Duke Energy

Duke Energy's e-TRAC System Achieves Strategic EHS Compliance and Safety Incident Management Goals

Duke Energy, which is poised to become the largest utility in the United States[1], is widely recognized as a leader in addressing a broad array of environmental, health and safety (EHS) compliance and sustainability challenges. One major step in delivering on the company's strategic vision for EHS management excellence began in 2007 when Duke Energy identified four objectives as key to its success: 1) unify people, strategies, processes and systems; 2) optimize operations by focusing on safety, simplicity, accountability and costs; 3) achieve compliance with policies, regulations and legislation; and 4) invest wisely in infrastructure and systems in an efficient and environmentally sound manner."[2]

Duke Energy's EHS management team used these four objectives as criteria for selecting the enterprise-level software platform for an important new information system – e-TRAC, the Electronic-Toolkit for Regulatory Assurance and Compliance. EHS data was previously managed through manual processes and more than 60 disparate legacy systems. The result was a high volume of disjointed EHS data and processes that made compliance more challenging. The e-TRAC team conducted an extensive search before making its selection.

"We chose *Sphera Essential Suite®* because we were looking for one integrated, centralized platform that could meet as many of our core business needs as possible," said Giorgina Franklin, EHS Manager for Data Analysis and Reporting at Duke Energy. "The Sphera solution provided us with the capabilities we needed to retire roughly two-thirds of our old spreadsheets, home-grown systems and one-off tools. Best of all, our IT team was no longer required to support all those different systems."

Duke Energy's implementation of the unified Sphera platform for e-TRAC began in 2008 with *Essential Air, Essential Compliance Manager* and *Essential Task Manager* modules, which are designed to work seamlessly together to drive

CHALLENGE

Strategic compliance and sustainability goals:

- Unify people, strategies, processes, systems
- Optimize operations by focusing on safety, simplicity, accountability and costs
- Achieve compliance with policies, regulations and legislation
- Invest wisely in infrastructure and systems in an efficient, environmentally sound manner

SOLUTION

Environmental Performance

- Incident Management™
- Compliance Manager™
- Task Manager™
- Air™
- Water™
- Waste™
- Chemical Inventory™
- MSDS Manager™
  Audit™

RESULTS

- Performance Replaced 60+ legacy systems with a unified, integrated enterprise software platform
- Established interoperability with supply chain systems – EAM, PeopleSoft, Maximo, etc.
- Chemical inventory: 1 million+ records with site-specific lists for 6,700+ storage locations
- Consolidated four MSDS systems into one to handle 35,000+ sheets, 50,000+ materials
- Assured compliance – e.g. the ability to generate a site specific Hazardous Chemical List – while saving time and effort previously required to manage various systems
- Delivered EHS compliance information required for annual Sustainability Report

compliance with environmental regulations such as Title V of the U.S. Clean Air Act. The company's EHS team was seeking to track regulatory requirements, maintain accurate emissions inventories and verify compliance with permit limits (or plan for permit changes). They went on to implement additional modules in order to centrally manage compliance with water, waste and auditing regulations. The vast scope of the e-TRAC project is evident in a quick sample of benchmark achievements:

- Compliance – 250 hourly checks for potential deviations, each with automatic notifications

- Tasking – 35,000+ tasks processed for 32 task groups at 800+ production units

- Waste – Over 600 waste profiles on file and all manifests for shipments are tracked

Duke Energy also replaced four Material Safety Data Sheet (MSDS) systems and automated its chemical inventory management work processes with the integrated Sphera software platform.

"*Essential Chemical Inventory* and *Essential MSDS Manager* are important modules for us due to all the interfaces we have with the data. They have the potential of being utilized by everyone across the enterprise. We currently have over 35,000 MSDS sheets with more than 50,000 materials listed in the system. There are over 5,000 chemical fact sheets for our nuclear plants alone. All in all, we probably have a million plus inventory records. We can now produce site-specific hazardous chemical lists for more than 6,700 locations." reported Franklin.

Another factor in streamlining management of high-volume data has been Duke Energy's implementation of interfaces between the Sphera platform and supply chain systems – including -EAM, PeopleSoft, Maximo and others – so chemical inventory data can flow automatically and continuously from one to the other rather than being imported manually.

One of Duke Energy's highest priorities is to assure the health and safety of its employees – and its goals extend well beyond regulatory compliance in support of higher standards of corporate responsibility and best practices. In 2009, Duke employees achieved their lowest Total Incident Case Rate in company history.[3]

"Duke actively champions safety. Our goal is zero injuries and illnesses," said Franklin. "We want our employees to return home in the same condition that they came to work. With *Essential Suite*, we can have the tools to assist us in being more proactive regarding safety."

"We track all safety incidents and potential incidents in the Sphera system," Franklin continued. "We have performance goals based upon OSHA-recordable injuries and illnesses. We

slice and dice the data every way you could imagine – looking at what happened and why; how to prevent injuries; how to predict future incidents; what trends are developing and more. Every business unit and site within Duke Energy is interested in seeing their monthly incident report to see how they're doing and we help them do it. We record information down to an individual level so employees are aware of their own personal safety metrics."

In the past, safety and environmental incident data was tracked in various separate systems, file cabinets, and/or document systems.

"With the centralized approach of *Essential Incident,* we have saved a lot of time and effort that was previously required to manage various systems," said Franklin. "If we have a permit exceedance or spill, we can enter it today as an environmental incident. The integration of our investigation results and corrective action tracking is probably the biggest efficiency gain for us. With *Essential Suite*, we have more complete information and documentation -- all in one place, easy to find – for compliance and operational improvements."

The compliance information that Duke Energy's EHS team collects and manages with e-TRAC pays additional dividends when shared with other key groups inside the company. "We are helping deliver on a company-wide commitment of responsibility and good governance. It's an important part of how we define ourselves," Franklin concluded. "Our team provides the EHS information for Duke Energy's annual sustainability report – which outlines the highlights and challenges of our efforts to become a more sustainable company."

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> Giorgina Franklin
> EHS Manager
> Duke Energy