



Eastern Municipal Water District

Eastern Municipal Water District Proactively Expands EMIS to Maximize DMR Reporting Accuracy and Efficiency

It wasn't gold but a more valuable resource that the county of Riverside, California sought back in 1950. The droughts of the late 1940's were hard on the community and farms – the situation was grave. Local leaders knew they needed access to the Colorado River Aqueduct and soon established the Eastern Municipal Water District (EMWD). This new agency negotiated an agreement with the Southern California Metropolitan Water District for the necessary access to their imported water supplies. Today, EMWD provides essential services to more than 758,000 people across 542-square-miles in Southern California. EMWD is responsible for providing drinking, recycle water and wastewater treatment to this community, this includes the production and beneficial reuse of approximately 42 million gallons per day of recycled water. EMWD must ensure compliance with hundreds of Federal, State, and local regulations, and EMWD is dedicated to go beyond full compliance with all health, safety and environmental regulations. One of its top priorities is the generation of Discharge Monitoring Reports (DMR) that it must submit to California Regional Water Quality Control Boards used to document permit compliance. Like any Public Owned Treatment Works (POTW), EMWD must collect wastewater samples, conduct chemical and/or biological tests of the samples, and submit reports to regulatory agencies to maintain its waste discharge permits.

In 2011, EMWD proactively expanded its Environmental Management Information System (EMIS) in order to enhance the accuracy and efficiency of its DMR reporting. The agency had successfully used *Sphera Essential Suite®* software – part of the Sphera Environmental Performance Solution™ – since 2006 to track hundreds of compliance tasks and deadlines throughout its operations. Now EMWD moved ahead with deployment of another *Essential Suite* module that is specially designed to facilitate process wastewater management.

“We are required to submit DMRs monthly for each of our major wastewater treatment plants,” said Bill Tibbitts, Senior Environmental Compliance Analyst. “We had an outdated Access database that was very difficult to use. Recalculations and reports would take more than an hour to process and if any of the data needed to be updated, we would have to wait

Challenge

- Track hundreds of compliance tasks and deadlines in one system
- Prepare Discharge Monitoring Reports (DMRs) for CA Regional Water Quality Control Boards
- Improve efficiency and accuracy of regulatory compliance reporting

Solution

Environmental Performance and Compliance Assurance Solutions

- Water Usage and Discharge
- Compliance Assurance
- Task Management

Results

- Increased leadership team's level of confidence in environmental reporting accuracy
- Reduced time spent generating DMRs from over 24 hours down to less than a minute
- Increased accountability for environmental performance by tracking compliance tasks
- Enabled transparency for auditing trail purposes for any changes made to environmental data
- Improved data accuracy and timeliness through seamless integration with LIMS, SCADA systems
- Assured retention of institutional knowledge and process consistency for compliance, continuity
- Enabled team to proactively track pollutants in anticipation of future regulations

EMWD Enhances Reporting Accuracy and Efficiency

until the next morning to get it run. Now with Sphera, running DMRs takes less than a minute. These are our compliance reports so we need to be able to make sure they're accurate and reproducible."

Previously, wastewater compliance monitoring figures on reports had to be recalculated when a change was made. Creating a single report could take anywhere from 1 to 24 hours and reports sometimes included inaccuracies that required manual correction. EMWD reports that the DMRs from the updated EMIS have proven very useful for maintaining data quality and consistency, reducing the need for additional oversight and making it easier to discern data trends.

"The information in the EMIS is consistently accurate and up to date so we are very confident about the quality of our reports," said Jayne Joy, Director of Environmental and Regulatory Compliance for EMWD.

"Our old homegrown system did not track anything about who did what. The Sphera system tells us who has made an entry and who has made changes. We dramatically improved our ability to manage our workload by tracking task ownership right through to completion. It's helping us drive continuous improvement throughout our operations."

"The information in the EMIS is consistently accurate and up to date so we are very confident about the quality of our reports... We dramatically improved our ability to manage our workload by tracking task ownership right through to completion. It's helping us drive continuous improvement throughout our operations."

Jayne Joy
Director, Environmental & Regulatory Compliance Eastern
Municipal Water District

The quality and timeliness of data in the EMIS has been further enhanced by seamless integration with primary data sources such as EMWD's Laboratory Information Management System (LIMS) and Supervisory Control and Data Acquisition (SCADA) system. Data from the LIMS and SCADA systems downloads into *Essential Suite* multiple times a day so reports generated from the EMIS are always up-to-date, no matter when they are generated.

In addition, if they have to change the data and an audit trail is required, the EMWD team can add addendums to reports stating exactly when and why those changes occurred – eliminating rework and potential compliance violations. By having improved integration with other systems and leveraging a broader base of personnel for data input, information can now flow into reports quickly and accurately.

Nearly 70 percent of EMWD wastewater is recycled back to the district for irrigation. EMWD's environmental team uses the EMIS to track tasks that are required to verify that wastewater meets the highest quality standards and is in full compliance

with the discharge permit program before it is released. Staff members receive email alerts when specific required tasks are due, ensuring all of EMWD's requirements concerning contaminants, air quality, bio-solids, hazardous material tracking and other monitored issues are completed on time. Any user can create and assign recurring tasks. Plus, they can set up and maintain regulatory and operational time derivative values (TDV) and their limits.

"From my view, the biggest benefit of the EMIS is that we don't miss anything anymore – including those non-routine compliance dates," Joy says. "We can establish when deadlines are coming and easily shift tasks from individual to individual, or from group to group as necessary to make sure that assignments are completed properly and on time. What we were doing before was not transferable."

EMWD's environmental management team now relies on the EMIS to help mitigate the impact of staff changes by safeguarding institutional knowledge and consistent work processes enterprise-wide – to assure continuity of operations and minimize the risk of non-compliance.

In 2013, when an *Sphera Essential Suite* version upgrade was completed, EMWD's staff reported that the system hierarchy also helped improve communications and security across the agency by allowing members of the team to see only the level of information they need for their respective roles.

Looking forward, the team is using its enhanced EMIS to help it continue taking a proactive approach to upcoming compliance challenges.

"We are always watching for new regulations on the way," said Alfred Javier, Environmental Service Manager for EMWD. "For instance, we have to be concerned about new standards for nutrient quality in our effluent – how it's supplied and whether or not it's going to impact either ground water or surface water. We need to know what concentration of unregulated contaminants are currently found in our wastewater so we can be ready, in case a new regulation comes out that is more restrictive than the current rules."

"Compliance is one of our top strategic priorities and the EMIS is really our workhorse," Joy concluded. "Environmental regulatory requirements are constantly changing and our EMIS helps EMWD stay ahead of the curve."