



"The ability to place piping restraints in CADWorx saved us numerous hours because our stress engineers did not have to manually input geometry and support locations within CAESAR II."

Wade Foehrenbach, Technical Supervisor at Stantec

Stantec cuts costs and improves collaboration using CADWorx and CAESAR II

Stantec a leader in design and engineering projects for industrial sector

Founded in 1954, Stantec provides professional consulting services in planning, engineering, architecture, project management, project economics and other for infrastructure and facilities projects. Stantec's services are offered out of more than 150 locations in North America. Stantec's Scarborough, Maine office carries out industrial projects within the power sector. It was the engineering team of Stantec's Scarborough office that was mainly involved with W.H. Sammis Plant's project.

Designing ammonia storage facility for large Ohio power plant

The recent engineering project for Stantec involved upgrading the W.H. Sammis Plant located in Stratton, Ohio. The Sammis Plant is one of the largest power plants in Ohio and uses an average of 18,000 tons of coal per day with an annual average of 6.6 million tons. The plant consists of seven coal-fired power units with the ability to produce 2,316 megawatts (MW) of electricity.

Stantec was given the task of designing an ammonia unloading and storage facility consisting of eight railcar unloading stations, two truck unloading stations, six storage tanks and a control building.

CADWorx improves project collaboration

Creating collaboration among all engineering disciplines was one of the biggest challenges because the project involved civil, structural, electrical and mechanical disciplines. In order to create a better collaboration and also to help reduce project costs, Stantec chose CADWorx Plant Design Suite and CAESAR II Pipe Stress Analysis by COADE, Inc.

Using CADWorx allowed Stantec to create individual 3D models for reference among these multiple disciplines. For example, the mechanical group created an equipment layout model, individual piping system models, a pipe support model and a facility arrangement model. "With CADWorx we were able to create individual models and have multiple designers work on them simultaneously", said Wade Foehrenbach, technical supervisor at Stantec.

Creating automatic drawings and avoiding interferences

CADWorx's comprehensive set of collaborative tools allowed Stantec to export bills of material early in the project for procurement, to export CAESAR II files with support locations for the stress engineers, and to create piping isometrics with ISOGEN for fabrication and erection.

Stantec used most CADWorx capabilities, including creating user shapes, attaching pipe restraints, creating specialized piping specifications and others. "We also eliminated negative aspects of the old software such as construction interferences and the production of multiple views on drawings and bill of materials from scratch," added Foehrenbach.

CADWorx helps create a first-rate work product

The software's 3D plant modeling also allowed Stantec to hold bi-monthly review meetings online. These meetings ensured interactive review sessions among the owners, clients, and contractors who were miles away from each other. Using the collaborative 3D models directly, the mechanical department created views with clipping planes to produce orthographic drawings. "Overall, CADWorx helped us improve project efficiency, project collaboration and project costs and we plan to use it in our future projects," concluded Foehrenbach.

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