Since its inception in 1968, Marshall Technology Center (MTC) in Marshall, Texas, has been a World Class Testing and Analytical Center with the market focus of energy cable technology. With over three decades of experience, MTC has provided extensive industry research and development programs to meet the demands of the electrical energy industry and its customers with total quality and technical excellence. The MTC specialized team delivers a unique and comprehensive service with a staff of professional engineers in the various fields of electrical engineering, material sciences and computer sciences — each with an average of 17 years of experience. Combine this with state-of-the-art equipment, and you have our guarantee for accurate, impartial and relevant information from the largest, most sophisticated testing facility in the country.

Customer Assurance

No matter what the application, requirement or environment, every customer should have access to the latest and most innovative wire and cable products — those which promise unmatched reliability, performance and cost-effectiveness. The Marshall Technology Center has been specifically created to achieve this goal of developing and evaluating new materials and cable designs for low-, medium- and high-voltage applications.

Marshall Technology Center:

- supports a dedicated team of project managers, technologists and technicians
- utilizes industry-recognized statistical software programs for all data analysis
- provides industry specification qualification reports which guarantee confidentiality via trusted impartiality
- differentiates itself by providing superior distinctive services.

Significant Accomplishments

In such a competitive marketplace, reducing costs while improving performance is critical to continued business success. MTC’s Accelerated Cable Life Test (ACLT) laboratory is dedicated to the thorough evaluation of multiple cable performance in wet locations. Using this technology, engineers simulate extended aging in real life situations, qualifying generation after generation of product evolution in the evaluation of polymeric cable performance in wet locations.

MTC Testing Protocols

Our testing protocols follow industry-specified and/or industry-accepted standards, such as ASTM, to assess the short- and long-term performance of low-, medium- and high-voltage cable products.

- ACLT Materials Evaluation
- Time-to-Failure Life Expectation
- Field-Failure Rate Analysis
- Short-Circuiting Test
- Chemical Stress Testing
- Shield/Stressor Compatibility
- Shield Strippability
- Semi-Conductive Shield Protrusion Testing
- Hipot Testing
- Cable Field Failure Analysis
- Connectability Testing
- Failure Reliability Analysis
- Longitudinal Water Permeation Resistance Testing
- HV Cable Qualification Testing per AESC, IEEA and IEC

MTC Test Equipment

MTC features state-of-the-art equipment in a totally dedicated 40,000 square feet testing facility.

- 800 Hz ac Test Set
- 400 kV, 110 A ac Test Set
- 150 kV, 20 A ac Test Set
- 200 kV, 10 A ac Test Set
- 250 kV, 5 A ac Test Set
- 200 kV, 5 A, 50 kVA, ac Test Set
- 200 kV, 5 A, 50 kVA, 60 Hz, ac Test Set

MTC has also provided statistical analysis of industry data in support of the Underground Power Cable Standards Technical Advisory Committee (UPCSTAC), and in support of versions to Insulated Cable Engineers Association (ICEA) standards and Association of Edison Illuminating Companies (AEIC) cable specifications. AEC Qualification testing is yet another significant service provided by MTC to the utility cable manufacturers within the industry.

MTC has also been recognized in a field, regularly authors technical papers in industry journals, as well as reports and technical presentations for EPRI, ICEA, Insulated Conductors Committee, (IEC), Institute of Electrical & Electronics Engineers (IEEE) and UPCSTAC.

Specializing in a Full Spectrum of Products and Services

Our team of professional project managers, technologists and technicians are committed to the development, implementation and confidential results of the following industry-recognized testing products and services:

- Accelerated Cable Life Testing (ACLT)
- Nuclear/Statistical Analysis
- AESC Cable Qualification Testing
- Low- and Medium-Voltage Cable Product Testing: 600V-46kV
- Field-Failure Rate Analysis
- Cable Field Performance and Reliability Evaluation
- In-Plant Test Failure Analysis
- High-Voltage Cable Product Testing: 66kV-138kV
- EPRI Research Project Performance Reports

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A distinguished list of key industry-recognized materials are as follows: extended aging in real life situations, qualifying generation after generation of product evolution in evaluation of polymeric cable performance in wet locations. Using this technology, engineers simulate significant accomplishments that differentiate itself by providing superior distinctive services. Via trusted impartiality, our programs guarantee confidentiality with extensive experience and commitment. We support a dedicated team of project managers, technologists and technicians with over 24 years of experience, MTC has been commissioned by the Electric Power Research Institute (EPRI) to manage scientific research programs of technology development providing the energy industry community with an accurate, impartial and relevant information from the largest, most sophisticated testing facility in the world.

Marshall Technology Center:
- Supports a dedicated team of project managers, technologists and technicians with extensive experience and commitment.
- Utilizes industry-recognized statistical software programs for all data analysis.
- Provides industry-specific qualification reports which guarantee confidentiality via trusted impartiality.
- Differentiates itself by providing superior distinctive services.

Significant Accomplishments:
In such a competitive marketplace, reducing costs while improving performance is a critical business success. MTC’s Accelerated Cable Life Test (ACLT) laboratory is dedicated to the thorough evaluation of polymeric cable performance in wet locations. Using this technology, engineers simulate extended aging in real-life situations, qualifying generation after generation of product evolution in medium-voltage insulation and conductor shield cable materials for timely commercialization since 1980. A distinguished list of key industry-recognized materials are as follows:

- HDPE 4201 NT EC
- HDPE 0802
- LE 4212
- HDPE 4202 NT EC
- HDPE 0800
- AT-320 TR
- LE 0504
- AT-320 EL

Two prime examples of our contributions are:

### Aging of Distribution Cable in Controlled Temperature Tank Tests
EPRI Project 2713-02 (report TR-108405-V2). For this 11-year project MTC developed a cable life model for AEP cables, which is often referenced in industry forums and technical papers.

### Estimation of Life Expectancy of XLPE-insulated Cables: Aging of In-Situ Tested Cables
EPRI project W5-6302-01 (report 101189). EPRI commissioned MTC to evaluate the ability of two (2) field testing diagnostic techniques (partial discharge and low frequency dissipation factor testing) to correlate with and estimate the remaining life of in-service insulated cables.

MTC has also provided statistical analysis of industry data in support of the Underground Power Cable Standards Technical Advisory Committee (UPCSTAC), and in support of vendors to Insulated Cable Engineer Associations (ICEA) standards and Association of Edison Illuminating Companies (AEIC) cable specifications. AEIC qualification testing is yet another significant service provided by MTC to quality cable manufacturers within the industry.

MTC, a recognized leader in their field, regularly authors technical papers in industry journals, as well as reports and technical presentations for EPRI, ICEA, Insulated Conductors Committee, ICEA, IEEE (Institute of Electrical and Electronics Engineers) and UPCSTAC.

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Back to Top