical needs.

In 1969, upon the retirement of E. P. McLean, Sr., the company became McLean Engineering Company, Inc. Under the leadership of E. J. (Judge) McLean and E. Price McLean, Jr., McLean Engineering Company continued as one of the leading consulting engineering firms in the Southeast. Judge McLean retired in 1987 and Price McLean, Jr. followed in 1999, prompting yet another ownership transition for McLean Engineering Company, Inc., when I was able to become the sole owner of the company.

It is my and my staff's pleasure to continue the company tradition in serving you with our full dedication and focus on state-of-the-art power engineering.

Michael J. McLean, P.E.  
President

## Professional Power Engineering Services

McLean Engineering Company provides comprehensive, end-to-end power engineering services to smaller and rural utility systems. Our system-wide approach and focus on power engineering has allowed us to develop deep expertise and long-term relationships with our clients by providing support throughout the life-cycle of a utility system. Our consultants plan, design, build, assess, maintain, protect, and improve power systems.

### Plan

#### Long-Range and Work Plans

McLean Engineering prepares long-range and construction work plans for clients, using growth projections to forecast future loads. Necessary improvements are then identified to meet the growing electrical requirements.

Additional Services:

- Strategic Planning
- Financial Forecasting
- Loan Applications

### Design

#### Substation Design and Construction Management

More than half of Florida's existing RUS substations, as well as numerous cooperative and municipal substations in Georgia and the Carolinas were designed by McLean Engineering. These stations range in size from small rural substations to 600 MVA, 230–138kV transmission stations.

#### Transmission Design and Construction Management

Design of rural and urban transmission lines for voltages through 230kV. Designs include single pole and H-frame configurations in wood, steel and concrete.

#### Distribution Design and Construction Management

Distribution design experience includes underground and submarine installations, as well as standard overhead construction. McLean Engineering was one of the pioneers in converting rural systems to 25kV.

## Build

### Project Management

In addition to providing design services for transmission, substation and distribution projects, McLean Engineering routinely prepares plans, specifications and all of the necessary contract documents required for bidding. We subsequently evaluate the bids and award the construction contracts for these projects. Included in these services are periodic and final inspections of the construction, to insure compliance with plans and specifications and all applicable codes and standards.

## Assess

### Mapping

McLean Engineering provides comprehensive mapping services that include the preparation of base maps, field mapping of the electrical facilities and updating of the system maps on a continuous basis.

### Electric System Plant Valuation

To determine the plant value of an electrical system, McLean Engineering first completes a system inventory of the facilities and, using our experienced engineers' judgment, arrives at the value of the system.

### Rate Analysis (Cost of Service and Rate Studies)

McLean Engineering performs rate analyses based on cost of service, as well as a system's own financial requirements. Rate comparisons with surrounding systems are made to ensure competitiveness.

### System Inventory

McLean Engineering conducts full system inventories, including verifying location and size of reclosers, regulators, fuses and capacitors.

## Maintain, Protect and Improve

### System Sectionalizing and Protection Studies

These studies include the determination of available fault currents and coordination of protective equipment. Continuing attention to this area of system operations provides optimum protection to the public, as well as operating personnel and equipment, and enhances system reliability by minimizing the number and duration of outages.

#### Additional Services

- Work Order Inspections
- Contractor Final Inspections
- Three-Phase Metering Inspections
- System Improvements, Staking and Contract Preparation and Management
- Highway Relocation Staking and Permitting
- Operation and Maintenance Surveys
- Load Balance and Management
- Power Factor Analysis and Capacitor Placement Studies
- Power Supply Analyses
- Substation Inspections
- PCB Surveys; Permitting
- Surveys of Telephone and Cable TV Attachments

### **Technical Consulting and Expert Advice**

- SCADA
- Emergency and Disaster Recovery Assistance
- Expert Testimony

### **Use of Technology**

The experience of our staff has been complemented through the use of computer systems since the early 1960's. While the company has developed many of its own programs over the years, McLean Engineering continually reinvests in technology to ensure we are using industry-leading CADD, mapping, and database software, as well as industry-standard spreadsheets. This results in constant improvements in the quality of our design and planning services and the speed and reliability of our communication.

### **Qualified Professionals Providing Personal Service**

McLean Engineering Company's professional staff has, over the years, developed a personal feeling of responsibility for the clients for whom they perform services. Our company, by managing its growth, continues this concept of personal service, and as a result, our relationship with many of our clients has endured for many decades.

For almost three-quarters of a century, McLean Engineering has met the engineering challenges facing power transmission and distribution systems. Let McLean put our problem-solving tradition to work to help serve your ever-growing electric power needs.