

“Where will our knowledge take you?”

Bunbury Port Ship Simulation

LANCO Infratech, Bunbury Port Authority



“ **BMT JFA investigated the potential for expansion of Bunbury Port to accommodate mini-Cape and Post Panamax class vessels using in-house navigation simulation software PC Rembrandt.** ”

In a study for LANCO Infratech and Bunbury Port Authority (BPA) in Bunbury, Western Australia, BMT JFA utilised PC Rembrandt software to assess the proposed expansion of Bunbury Port for a new coal export terminal.

PC Rembrandt is a 3D, real-time ship handling and manoeuvring simulator developed in-house by BMT. This simulation tool is used by pilots, ship operators, naval architects and port authorities for effective training and evaluation of navigable channels and harbours for expected conditions.

The proposed expansion works include enlarging Bunbury Port's inner harbour for two new bulk carrier berths for export of 12 million tonnes of coal per annum.

BMT JFA held a 3-day simulation workshop attended by the client and BMT JFA's experienced ship pilot, operator and modellers.

During the workshop, BMT JFA trialled harbour entry and exit manoeuvres, berthing, ship passing clearances and tug power requirements for mini-Cape and post-Panamax class vessels. The simulations also trialled a number of emergency response scenarios.

For a desktop-level analysis, BMT JFA confirmed the maximum wind conditions for safe ship traffic, recommended tug power requirements and confirmed the minimum safe under-keel clearances and lateral clearances required. Of most importance, the study outcomes indicated measures required to optimise the dredging footprint and port geometry to ensure adequate water space for ship passing, manoeuvring and swinging.

BMT JFA Role

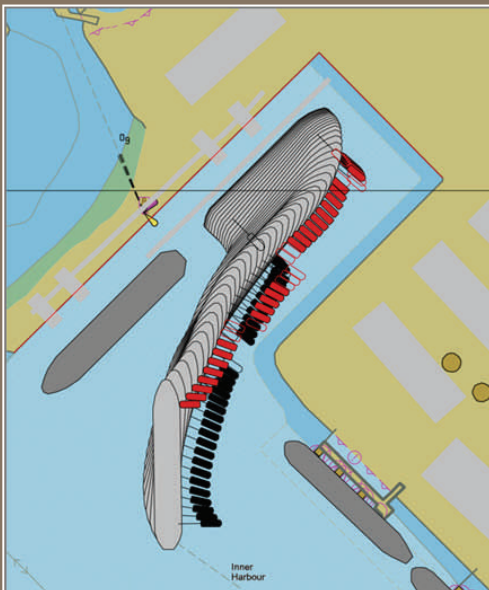
- Develop area model, operating conditions and simulation itinerary
- Development of ship models specifically for the project design vessels
- Host and facilitate simulation workshop with operation of PC Rembrandt
- Report on simulation runs with outcomes and recommendations based on expert advice from the pilot.
- Continuous advice and technical discussion through workshop feedback from industry experts

Services & Expertise Provided

- Operation of PC Rembrandt Ship Simulator
- Port and Harbours Planning and Engineering
- Wharf, Dredging, and Seawall Design Consulting.

Software

- PC Rembrandt



Location

Bunbury, Western Australia

Date

2012