



# McCall-Thomas Engineering Company, Inc.



Experience • Integrity • Excellence

*Providing Quality Engineering & Technical Services  
Since 1945*

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**WWW.MCCALLTHOMAS.COM**

# Welcome

## Welcome to McCall-Thomas Engineering Company, Inc.

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Since 1945, McCall-Thomas Engineering has provided quality engineering and technical services. We take great pride in building lasting relationships and investing in the total success of our clients.

Please take a moment to review this informative booklet outlining the diverse services offered. We look forward to the opportunity to connect with you and assist on any future projects.

Sincerely,



Ryan J. Smoak, PE, MBA  
President



**RYAN J. SMOAK, PE, MBA**  
President

Office: (803)534-1040  
Mail: [rsmoak@mcteng.com](mailto:rsmoak@mcteng.com)

## OUR HISTORY

McCall-Thomas Engineering is a multi-faceted engineering firm. We have multiple divisions including the Communications Engineering Division, the Electrical Engineering Division, the Electric Utility Service Division, the McT Learning Center and the Print Services Division.

We began as a partnership in 1945 by founders Arthur E. McCall and Henry C. Thomas, the firm was incorporated in 1947. Operations began in Charleston, SC and relocated to Orangeburg just prior to the third year of operation.

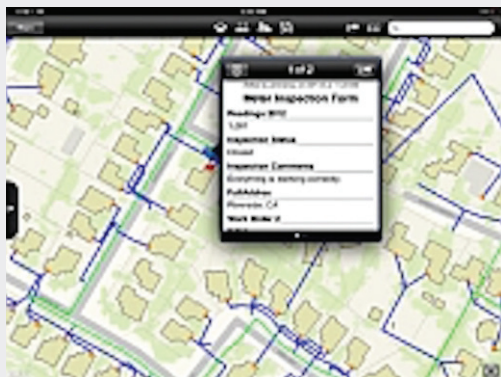
The firm's first clients were electric cooperatives financed by the Rural Electrification Administration. By 1953, McCall-Thomas Engineering was providing services to eleven cooperatives within South Carolina. Several municipal electric systems were added by 1960, and the firm later expanded its practice to include electrical design services for commercial, industrial and governmental concerns. The Electrical Engineering Division continues today with a wide variety of projects and clients in the general area of power distribution and utilization.

The Communications Engineering Division was established in 1952 during the early days of the Rural Electrification Administration's telephone program. By 1960, engineering services were being provided to twenty-two cooperatives and independent telephone companies in three states. Since that time, the number and type of projects, as well as the variety and complexity of services available, have been greatly expanded.

We take great pride in the fact that the firm has established continuing relationships and performed multiple projects with a majority of our clients. We are still providing services to our very first client.



# Electrical Engineering Division



## TRANSMISSION AND DISTRIBUTION

- Power Line Staking- Overhead and Underground
- Construction Inspection/ Management
- Work Order Inspection
- Communications Studies
- Contract Negotiations
- Right of Way Acquisition
- Storm/Damage Assessment
- Joint Use Audits, Make Ready and Agreements
- GPS Mapping and Field Inventory Services
- GIS Consulting Services
- Desktop GIS Services
- AMR Evaluation and Implementation
- Distribution Line Design Training

## INDUSTRIAL AND COMMERCIAL SERVICES

- Generator and UPS Design and Application
- Industrial and Commercial Power System Design and Analysis
- Testing, Measurement and Power Quality Studies

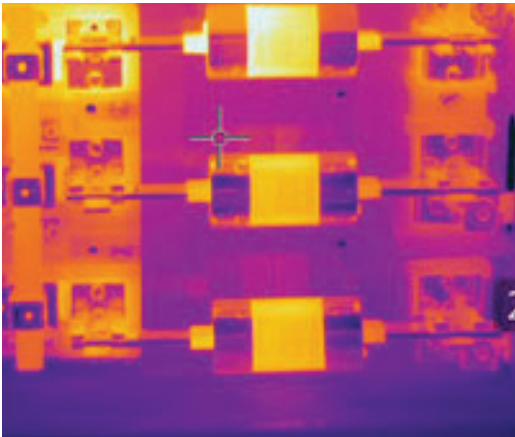


## SYSTEM PLANNING

- Construction Work Plans
- Long Range Engineering Plans
- Sectionalizing Studies
- Arc-Flash Analysis
- Operations and Maintenance Reviews
- Storm Restoration Engineering
- Environmental Reports
- Retail Rate Studies
- Financial Forecasts

## SUBSTATION ENGINEERING & INSPECTION

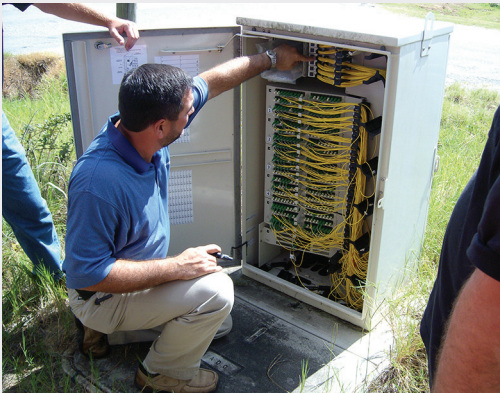
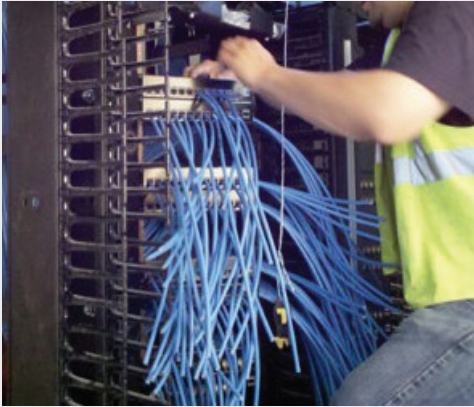
- Substation Design, Procurement and Construction Management
- SCADA and SCADA Communications
- Oil Spill Prevention, Control and Countermeasure Plans
- Secondary Containment
- Grounding Studies
- Infrared Thermographic Inspections
- Relay Design and Testing



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# Telecommunications Engineering Division



## CENTRAL OFFICE & SPECIAL EQUIPMENT

- WiFi, WiMax, and Microwave System Design
- Cellular A/E Design
- Tower Lease Acquisitions/Negotiations
- Softswitch Planning and Implementation
- Central Office Equipment, Engineering and Testing
- Network Installation Services
- FTTx Deployment
- Fiber (FTTx) Electronic Staking
- Fiber (FTTx) Testing
- IP Video Networks
- Infrared Thermography Inspections
- Bonding and Grounding Surveys
- AC/DC Power Audits

## OUTSIDE PLANT OPERATIONS

- Cutover Services
- GPS Mapping Data Collection and Inventory Services
- Computer Aided Staking
- Joint Use Agreements and Audits
- Permits and Easements
- Project Management
- Printing, Map Reproduction, and Archiving
- Utilities Coordination
- Fiber Testing and Splicing
- Inspection of Construction



## DESIGN, PLANS, AND SPECIFICATIONS

- Network Design Services
- Equipment Plans, Specifications, and Procurement
- Bid Process and Project Management
- RUS Loan and Grant Applications
- RUS Contracts Administration and Closeout Procedures
- FTTx-Active and Passive Design, P&S and Testing
- Voice, Video, Wireless, and Data Network Design
- GIS Consulting Services



**RUSSELL B. BOZARD**  
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# Electric Utility Service Division



## SINGLE PHASE RECLOSERS

- Curves are set to factory specifications
- Replace gaskets, liners and oil (new oil)
- Stainless steel replaced if needed
- Reclosers are labels per customer specifications
- One shot kits available
- Units are tested per factory guidelines
- Reclosers are disassembled and checked out thoroughly for warped/cracked coils
- Tanks are reconditioned and painted

## SINGLE & THREE PHASE REGULATORS

- TTR and Winding resistance testing for 16R to 16L. Hi-Pot and megger testing
- Regulators are untanked and inspected internally for connections and potential problems including contacts and insulation
- Factory replacement parts are used
- Replace all gaskets
- External capacitor kits installed upon request
- Oil is replaced with new oil
- Recondition the tank and paint
- Control panels can be upgraded per customer request



## SINGLE & THREE PHASE TRANSFORMERS

- TTR & Megger Test
- Inspect internally for potential problems
- Filter and/or replace the oil
- Remove moisture from insulation and oil
- Recondition tank and paint

## THREE PHASE RECLOSERS

- Reclosers are serviced and tested to factory standards
- Oil is replaced with new oil
- Micro switch upgrade kits available
- Recondition tank and paint

## REGULATOR SERVICE/INSPECTIONS

- ASTM D-3612 Dissolved Gas Analysis Test
- ASTM D-1533b Moisture Content
- ASTM D-971 Interfacial Tension
- ASTM D-974 Acid Number
- ASTM D-1500,1524 Color Number and Visual Examination
- ASTM D-877 Dielectric Breakdown

## BATTERY TESTING & MAINTENANCE

- Battery load testing
- Battery impedance testing
- Battery cleaning
- Battery changeouts

## OIL BREAKERS/THREE PHASE RECLOSERS

- Complete inspection and testing
- Contact replacement if necessary
- Oil is filtered or replaced
- Recondition tank and paint
- Panel testing
- Relay testing

## DGA & FLUID QUALITY TESTING

- TTR and Megger test
- Untank and check internally
- Oil is replaced with new oil
- All units are reconditioned and painted
- Replace arrestors
- Install new arrestors
- Recondition tank and paint



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# MCT Learning Center and Print Services



## LEARNING CENTER COURSE CATALOG

- Osha power standards update
- National electric safety code update
- Facility energy audits, infrared technology & power quality
- "Design your own" - on-site telecommunications training
- Adsl2+ for the telephone tech
- Delivering iptv over adsl2+ for the telephone field tech
- Intro to basic electricity for the telephone technician
- Troubleshooting the cable pair - testing with the sidekick meter
- Central office grounding, ONT/NID/RSU grounding
- Tools for the OCCAM technician - (instructor led at customer site)
- Telephony 101
- Fiber optic fundamentals
- Fundamental electrical and technology concepts for telephone technician
- DC engineering, battery safety & spill containment
- Distribution line designer - beginner - advanced
- Joint use and pole attachments

## PRINT SERVICES

- Full color maps, house plans
- Display advertising, signage, & banners etc.
- Document resizing, plotting services

## THANK YOU!

McCall-Thomas Engineering Company is an employee owned, multi-disciplined engineering firm offering telecommunications and electrical engineering services throughout the SE for over 70 years. Our headquarters location is in Orangeburg, SC and our primary clients are utilities, municipalities, industries, educational institutions and government. Our firm has a diverse group of engineers who specialize in multiple disciplines and we also tout a highly specialized group of technical personnel to provide a wide array services.

We value our clients and prospective clients. We appreciate you taking time out of your busy day to review our products and services. Thank you for the privilege of letting us share our story with you. As your needs evolve, please keep us in mind. We are confident that you will be very satisfied with the services we offer.

If you have any questions about any of the material in this booklet, please give us a call.

**We look forward to doing business with you!**



**SHANE BOWERS**  
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## **CONTACT**

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