



White Paper

## Coal Shiploaders for the Mississippi

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The author compares various shiploader designs and gives price estimates on the basis of mid 1980 bids covering marine construction and equipment. Three schemes were compared: traveling loader, dual radial loaders and single linear loader. These systems are ranked according to their production rate, manpower cost, system availability, power consumption, mechanical and electrical maintenance, marine and structural maintenance and for the case of a major shutdown. While these rankings only give a general picture, a detailed analysis can lead to exact capital costs and will underline the economic value of utilizing the best available technology for the loading of large coal arrives on the Mississippi.

There are a number of coal export terminals in the planning stage on the Mississippi. As the ship loading Installations represent a substantial part of the total investment, utilization of the best, most economical design can have great impact on the overall economics of the terminal.

Shiploding installations are expensive on the Mississippi, due to hurricane winds and poor soil conditions combined with a 20 to 40 ft variation In river elevation. Depending on the location, a berth providing 50 ft of water depth at low water level may have up to 90 ft of water depth at high water considerably increasing the cost of the marine structures.

In connection with a current project, at a location with large variation in water levels, we had the opportunity to compare various designs, on the basis of mid 1980 bids covering marine construction and equipment.