

**FLOATING DRY DOCK
VESSEL TRANSFER CONCEPTS**

HEGER DRY DOCK, Inc.

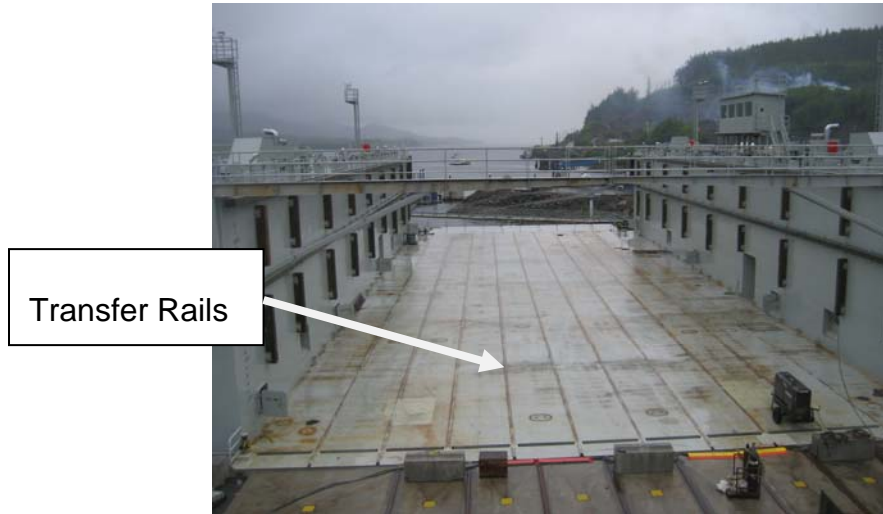
531 Concord Street
Holliston, Massachusetts

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1 – Vigor Ketchikan, Alaska – 2,500 Ton Transfer System

Description:

Floating dock has multiple lanes of steel rails at an 8' gage. Steel wheeled cars support vessel. No vertical jacking is possible. Number and spacing of cars can be adjusted as needed under the vessel. Vessel is pulled on or off the dock with wire rope winch.



**FIGURE 1-1
FLOATING DOCK WITH RAILS @ 8' GAGE**



**FIGURE 1-2
TRANSFER CAR**

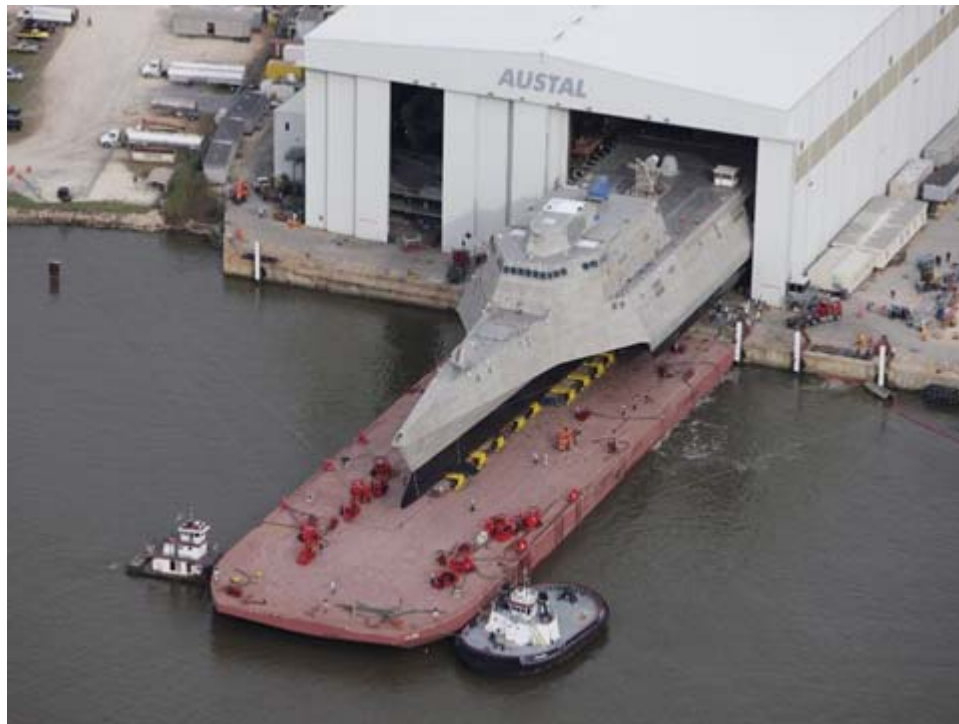
2 – AUSTAL, Mobile, Alabama – Transfer OF JHSV AND LCS

Description:

Vessel is rolled onto a barge using SPMT transporters. Barge is moved to BAE's 40,000 ton floating dock where vessel is rolled from barge onto floating dock for launch. Vessel is supported on steel cradles which SPMTs can roll under and then hydraulically pick up the vessel and set it down as required. AUSTAL hires the company Berard Transportation, Inc. to provide the SPMTs and move the vessel for each launch.



**FIGURE 2-1
JHSV BEING MOVED ON SPMTS**

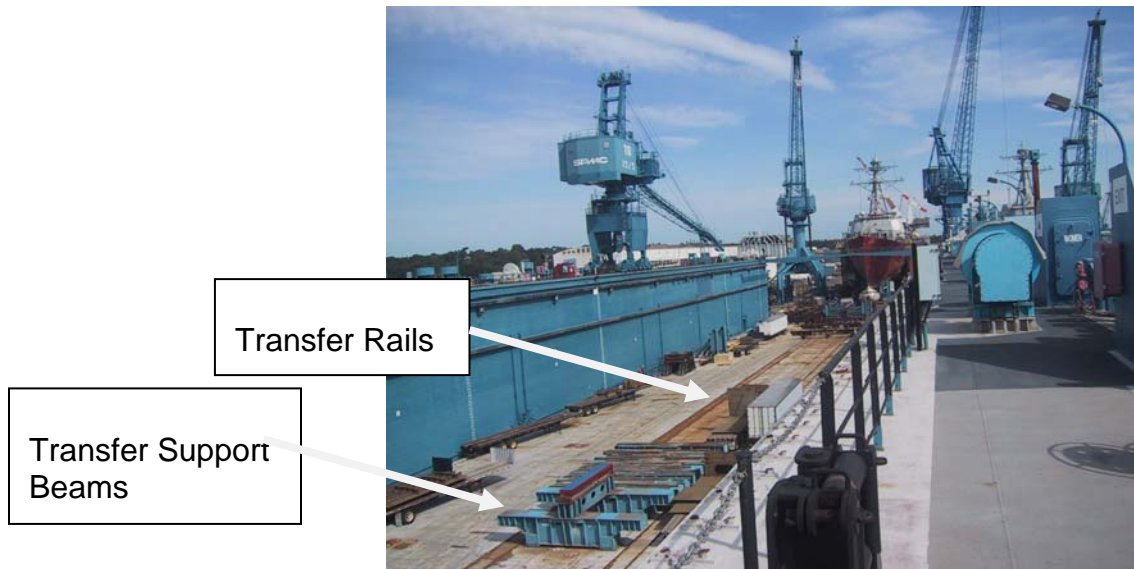


**FIGURE 2-2
LCS BEING MOVED ON SPMTS**

3 – BIW, Bath, Maine – 28,000 Ton Transfer System

Description:

Vessel is rolled onto a floating dock using TTS transporters. Floating dock is grounded on underwater grid support during transfer. Vessel is supported on steel cradles which TTS transporters can roll under and then hydraulically pick up the vessel and set it down as required. Each TTS car has a capacity of 250 tons. BIW also uses SPMTs to move large (500+/- ton) modules to the erection berth where the final ship is assembled.



**FIGURE 3-1
TTS CRADLES AND RAILS ON DECK**

4 – US Coast Guard Yard, Baltimore, MD –Transfer From Syncrolift

Description:

Syncrolift has steel rails. Steel wheeled cars support vessel. No vertical jacking is possible. Number and spacing of cars can be adjusted as needed under the vessel. Vessel is pulled on or off the dock with tractor.



**FIGURE 4-1
TRANSFER CAR**



**FIGURE 4-2
TRANSFER CAR**

5 – VT Halter, Pascagoula, MS – Side Transfer to Tilt Beam Launch

Description:

Side transfer on railroad car trucks to tilting launch beams. No vertical jacking is possible. Number and spacing of cars can be adjusted as needed under the vessel. Vessel is moved with winch.

Railroad Car Trucks



**FIGURE 5-1
TRANSFER CAR**

Tilt Beams

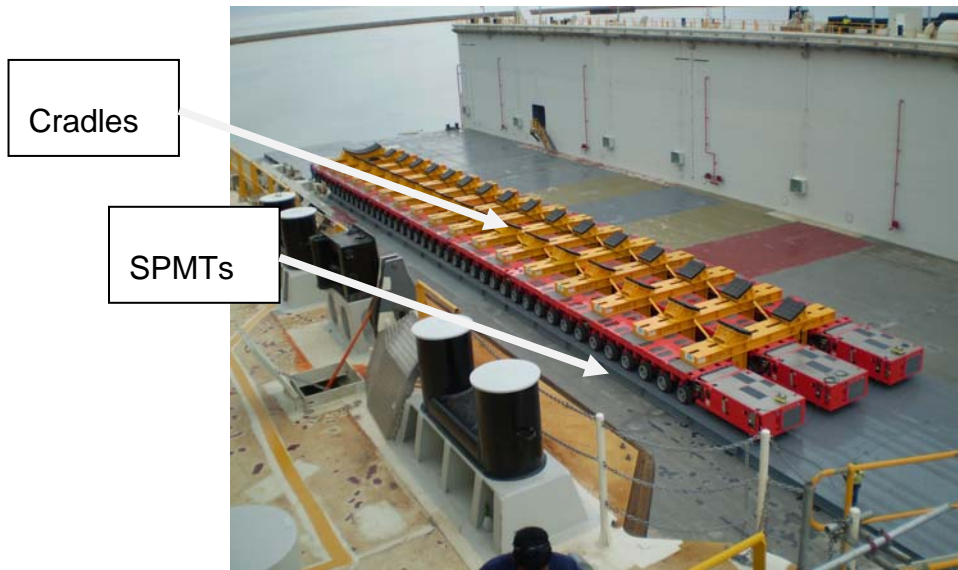


**FIGURE 5-2
TILT BEAMS**

6 – Australian Marine Complex, Australia –Transfer From Floating Dock

Description:

Vessel is transferred from floating dock to shore on SPMTs. Vessel is supported on steel cradles which SPMTs can roll under and then hydraulically pick up the vessel and set it down as required. The end of the floating dock is support on the slab with wing wall extension brackets.



**FIGURE 6-1
TRANSFER CAR**



**FIGURE 6-2
TRANSFER CAR**

7 – Huntington Ingalls, Pascagoula MS – 60,000 Ton Side Transfer System

Description:

Vessels are erected on a landside slab with transfer rails running East-West and North-South so movement can be in either direction. When complete, vessel is rolled onto a floating dock using Western Gear cars. Each car has a capacity of 150 tons. Some cars are powered to move the vessel and can also be jacked vertically. Transfer is from the side so the wing walls must be removed for the transfer. Floating dock is grounded on underwater grid support during transfer. Huntington Ingalls also transferred 1,000 to superstructures onto a barge using SPMTs. Huntington Ingalls is in the process of designing a new floating dock that will allow the transfer to take place without sitting on an underwater grid (using buoyancy).



**FIGURE 7-1
TTS CRADLES AND RAILS ON DECK**

8 – Electric Boat, Groton, CT –Transfer & Launch of Virginia & Ohio Class Submarines

Description: Transfer cars and rails are similar to Huntington Ingalls. Submarines are rolled longitudinally out of a building, then laterally onto a launch barge that is suspended inside a graving dock.

9 – Irving Shipbuilding, Halifax, NS –Transfer & Launch of 5,800 Ton Vessels

Description: Irving Shipyard is currently constructing a land level ship construction facility in Halifax, NS. They will utilize SPMTs to move large (500+ ton) modules to a final assembly area. Once assembled, the ship will be moved longitudinally onto a submersible barge using the SPMTs.

