Santee Cooper

Santee Cooper Empowers Proactive Compliance Strategy and Continuously Improves Environmental Performance

Established during the 1930's New Deal, Santee Cooper is South Carolina's largest power producer. This state-owned electric and water utility serves more than 2 million commercial and residential customers across 46 counties. As part of its mission – "to be the state's leading resource for improving the quality of life for the people of South Carolina" – the company is also strongly committed to protecting the region's natural environment. Its leadership is fully invested in assuring regulatory compliance and continuous improvement of environmental performance.

In 2011, Santee Cooper took a major step forward in delivering on that promise by launching an enterprise-wide Environmental Management Information System (EMIS). The new EMIS is now helping the company address growing external and internal pressures ranging from stricter regulations to employee retirements.

As the US Environmental Protection Agency (EPA) has tightened regulations on power plants and other industrial activities, Santee Cooper has faced increasing air, water and waste requirements. An EMIS would enable its environmental managers to move away from complex manual processes towards a streamlined system based on the EPA's "Plan, Do, Check, Act" model.

"We had a large number of paper forms, spreadsheets and databases across the company, and wanted a central database where our employees could go for consistent and accurate environmental information," says Brian Holmes, director of the Santee Cooper's Environmental Management System. "Our reporting needs had increased and there were more regulations in the pipeline with final rulings coming. We needed an EMIS to manage the current requirements more efficiently and deal proactively with the next generation of environmental demands."

Santee Cooper's selection committee had chosen Sphera *Essential Suite®* – part of the Sphera Environmental Performance Solution™ -- as the backbone of their new EMIS. As it came online, the company's environmental managers gradually

Challenge

- Maintain compliance with expanding federal, state and local regulations and permits
- Improve environmental performance by eliminating manual processes involving 270+ checklists/forms, 115 spreadsheets, etc.
- Reduce risk of non-compliance due to changes in organization and/or employee retirements

Solution

Environmental Performance Solution

- Air & GHG Emissions
- Waste Management
- Water Usage and Discharge
- Task Management

Results

- Created one unified, centralized Environmental Management Information System for 180+ users
- Integrated EMIS with multiple complementary systems for process data collection, business intelligence modeling, and email tasking
- Eliminated or partially replaced 43% of legacy checklists, forms and reports as redundant or unnecessary
- Managed more than 5,000 compliance tasks over 2 years
- Eliminated delays in retrieving environmental checklists/forms
- Mitigated risk of non-compliance thru proactive tasking and employee transition management

Santee Cooper Assures Compliance and Continuity

phased out many of the manual processes that involved more than 270 checklists and forms, 115 spreadsheets and two databases. The team standardized metrics, calculations terminology and more within their new centralized system.

"It used to take a substantial amount of time and effort – not continuously gathering information but waiting on people to provide the information you needed in a checklist or form," says Lauren Browne, General Engineer at Santee Cooper. "Now information is available immediately. It's really streamlined the process for us." Santee Cooper's centralized EMIS gathers data from 15 generation sites and 37 waste storage areas across the company.

> "The EMIS assures everyone that compliance tasks are getting done and that the data is correct."
>
> Brian Holmes, Director
> Santee Cooper Environmental Mgm't System

"Our employees, supervisors, and auditors now have a one-stop, comprehensive system to view when tasks were completed and verify any attached completion evidence," said Karen Baskerville, the IT Supervisor of Application Support. "The direct integration of our EMIS with other systems has helped us achieve major efficiency gains by eliminating redundant data entry as well as improved data quality."

"One example of those new efficiencies is the fact that the EMIS helped us eliminate or partially replace 43 percent of our legacy environmental checklists, forms and reports because they were redundant or unnecessary," added Browne.

Santee Cooper has integrated *Sphera Essential Suite* with a variety of complementary systems in order to automate and streamline the flow of raw process data directly into the company's EMIS. Air emissions, water discharge, waste generation, fuel consumption and other environmental data is imported from systems such as: CEMS - *ESC StackVision™*; LIMS - *Labworks;* and FMIS - *Fuelworx*.[1] This equipment-level operational data is acquired and aggregated multiple times each day and then pulled into the EMIS where emissions calculations are processed monthly and annually. In addition, by integrating *Essential Suite* with Oracle's *Business Intelligence Enterprise Edition® (OBIEE)* within their EMIS*,* Santee Cooper's team can leverage aggregated environmental information into powerful data modeling and dashboard views for analysis and decision-making.

"We also have our EMIS linked with the company's Content Management System. Again, this saves time because employees, supervisors, and auditors can stop calling different stations to ask around for documentation. Now they can now go directly into the system and find what they need," Holmes explained. "At the end of the day, we have built more than 3,200 integration data points into our EMIS so it's a very robust system."

With the new EMIS, the team at Santee Cooper can take a more proactive approach to ensuring full compliance with applicable federal, state, and local environmental statutes, regulations and permits. The EMIS helps promote personal accountability by triggering automated email alerts when compliance tasks are due or when data is approaching environmental limits. Task owners are linked directly to the information they need and their supervisors can verify when tasks are completed. Results to date suggest that the EMIS' prompts are motivating employees to complete tasks earlier and reducing the risk of non-compliance.

Santee Cooper's environmental managers are also using the EMIS to proactively address another issue that is critical to their goal of continuously improving environmental performance – operational adjustments due to organizational and personnel changes.

Santee Cooper takes pride in being a great place to work but many of its employees are getting older and nearing retirement. Furthermore, like any well-run company, Santee Cooper must sometimes restructure its operations to maximize efficiency. Recently, the company started shutting down four coal-fired generating units, a process that required a good deal of change with roles, responsibilities, and people all being shifted between various stations and locations.

"We're transferring employees from one location to another and the EMIS seamlessly transfers the tasks as needed," said Baskerville. "It makes the learning curve faster whenever somebody starts a new job because the information they need is right there and our processes are standardized across the company."

In the past two years, the Environmental Management and Generation departments at Santee Cooper have used its EMIS to manage more than 5,000 compliance tasks.

"The EMIS assures everyone that compliance tasks are getting done and that the data is correct. The feedback from our corporate leadership has been very positive," Holmes concluded. "In fact, our latest annual survey showed that 96 percent of our customers are satisfied with Santee Cooper's concern for the environment versus an 89 percent national average. I think the EMIS is playing a role in earning our company that vote of confidence."

[1] CEMS = Continuous Emissions Management System; LIMS = Laboratory Information Management System; FMIS = Fuel Management Information System