Duke Nuclear | Charlotte, NC
www.duke-energy.com

Industry: Energy & Utilities

Region: Southeastern and Midwestern U.S.

SumTotal Applications:
SumTotal Learn: Enterprise

Employees: 45,000

"Instead of keeping learning in a silo, we had a vision to incorporate training into the day-to-day work of our employees. SumTotal's open architecture and ability to integrate with other solutions allowed us to achieve those goals."

— Al Sweney
Duke Nuclear's Lead IT Business Consultant

Integrating Learning and Compliance into the Corporate Culture

Duke Nuclear operates 11 nuclear units at six sites in the southeastern U.S. It is part of Duke Energy Corporation, a Fortune 250 business and the largest electric power holding company in the country, supplying and generating electricity for 7.1 million customers.

BUSINESS CHALLENGES

- Complex learning programs needed to meet stringent regulatory- and safety-training requirements
- Complicated processes related to ensuring all work was performed by qualified individuals
- Existing learning management systems (LMS) lacked key functionality needed to manage training, such as assigning training by job group, enforcing prerequisites and managing certifications
- Onboarding costs and time associated with employees and contract workers

SOLUTIONS

- Implemented SumTotal Learn: Enterprise as the nuclear division's LMS and integrated it with 14 internal and external business systems to incorporate training into employees' daily activities and ensure safe and effective operations

RESULTS

- Reduced costs and risks associated with identifying and scheduling employees qualified for specific tasks
- Improved safety protocols and business processes by integrating the LMS with security, workforce management and other business systems
- Eliminated duplication of training of contract employees by linking LMS to national training-record database, reducing average number of training activities needed from 25 to 2
- Lowered occurrence of license/certification expirations through automatic notifications and reminders

PUTTING TRAINING, SAFETY AND COMPLIANCE FIRST

Duke Energy is the largest electric power holding company in the U.S. Its nuclear power division, Duke Nuclear, operates 11 nuclear units at six sites. Safety comes first when managing nuclear energy facilities, which is why the electric industry is among the most highly regulated industries in the United States. From the Nuclear Regulatory Commission and Institute of Nuclear Power Operators to the National Electric Institute and county and state agencies, Duke Nuclear must adhere to a complex set of regulatory requirements.

Demonstrating that employees are qualified to perform their duties is central to meeting those requirements, and failing to do so can lead to substantial penalties or even plant closure. That is why, in 2007, the company elected to reevaluate its existing systems and processes for training. At the time, the company used a learning management system (LMS) to track training, but that LMS wasn't integrated with other business systems and it was missing key functionality, such as the ability to assign training by job during the onboarding process, enforcing prerequisites and managing certifications. This made managing training programs both time-consuming and cumbersome, and it exposed the company to increased risk of non-compliance.

> *"We've reduced the compliance costs and risks associated with scheduling employees who aren't qualified for specific tasks. We've improved safety protocols by linking the LMS with security and other business systems. As a result, our employees, customers and the surrounding community can be confident that we are dedicated to their safety and are providing top-notch service efficiently."*
>
> **— Al Sweney**
> Duke Nuclear's Lead IT Business Consultant

"Instead of keeping learning in a silo, we had a vision to incorporate training into the day-to-day work of our employees," said Al Sweney, Duke Nuclear's lead IT business consultant. "SumTotal's open architecture and ability to integrate with other solutions allowed us to achieve those goals."

REMOVING SILOS, CONNECTING THE DOTS

Duke Nuclear selected SumTotal Learn: Enterprise for its training compliance needs and integrated the LMS with 14 other internal and external business systems. As a result, SumTotal Learn has become a critical component of Duke Nuclear's operations, including onboarding workers, delivering initial and ongoing training, and helping employees complete their daily activities.

The magnitude of the company's training program and the complexity of tracking regulatory compliance is enormous and can best be demonstrated by using an example: an independent contractor hired to complete repairs on an important piece of equipment.

Duke Nuclear and other nuclear power companies rely on these contractors to perform specialized repairs. In fact, they make up about 50% of the division's workforce. While not full-time employees, the company must still ensure that they have the proper training and certifications to perform the work. That process begins with onboarding.

Onboarding: Before workers are granted access to a Duke Nuclear site, they must go through a rigorous training deficiency assessment and all deficiencies must be remediated. This begins with an automated process that interfaces with the company's human resource management system (HRMS) and sets up the employee in the LMS.

Duke Nuclear then imports the worker's training records from a national database operated by the Nuclear Energy Institute, NEI, using an FTP interface. The National Academy of Nuclear Training (NANTEL) eLearning, system is also queried for training records. Based on this information, Duke Nuclear can determine training gaps and avoid the expense and time of retraining workers on courses they took at other companies.

After the LMS is updated with external training records, there are about 40 other learning activities that the worker must complete. Many of these are instructor-led training (ILT) courses. To streamline tracking of course completions, Duke Nuclear developed an eRoster application, which allows the instructors to simply scan the students' ID cards, validate the information and automatically post completions to the LMS.

Once all training has been completed and the workers are ready to report to a nuclear site, the company must issue a site-access badge. Duke Nuclear uses a video badging system that is interfaced to the LMS to verify the person has completed all the required training.

Plant access: Every day, employees must go through a security process that is far more rigorous than getting into an airport and boarding a plane. One step is a biometric scanning system, which verifies employees' identity before granting them access to the plant. The system compares the biometric ID to the employees' ID card and then confirms that their training is up to date via integration with the LMS.

Initial Training: After the onboarding process, employees must attend basic nuclear training and discipline-specific training. For a maintenance technician, this initial training can be as long as 23 weeks, and for a nuclear equipment operator, it is over a year. Training sequence is critical, so Duke relies heavily on SumTotal Learn's prerequisite functionality.

All employees must also complete general corporate training about company policies, such as sexual harassment. To streamline this training, Duke Nuclear's LMS interfaces with the corporate Duke Energy LMS, also powered by SumTotal Learn.

Continuing Training: The Nuclear Regulatory Commission dictates that workers be qualified before doing work at a nuclear facility. This qualification requires training in conjunction with a practical exercise to demonstrate proficiency. Duke Nuclear uses simulators to facilitate this training. Employees earn a qualification record in the LMS, which is the legal record of qualifications, only after completing training and demonstrating proficiency. An independent verifier checks every record for accuracy using reports from the LMS.

Work Management: Given the strict federal regulations requiring worker qualifications before completing a task, Duke Nuclear's LMS is integrated with its workforce management (WFM) system. For example, if a reactor containment pump needs a replacement motor, Duke Nuclear will rely on data within the LMS at various stages:

1. **Planning:** First, the planner must be trained on requirements to complete the repair, which he or she can access through just-in-time learning from SumTotal Learn. Second, the planner must determine if there are workers qualified to do the work and whether they are available. Using the interface between the LMS and WFM system, a planner can see if technicians are unavailable because they are in training. Given that Duke Nuclear workers spend one week out of every five weeks in training, this visibility is crucial for scheduling.

2. **Assignment:** Supervisors must verify immediately prior to a technician performing the work whether the technician's training is valid. The supervisor can look at the training history in the LMS, run a special qualification report that shows all training completions associated with the maintenance procedure, or refer to automatic email updates managers receive periodically about their team training. For tasks flagged as "infrequently performed," assigned technicians are notified of computer-based trainings (CBT) required and complete those courses before performing the task.

3. **Execution:** If a repair is located in a radiation-control zone, the technician will be required to wear a radiological respirator. The respirator-issue system interfaces with the LMS to verify the employee has all the prerequisite training to wear the equipment. Additionally, a medical physical is required to get a respirator, so the LMS links to the corporate medical system to track physicals as "training completions." Finally, before the employee enters the building, an additional security system verifies the technician has completed other learning activities required for access.

THE BENEFITS OF INTEGRATION

Duke Nuclear's holistic approach to training and compliance has transformed learning from an isolated set of activities to an integral part of the business goals. The LMS integrations with other business systems and the division's focus on creating a safety-first culture have translated into benefits throughout the division and the company.

"We've reduced the compliance costs and risks associated with scheduling employees who aren't qualified for specific tasks. We've improved safety protocols by linking the LMS with security and other business systems," Sweney said. "As a result, our employees, customers and the surrounding community can be confident that we are dedicated to their safety and are providing top-notch service efficiently."

For example, the company reduced the average number of training activities needed to onboard independent contractors from 25 to 2, eliminating the time and cost of providing redundant training without affecting qualifications. It also lowered occurrence of license or certification expirations for employees using the automatic notifications and reminders within SumTotal Learn.

As one employee put it: "Since my house is located between two of Duke Nuclear's power plants, my family and I sleep easier at night knowing how thorough the company is with training."

Sweney said that Duke Nuclear's experience demonstrates how a robust learning program can become core to business success.

"From the responsiveness of our account manager, who advocates on our behalf, to SumTotal's commitment to continuing to innovate its solutions, the relationship between our companies has been great," Sweney said.