CASE STUDY

COADE®
Plant Focused. Industry Driven.™

"PV Elite gives us the flexibility to design towers and exchangers to exacting standards. We can even perform analysis on vessels with exchanger bundles located in a tower."

Rajiv Kulkarni, Assistant General Manager, Sales and Marketing for Godrej PED

PRODUCT INDEX

PV Elite™
CodeCalc®

INDUSTRIES SERVED

• Petrochemical

FEATURED RESELLER

KLG Systel
India

COADE, Inc. 12777 Jones Road, Suite 480, Houston, TX 77070 USA
Phone: +1 281-890-4566 • Fax: +1 281-890-3301
E-mail: sales@coade.com • Web: www.coade.com

PV Elite helps Godrej achieve compliance and record time completion

From a lock company to a successful international manufacturer

Since its formation in 1897 as a lock and security company, Godrej has grown into an international powerhouse manufacturer and supplier of a broad and diverse array of goods ranging from beauty products and home appliances, to materials handling and process equipment. Formed in 1976, the Godrej Process Equipment Division (Godrej PED) manufactures process equipment for end users in the refining, petrochemical, fertilizer, oil and gas, chemicals, pharmaceutical and power industries.

Largest pressure vessel ever undertaken

Recently, Godrej PED embarked on the largest single piece of equipment ever undertaken by the company, weighing in at 882 tons(800 metric tonne). It was to be designed, fabricated and shipped out of the Mumbai port as a single unit. This polypropylene reactor was to be built for the Saudi Basic Industries Corporation's Ibn Zahr PP-III Project, Jubail Industrial City, Saudi Arabia.

PV Elite for accuracy and compliance

Prior to this project, Godrej PED engineers were experienced users of COADE PV Elite and COADE CodeCalc software for pressure vessel and exchanger design and analysis. Because of this experience, the company knew that it could rely on these tools to not only perform engineering designs according to the international standards, but also produce mechanical designs and code calculations and inputs for fabrication drawings.

Design and manufacture to the local standards

The polypropylene reactor, which was based on Dow Chemical's technology, measured 156 ft 6 in (47.7 m) in height and 18 ft (5.5 m) inside diameter from the base up to a 29 ft 6 in (9 m) diameter dome that caps the top of the reactor. The shell thicknesses ranged from 3 3/8 in to 4 1/8 in (84 to 105 mm). PV Elite's comprehensive database of structural steel, pipes, flanges, bolts, etc. helped Godrej PED design, manufacture, supply and test the dome-topped unit to ASME U2-Stamp standards.

Operational and transportation unit analysis

Using PV Elite, Godrej was able to design and build a viable piece of equipment that took into account operational as well as external boundary factors such as the wind and seismic conditions of the Saudi Arabian Jubail region. PV Elite also helped Godrej PED to perform the transportation and support analysis of the equipment to determine the loads and supports needed. With PV Elite, the engineer was able to flip the vessel from its operational vertical design state to the horizontal shipping state to calculate transportation loads and ideal support positions. This was achieved without the engineer needing to redesign the equipment, as often is the case with other approaches.

Successful project completion in record time

PV Elite has helped Godrej PED not only deliver what clients require but has also significantly reduced the time taken on code calculations and essential wind and seismic analyses. This has improved Godrej PED's opportunities for growth and increased the company's list of satisfied customers. "We design and build complex vessels and PV Elite gives us the flexibility to design towers and exchangers to exacting standards," said Rajiv Kulkarni, assistant general manager, Sales and Marketing for Godrej PED. "We are not limited to TEMA type of shell and tube exchangers; we can even perform analysis on vessels with exchanger bundles located in a tower."