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Case Study | Texas-New Mexico Power

TEXAS-NEW MEXICO POWER MODERNIZES ITS HIGH-IMPACT CONTROL ROOM

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ABOUT

Texas-New Mexico Power (TNMP), a subsidiary of TXNM Energy Inc is an electric transmission and distribution service provider that delivers power to more than 270,000 homes and businesses throughout Texas. It is part of the Electric Reliability Council of Texas (ERCOT), a regional transmission organization (RTO) responsible for managing the flow of electric power in Texas.

The company's primary control center located approximately 20 minutes south of Houston, Texas, is considered a high-impact facility as defined by the North American Reliability Council (NERC), meaning that if compromised or disrupted by a cyber-attack would have a significant and immediate negative impact to the reliable operation of the Texas power grid. This could lead to large-scale power outages and voltage instability impacting surrounding communities or the environment.

As a high impact facility, it also contains critical cyber assets the federal government considers vital to the nation's economy, security, or public health. TNMP must take specific measures that are audited to protect its assets and systems and follow stringent compliance guidelines set forth by NERC.

This case study outlines how FORTÉ integrated advanced video wall technology with TNMP's control center critical control and monitoring systems as a solution to significantly improve situational awareness and management of its real-time grid operation under ERCOT.

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CHALLENGE

TNMP had dedicated space within its headquarters for the control function but didn't have the modern capabilities they wanted. As a result, their team had to manage disparate sources of information from various networks and didn't have a common operating picture.

"Our operators were locked into displaying information in a certain way and had to use multiple machines and systems to get everything they needed. That meant managers had to look over operators' shoulders to see various information sources and couldn't view it in an integrated way," said Trevor Tidwell, IT Operations Manager, TNMP.

Their goal was to build a flexible control room system that would allow them to quickly post information on a video wall and share it with the entire team for greater situational awareness.

TNMP contacted RE Lamb, experts in control room technology known for planning, designing, and constructing mission-critical spaces. RE Lamb invited a short list of qualified systems integrators to bid on the project and selected FORTÉ due to their expertise and track record.

"For high-impact facilities, we look for integrators that have successfully completed at least five control rooms within the last three years," said John Ferguson, Account Manager at RE Lamb. "

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FORTÉ's role was to build the control room video wall display, integrate it with the processing hardware and control room software, and provide ongoing support for the entire system.

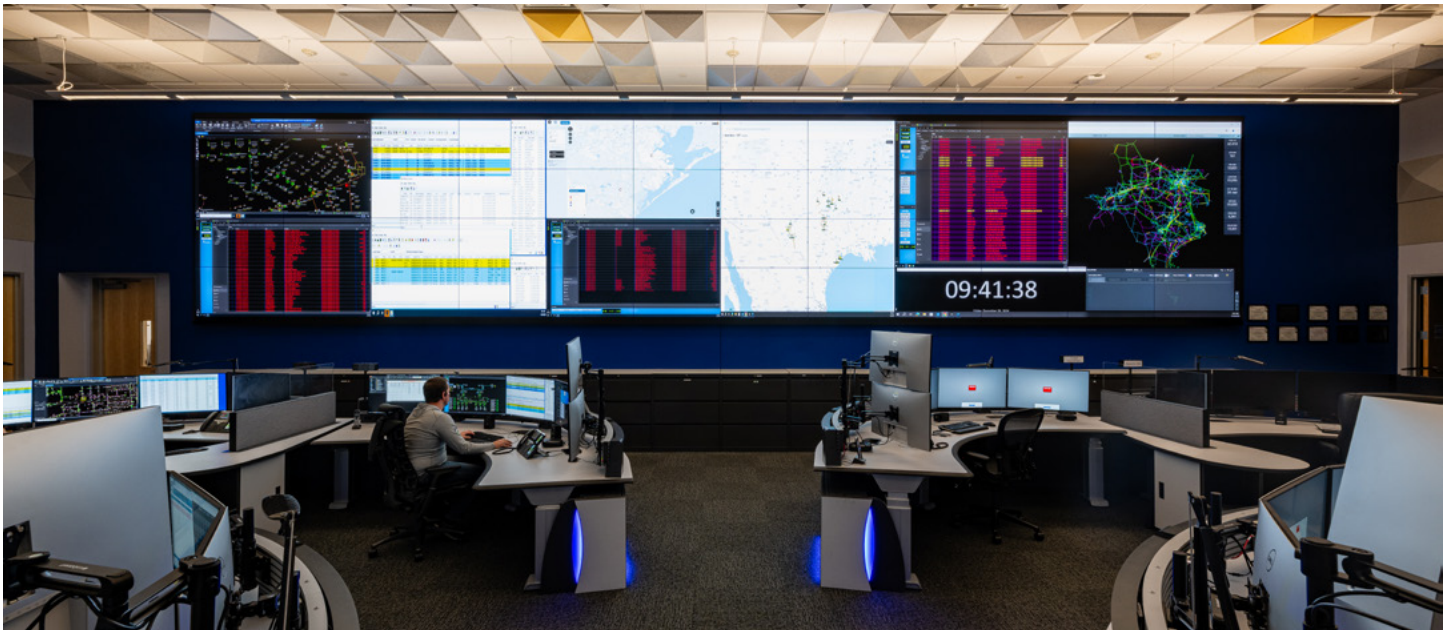
SOLUTION

RE Lamb wrote a performance-based specification to achieve TNMP's goals and gathered input from the broader implementation team. TNMP's new state-of-the-art control room includes:

Barco LCD video wall: The centerpiece of TNMP's new control room is a 48' wide by 9' tall video wall built with 55-inch Barco UniSee LCDs mounted in a 12-wide and 4-high array. The video wall is virtually seamless, thanks to Barco's unique bezel-less design.

"FORTÉ has a proven track record of success with projects like this, and we enjoy working with them in the field. When FORTÉ is involved, we know we'll get the quality product we need for our client."

John Ferguson
Account Manager
RE Lamb



Barco Control Room Collaboration: TNMP implemented Barco's CTRL platform, designed with a Zero Trust architecture to ensure enhanced security. The platform offers system operators a comprehensive view of critical data points, creating a unified Common Operating Picture. CTRL Wall enables seamless content sharing on the overview display wall, while CTRL Desk delivers powerful KVM functionality, allowing operators to efficiently manage tasks at the desktop level.

"Desktop management systems are becoming an increasingly prevalent operational technology trend in the utility market. By deploying the full capabilities of Barco's CTRL platform, TNMP is set to enhance operator efficiency, improving both collaboration and response times in critical situations," said Lee Pagnan, National Sales Manager, Barco. "Barco and FORTÉ worked closely with TNMP's IT and compliance teams throughout the process to ensure that the solution would meet guidelines set by NERC CIP."

Russ Bassett Vista consoles: The team selected Russ Bassett Vista Control Console workstations because they're specifically designed to hold and manage technology in mission-critical environments.

"Working with FORTÉ was a perfect match for us. Their professionalism, as well as their ability to talk about the AV system itself, is awesome. Plus, their onsite project manager is very knowledgeable about control rooms," said Jame Hargus, Sales Executive, Russ Bassett.

Once product selections were made, FORTÉ installed and configured the video wall and integrated it with the control room software. They also set up the operator workstations and cabled those systems within the console cabinets. Finally, they tested and optimized the entire system.

"Watching FORTÉ manage the details required to install everything was very impressive. I appreciate their team's effort in building the video wall and making all the micro-adjustments required to get it leveled. I was also really pleased with the cabling on everything. It was nicely laid out and clearly identified," said Tidwell.

Tidwell also appreciated that the team met regularly to discuss compliance and design implications. FORTÉ built and tested the system in TNMP's QA environment, which also reduced risk.

RESULT AND HUMAN IMPACT

TNMP's new control room, completed in September 2024, delivered its primary goal of improving situational awareness. The operations team now has a centralized view of what's happening across the grid, making it easier to provide uninterrupted power distribution to its customers and remain compliant with ERCOT's standards. Additional benefits include:

- **Simple to use:** The Barco CTRL system allows operators to control multiple PCs from multiple segregated networks through a single keyboard and mouse. They also have complete control over how information flows, and the system is intuitive and easy to use.
- **Easy to maintain and service:** The new video wall and operator workstations are easily accessed. This makes hot swaps and maintenance easier and keeps the system running 24x7. In addition, TNMP contracted ongoing support through FORTÉ's ProSupport five-year service contract.
- **Comfortable to work at:** The ergonomic workstations are more comfortable for operators and minimize fatigue, which is paramount in a control room setting.

When asked how the FORTÉ team performed on the project, Ferguson said: “At RE Lamb, we have the utmost confidence in FORTÉ from the bid phase at the beginning of a project all the way through to project closeout.”

FORTÉ’s resident control room expert, Mike Scott, credits his team for the project’s success.

“We’ve built a phenomenal team that’s knowledgeable and experienced, and they stay sharp through regular training with key partners like Barco. During the last several years, our industry involvement has helped us become a trusted partner for control room clients nationwide.”

Scott recommends utilities upgrade their control rooms every five to seven years, especially in high-impact facilities. Contact FORTÉ to learn more about our control room AV integration services.