Luminant Power is the largest generator of electricity in Texas. Luminant’s mining division is the state’s No. 1 producer of lignite coal producing around 33 million tons per year to meet the fuel needs of our generation plants. The Predictive Maintenance (NDT/PdM) Group is responsible for providing NDT/PdM services for 15 draglines, ten loading stations, railroads, and 600 pieces of mining rolling stock spread across nine separate mines in Texas.

The (NDT/PdM) group consists of five fulltime technicians. Each technician holds many certifications including: ultrasonic flaw detection & flaw sizing level II, vibration-ISO level II, thermography level I & II and ultrasound level II. Each technician is assigned dedicated routes and equipment inspections. The group currently inspects almost 100,000 points yearly across the nine sites. With a work area of 325 miles stretching from Northeast to Central Texas, scheduling is critical to the group’s success. Efficient scheduling ensures technicians are as productive as possible and that the appropriate equipment is available when the technician is on-site.

The goal of the NDT/PdM group is to identify issues before they fail giving technicians the opportunity to take corrective action (to avoid failure) or change out a component before it catastrophically fails. The group does this by inspecting, evaluating, researching and developing repeatable techniques of NDT/Pdm. This approach reduces the need for component inventory. The group also uses its expertise to perform quality assurance by inspecting components before installation. They evaluate both new and repaired components.

The current maintenance philosophy includes components of Reliability Centered Maintenance, Predictive Maintenance, Condition Based Maintenance and Root Cause Analysis. Predictive Maintenance includes standardized inspections and inspection routes performed by trained maintenance employees and certified technician analysts.

Through Predictive Maintenance, the group promotes a proactive culture that identifies and reduces catastrophic failures. Failure is never acceptable, but when it happens, the group looks at it as a learning opportunity; what could be done differently to identify the flaw and how can it be incorporated into the program going forward. Luminant’s program is focused on continuous improvement.

Luminant’s UT program is a result of this philosophy. Over the past 30 years, the group has developed and improved its component testing procedures building a library with thousands of inspection procedures and scan charts. There are also hundreds of test components used for calibration and training.

The primary reason for the NDT/PdM group’s success is that this is a great team: Keith Lawson, Robbie Cross, Tony Jumper and Jackie Merket. Each are highly skilled, motivated and take extreme pride in their work.