



PLEASURE ISLAND DOCK

The PI Dock project is a joint venture between Valero and TGS. This 100-acre deep water marine ship dock located on Pleasure Island created a vital link between the Intercostal Waterway and the Valero Port Arthur Refinery. The Valero Port Arthur Refinery was commissioned in 1901 and the PI Dock project which was completed in 2015 supplies the 310,000-barrel-a-day facility with a 36-inch pipeline that allows for delivery of crude oil off of ships to be refined into products.

The marine terminal has the potential to be expanded in the future with the addition of two berths, either for LPG and refined product exports, or additional crude receipts. Its deep water dock is capable of receiving Suezmax tankers which can carry up to 1 million barrels of oil and are the largest crude tankers capable of navigating the Suez Canal.



This multi-year project combined and showcased the EPIC Engineering Team's deep berth of professional skills and services.



ELECTRICAL & DESIGN SERVICES

Complete FEL instrumentation and electrical package with TIC estimate that included communication, instrument block, and electrical one line diagrams, initial load calculations and initial Piping and Instrumentation (P&ID) development in conjunction with the project Mechanical Engineering Firm. Another critical area of the project design was the shore side control room, office building and network and communications room.



DETAILED PROJECT ENGINEERING & DESIGN

With a project this large a lot of planning and design goes into the electrical systems on site. EPIC provided the complete 5KV power distribution design, Variable Frequency Drives specifications, Electrical Switch Gear, and the Power Distribution and Controls building (PDC). Engineered drawings included instrument location, cable tray routing, equipment power and control layouts and wiring design, and the preparation of instrument data sheets for over 200 field devices and motor operated valves.



FABRICATION SERVICES

This site required the fabrication and design specification of three GE RX3i PLC cabinets on site and a fourth at the refinery to facilitate pipeline deliveries from PI Dock to the Valero Port Arthur Refinery. Total input/output count was in excess of 500. EPIC also supplied a series of CCTV enclosures for on-site cameras, network enclosures, and a 480V power and control rack.



NETWORKING

With a site that has ships incoming from the Gulf of Mexico, deep water docks, pipelines, and a refinery communication is key. EPIC installed a network across the entire PI Dock Facility linking computers, PLCs, equipment, and security networks both locally on site and across the Valero corporate network as a part of the company wide SCADA network. This site had over 1000' of fiber optic and CAT6 cable, radio, and cellular communications linked together on a Cisco backbone.



PROJECT MANAGEMENT

Provided daily construction management of onsite electrical contractor with 60-man crew and in office design team. EPIC also hosted and participated in weekly project status meetings with multiple engineering firms, contractors, and owners to ensure quality of work, schedules, and change orders were all in proper order to ensure safety on the job site and that the scope of the project was being fulfilled.



COMMISSIONING & STARTUP SERVICES

Once all the work has been done and drawing packages have been assembled someone has to make sure that all the long days and nights produced a working product. EPIC Engineering made it our responsibility to our customers to stay on site through final commissioning and startup of all PLCs, instrumentation, and power systems for the entire facility.

