



Standardization of Refinery Flow Meter Compensation Increases Productivity

Application using OSIsoft Asset Framework empowers engineers

Key Benefits

- Increased engineer productivity and less reliance on IT resources
- Decreased maintenance time and costs for their technology lifecycle management
- Increased accuracy of results
- Standardization of flow meter compensation across corporation

Background

- Multiple North American refineries
- Outdated software based on old technology
- IT department support required to maintain content

KBC Solution and Results

- Mass balance and process engineers can now make immediate changes
- Seamlessly migrated the flow meter compensation solution to PI-AF without user impact

Client Challenge

A major oil refiner had aging technology for calculating their flow meter compensation values. The outdated solution limited engineer visibility to the necessary analytics and required intervention from the Information Technology (IT) department to add, update, and remove meters. The result was a lack of immediate control around the solution and dependency on IT resources.

Refineries use flow compensation analytics to correct plant flows based on differences between the current plant conditions and the conditions when calibrating the flow meter. To solve this problem, it was essential for the mass balance engineers and production accountants to have the ability to understand and analyze plant operations.

The refiner chose KBC for this project due to their technical OSIsoft PI expertise with PI Asset Framework (PI-AF) and analytics.

The Solution

The new technology would replace existing applications in the production environment. Therefore, it was critical to minimize the impact on the engineers and operators ongoing work.

KBC worked with the refiner to detail requirements for a standardized flow meter compensation application. The company chose to use the OSIsoft platform because of the flexibility the PI-AF provides. Requirements included standard templates to populate



throughout all facilities, standard units of measure, and creating a self-service environment for the engineers.

The KBC team created a template that contained all the compensation considerations the customer identified and the analytics to correct flow compensate based on the real-time inputs. The template included liquid and gas meters.

To run the compensation solution, the KBC team created the Asset Framework (AF) hierarchy at each facility. This included a permissions model that designated administrators and contributors to the structure. It allowed administrators to adjust the templates and other advanced AF work. Contributors can now insert new elements via the template when adding a new flow meter to the plant. Previously, all new meters and adjustments required IT interaction.

In addition to the self-service meters, KBC setup the application

to provide process engineers full visibility to the analytics and configurable parameters. The template setup allowed engineers to quickly view failure points in the analytics to support troubleshooting equipment in the plant.

As part of the project, KBC created a user manual and training guide. In addition, KBC provided training sessions with the mass balance and process engineers. The operator established a steering committee around the master templates to ensure limited drift between facilities after deployment.

The solution involved testing the application prior to implementation, incorporating user feedback, and training users. KBC completed the development and implementation of the solution on schedule. This included six weeks of initial development and a 4-week roll-out cycle at each of the refineries.

Results

KBC seamlessly migrated the flow meter compensation solution to the PI-AF at the four refineries without impacting users. They delivered the solution on budget and on schedule in a coordinated fashion.

The mass balance and process engineers now have the power to troubleshoot erroneous inputs and make changes to calculation input parameters immediately, instead of relying on other support organizations. This change saves them time and increases their efficiency in correcting issues in the plant.

The new solution was a positive change for the operator's Technology Lifecycle Management. KBC delivered a cost-effective solution that is easy to maintain, powerful, and reliable.



Houston Regional HQ

15021 Katy Freeway, Suite 600, Houston, TX 77094 USA

T +1 281 293 8200

T +1 800 726 5914