



"Using both CADWorx and CAESAR II allowed our design and engineering departments to work in a coordinated manner and to produce complex deliverables with a high degree of automation."

Valdez Ignacio,
Piping Engineering Specialist at IMP

PRODUCT INDEX

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www.ferncc.com
sales@ferncc.com

Telephone: +44 (0)1332 780790
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Links between Plant Design and Stress Analysis Pays Dividends for Instituto Mexicano Del Petroleo

IMP builds success through its products and services

Instituto Mexicano Del Petroleo (IMP) provides research, engineering modification and as-built services to refineries, petrochemical plants and compression and pumping stations. The company portfolio of products and services are offered through five business units that include exploration and production, process engineering, project engineering, security and environmental, and training.

PEMEX Project Challenge

IMP successfully finished engineering and design phases for a \$100 million dollar project at Dos Bocas, Tabasco State, Mexico. This was one of the largest strategic projects done for PEMEX Exploration and Production Company. The project involved the conversion of oil storage tanks to a gun barrel arrangement, and included a symmetrical ring portion to connect tanks with eight inlets. Pipe sizes ranged from 6" to 30" and total length of pipe was more than 6,500 feet. The size of the re-heated area was 300 x 260 feet with 2 gun barrels of 500,000 barrels capacity each.

It was a highly complex project with service temperatures of up to 575F. Since the project had to be performed within a tight schedule, bid paper work, detail engineering, drawings and isometrics had to be completed in a very short period of time. The project scope of work included field surveys, project setup, the creation of piping specifications, layout arrangements, and the production of a 3D plant model that included piping steel and equipment for the storage tanks and their refill and discharge systems.

Choosing CADWorx and CAESAR II for its customizability

In the past, IMP used a 3D modeling package that was expensive and did not allow for the transfer of information between the 3D CAD model and pipe stress analysis. IMP needed software that provided these bi-directional links and was easily configured, managed, and customized.

After some deliberation, IMP chose CADWorx Plant Professional and CAESAR II

Pipe Stress Analysis for the powerful features they offered and specific features that IMP was looking for. "COADE's products are less expensive than other software solutions but still have power and flexibility. Instead of building a 3D model from scratch, we were able to use 2D data to build an intelligent 3D model and extract isometric drawings quickly", said Valdez Ignacio, Piping Engineering Specialist at IMP.

Producing smart and complex deliverables

By using the 3D Model, IMP was able to produce deliverables such as plans, sections, automatic isometrics, sections and elevations, detail views and extract accurate bills of materials. There were more than 80 piping drawings and 690 isometric drawings produced in record time.

Easy adoption and detailed piping specifications in a 3-month period

"CADWorx Plant Design Suite and CAESAR II helped us configure and customize the project in a very short time and we were able to perform detailed engineering in only three months. These products allowed us to exchange information between the Plant Model and Pipe Stress Analysis and greatly improved our construction cost analysis, thereby ensuring efficient engineering, review and modification. We were very pleased with our decision to use COADE's products", added Sr. Ignacio.