OSIsoft

STREAMLINING PLAINS MIDSTREAM'S DATA: THE PI SYSTEM™ PROVIDES ORGANIZATION & ACCESSIBILITY

Plains Midstream Canada, a subsidiary of Plains All American Pipelines, provides crude oil storage and transportation in Canada and natural gas liquids (NGL) fractionation, storage, and transportation in both Canada and the U.S. Since 2001, Plains Midstream has acquired many new assets, including pipelines, processing facilities, storage, and trucks. While this growth has been great for business, the acquisitions brought a raft of new operational and digital monitoring systems, including multiple PI System servers.

By 2017, Plains Midstream was struggling with diverse, unintegrated data applications, siloed equipment information, and a lack of tag and asset standardization across its different systems. Some data was still gathered manually, costing the company time and money. To deal with the challenges presented by its multiple systems, Plains Midstream turned to iSolutions, an OSIsoft system integrator, for help. iSolutions helped Plains Midstream build a standardized data model using OSIsoft's Asset Framework (AF) within a centralized, enterprise-level PI System. Today, the solution ensures that data visualizations and reports are consistent and accessible to everyone across the company's major NGL facilities.

Previously, Plains Midstream had been using its PI System servers primarily as data historians without the benefit of Asset Framework (AF), the contextualization layer of the PI System. The different asset structures made integrating data difficult. Plains Midstream wanted the monitoring and notifications used by management at the different facilities to be channeled through the same enterprise-wide data model. The company also wanted consistency among the reports and dashboards that were delivered

to clients and users. iSolutions helped Plains Midstream figure out the best way to structure AF to create a digital twin of all operations. "The look and feel is now the same across all the NGL facilities where we've deployed," said Dapo Badmus, Principal Consultant at iSolutions, during his presentation at PI World San Francisco 2019.

Once the data had been properly organized and contextualized, Plains Midstream was ready to start solving other business

CHALLENGE

Data was siloed within diverse operational systems with no data stream context or standardization.
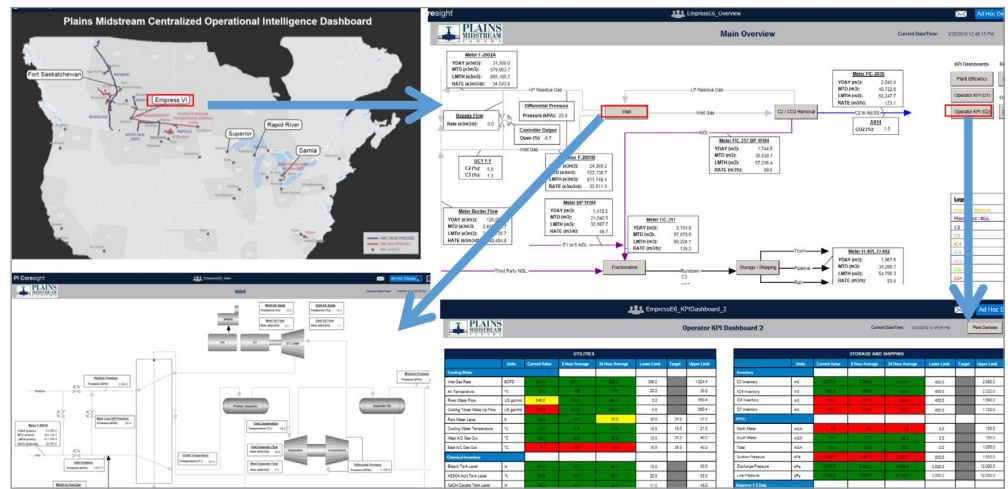
SOLUTION

A single, centralized PI System with a unified Asset Framework (AF) structure.

BENEFIT

Over $2 million in savings from increased operational oversight and data accessibility.

NGL FACILITY: DASHBOARD NAVIGATION

PI Vision navigation allows engineers to move intuitively from overview maps of facilities to color-coded KPI screens of specific plants and equipment.

challenges. One such challenge was manual data gathering for certain processes. For example, operations managers must track NGL products whenever they come into a facility. It would take "several hours of taking a spreadsheet dump out of the distributed control system, then doing manual calculations within that spreadsheet," said Scott Klassen, an Operations Services Manager at Plains Midstream Canada. Only after all these calculations were done, would workers at the facility know what product had come in.

Now, Plains Midstream uses the PI System to monitor specific process events in incoming product. "When a valve opens, [the PI System] tracks all the temperature, pressures, and volumes of what's coming in. As soon as the valve closes, it does the calculation automatically and sends a report to the users," Klassen explained.

Having this automatic analysis also allows Plains Midstream to ensure they're getting exactly what the shipper claims its sending. "If a product doesn't meet a certain spec, it's worth a different amount of money," Klassen said. Using the PI System to track and monitor incoming product has already saved Plains Midstream over two million dollars.

The PI System has also helped streamline decision-making by providing intuitive, real-time asset and data visualization in PI Vision. Users can click on the map to drill down for more information about the processes going on in a particular facility. Operators and engineers track KPIs using color-coded dashboards to show whether or not a process is within minimum and maximum targets. The centralized PI System also makes it easy for anybody in the company to access these and other dashboards. "Previously it was phone calls, it was email," Klassen said. "Now it's much easier and much simpler for anybody to get access."

It used to take engineers hours every morning to generate daily production reports; now, the PI System automatically generates reports and delivers them to employees' inboxes. Easy integration with Microsoft Power BI has also facilitated more advanced analysis and reporting. Data from lab analyses at different facilities is also widely available and the PI System has helped Plains Midstream reduce the number of operational re-runs by enabling users to correlate lab data with real-time data.

"We get phone calls from facilities asking, 'How is the plant operating?' Well, now we can show them. They can go into PI Vision and they can see that in real time. And if they want more information, well they can get more information. We can build more dashboards," Klassen said.

For more information about Plains Midstream and the PI System, watch the full presentation here.

PARTNER:

iSolutions Consulting

"

We get phone calls from facilities asking, 'How is the plant operating?' Well, now we can show them. They can go into PI Vision and they can see that in real time."

— Scott Klassen, Operational Service Delivery Manager at Plains Midstream Canada

Badmus, Dapo; Klassen, Scott "Plains Midstream's Journey from Siloed Operational Data to Self-Serve Operational Intelligence at our NGL facilities."
<https://www.osisoft.com/Presentations/Plains-Midstream-s-Journey-from-Siloed-Operational-Data-to-Self-Serve-Operational-Intelligence-at-our-NGL-facilities/>