

CHEMICAL CASE STUDY - MAJOR PETROCHEMICAL COMPANY, UK

Saving time using PEL



PEL saves process engineers 10 days of calculations.

The client embarked upon a project to implement a new recycle gasoline stream on their existing plant. This involved installing new pipework on the site with 6 inputs and 3 outputs. They wanted to utilise 2 existing pumps and needed verification that this would be possible.

The client used ABB's PEL software to find the optimum solution for the pipework network and to check that the existing pumps would be fit for purpose.

“PEL has been vital on this project, it has allowed us to carry out complex calculations in a fraction of the time”

Logistics Development Manager,
Major Petrochemical Company, UK

Solution

The PEL software from ABB is a highly effective solution for generating and managing process engineering data.

VisualFlonet

They used the VisualFlonet module within PEL to calculate the flows and pressure drops throughout the gas network. VisualFlonet enables users to model the piping network and easily adjust parameters such as pump usage and pipework sizes against the range of use to find the optimum solution. The model was used to produce instrument datasheets, control valve sizing, orifice sizing, filter sizing and pump calculations.

This work would have normally been done on a spreadsheet with hundreds of calculations being carried out for the different scenarios. It is estimated that using PEL for this work saved the client team 10 days of work. This greatly reduced the design stage of the project and allowed work to begin on site earlier.

The model can be used to speed up the design of future modifications or used to justify decisions on this modification.

ProvueDB

Datasheets for all the new equipment in the pipeline were created in PEL's ProvueDB database management system. The engineers used the predesigned templates to create the datasheets simply and quickly.

The tool manages revision control and enforces checking and approving to ensure that everyone is working from the same, up to date revision.

The datasheets will be used during future inspections and maintenance and will provide vital information on the equipment. The datasheets are all held in a searchable database within ProvueDB, ensuring engineers have the information they need to hand quickly in critical times. This will remove the time and effort that would have been taken up searching for documents.

Technical support

Through out the project the client team had unlimited access to the PEL support service. The PEL team were on hand to provide technical assistance via email and phone.

Benefits

- New equipment costs reduced as PEL helped to find a solution that enabled the use of existing pumps
- 10 days of process engineers time saved
- Optimum solution for the piping network was found by easily running multiple scenario calculations
- An audit trail to back up / justify decisions
- The re-usable piping network model will make future modifications to the plant quicker to design
- Calculations carried out efficiently, allowing engineers to be more productive
- Opportunities for human error in calculations reduced
- Fast and simple production of datasheets
- Easy and quick access to the controlled datasheets through the searchable database

