



Industry: Construction

Products: MicroStation, SUPERLOAD, AECOsim Building Designer, GEOPAK, ConstructSIM

User: Vic's Crane & Heavy Haul, Inc.

Country: United States

November 2, 2015

Bentley Technology Enables Vic's Crane & Heavy Haul to Build and Deliver a 160-foot-long Process Vessel on Time and as Safely as Possible

Flint Hills Resources chose Vic's Crane & Heavy Haul to transport a 160-foot-long, 750,000-pound process vessel by barge and trailers to its Pine Bend Refinery in Rosemount, Minnesota. The two-year feat involved coordinating the loading and unloading of transport vehicles, permitting the load on highways, coordinating with utilities, and redesigning roads and bridges that are not designed for heavy loads.

Oversized and overweight cargo which travels thousands of miles utilizes multiple methods of transport such as ships, barges, and heavy-haul over-the-road transporters. There is significant risk involved with moving such equipment over public waterways and highways as well as when hoisting and setting the equipment onto its permanent foundations. Bentley software allowed Vic's Crane & Heavy Haul to detail every aspect of this USD 100 million project. The company used Bentley products including SUPERLOAD, AECOsim Building Designer, and ConstructSim for planning the equipment transport and installation and to design roads, bridges, and lifting equipment required to get the vessel to its final destination.

Movement of a vessel this large required a significant amount of coordination particularly within a congested refinery setting. There were multiple complex construction activities taking place along the vessel transport route as well as in close proximity to where the vessel would ultimately be delivered. The use of Bentley AECOsim Building Designer models of the project imported into the integrated refinery model allowed construction managers to visualize the impact that vessel transport would have on their projects and schedule their projects in accordance with vessel delivery. New roads and bridges were designed, scheduled, and constructed well in advance of vessel delivery resulting in a minimal impact to other refinery construction activities and operations. The result of two years of planning culminated in a final move of the vessel into the refinery that began at 6 a.m. on a Saturday morning and finished with the vessel safely on its foundation by 3 p.m.

Bentley software allows Vic's Crane & Heavy Haul to eliminate as much risk as possible from the design and provide their clients with a safe project delivered on time and within budget.



Paul J. Newman, project manager, Vic's Crane & Heavy Haul, emphasized the value of simulating the transport of the process vessel. "Bentley's design software allows Vic's Crane & Heavy Haul to visualize and 'see' into the future of our most complex projects. By using this technology, Vic's can consistently deliver a safer and higher quality product to all of our clients."

Image Link: <https://www.hightail.com/download/bXBibUpZeDNTSUNjZDhUQw>

Caption: Vic's Crane & Heavy Haul- Unit 25 Project