EPRI

EPRI LABS:

CHARLOTTE

EPRI's Charlotte, N.C., campus offers state-of-the-art research facilities, serving EPRI utility members and energy industry stakeholders including the U.S. Department of Energy (DOE) and academic institutions. Charlotte labs support research and development related to the generation, distribution, and transmission of electricity.

During the past 10 years, EPRI has invested approximately $23 million in renovations, expansion, and equipment at the Charlotte labs that house distribution automation, underground cable testing, new chemistry, and multiaxial labs, as well as a solar simulator, an advanced generation area, and an expanded high-temperature mechanical testing area. The most recent addition, completed in 2021, doubled the area of the transmission and distribution lab and outdoor testing facilities.

EPRI's commitment to independent research contributes to the reliability, safety, and performance of power plants and equipment in use worldwide. It also informs the development of energy solutions for the future.

LAB CAPABILITIES:

- Cyber Security, Operational Technology (OT), and Flow-Loop lab
- Welding Repair Technology Center (WRTC)
- Machine shop
- Metallurgical and Advanced Microscopy laboratories
- High-Temperature Testing laboratories
- Chemistry lab
- Advanced Generation lab
- High-bays, configurable space, and flexible lab R&D space
- Nondestructive Evaluation (NDE) research labs
- NDE Performance Demonstration lab
- Corrosion and Soils lab

- Advanced Conductor Test lab
- Conductor and Structure Vibration lab (PDU)
- Grid Modernization lab
- Underground Transmission lab
- Insulator Test lab
- Power Transformer lab
- SF6 & GIS lab
- Protection & Control lab
- RF Monitor lab
- Forensic & Failure Analysis
- Electromagnetic Pulse (EMP) lab

FAST FACTS:

Location:
Charlotte,
North Carolina, USA

Size:
107,608 sq. feet

Staff:
175

Unique Labs:
20+

Actively supporting 80+ members in nuclear and non-nuclear generation research, and approximately 70 members in transmission and distribution infrastructure (members may have concurrent research in more than one sector)

EXPERT STAFFING

EPRI labs are staffed by noted researchers, many with PhDs and advanced degrees in energy and engineering fields. In addition, many of the EPRI lab staff earn and maintain critical certifications for work performed across sectors. For example, nuclear sector lab employees are certified for all major Nondestructive Evaluation (NDE) techniques, including radiography testing (RT), ultrasonic testing (UT), magnetic particle testing (MT), visual testing (VT) and Nuclear Quality Assurance (ASME Codes & Standards).

All EPRI research staff are committed to safety and independence, which is the cornerstone of EPRI's mission.

MEMBER TESTIMONIAL

One member commented on EPRI's root cause failure analysis:

> ***When an unexpected failure occurs in a grade 91 high energy piping system, an essential part of a well-engineered repair is to eliminate uncertainty. EPRI helped greatly in this process and provided vital guidance in root cause failure analysis in a very short turnaround. We appreciate EPRI's continued world-class support in complex situations.***

– **Hamit Afiyet,**
Mechanical Engineer, LG&E and KU