

# Kinder Morgan Crane on Barge on Rail



**PROJECT:** Crane on Barge on Rail  
**CLIENT:** Kinder Morgan Shipyard River Terminal  
**LOCATION:** Charleston, SC  
**SERVICES:** Conceptual Design, Engineering and Construction Management

## DESCRIPTION:

River provided conceptual design, engineering and construction management for two gantry cranes mounted on barges at the Kinder Morgan SRT Terminal in Charleston, SC. These Gottwald cranes are the first and largest rail-mounted cranes ever installed on barges.

The two barges were initially built to handle bulk loads and were converted to crane barge service. They were selected and engineered to handle the weight of the cranes, including its gantry and product in the grab buckets during operating sequences. The barges are strengthened by adding 16 pre-fabricated, watertight bulkheads inside the barge hull. The gantry crane is capable of operating at full load capacity from any location on the barge (bow to stern), experiencing a total barge lift of less than three degrees.

The project included a marine survey of several barges that fit the design parameters of the crane operating envelope, the selection and procurement of the barge and crane, the selection of a shipyard to retrofit the barge, the naval architecture and engineering required to build the system, and the coordination of the barge fabrication, crane/gantry assembly, mounting of the assembly onto the barge and gantry crane certification. River accelerated the schedule by using fast-track construction methodology, the project took six months from construction to erection, while modifying engineering and design criteria to meet the present and future needs of the Client.

## PRINCIPAL FEATURES:

- First and largest rail-mounted cranes to be installed on barges
- Reinforced barges with 16 pre-fabricated, watertight bulkheads inside the hulls
- Selection of viable barges and conversion to meet needed specifications
- Gantry crane capability to operate at full load capacity anywhere on the barge

