MACGREGOR

RoRo conversions

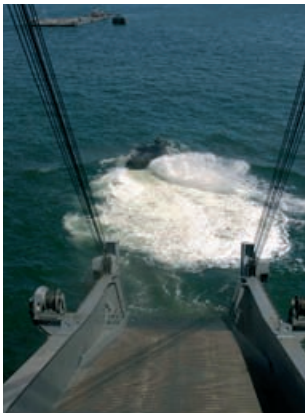
Slewing stern ramp conversions on naval LMSR ships

USNS DAHL, USNS SISLER, USNS SEAY, USNS PILILAAU

The slewing stern ramp before conversion

The slewing stern ramp after conversion

Load testing



The newly-converted ramp in operation

Background

The United States Naval organisation, Military Sealift Command (MSC), controls most of the replenishment and military transport ships of the US Navy. MSC's mission is to support the United States by delivering supplies and conducting specialised missions across the world's oceans.

MacGregor has a long-standing relationship with MSC and a history of successful deliveries and services including MacGregor RoRo outfits, ship cranes and hatch covers, and Kalmar rough terrain container handlers.

The challenge

In 2008 MacGregor's RoRo conversion team was asked to assess the feasibility of rebuilding previously-delivered slewing stern ramps on large medium-speed RoRo ships.

MSC required the slewing stern ramps to be converted to enable the launching of amphibious vehicles, while still retaining their original ramp strength characteristics. This was defined as supporting two A1M1 tanks with a 1.22m (4ft) separation, when discharging to a pier or RoRo discharge facility (RRDF).

The conversion solution

MacGregor's RoRo conversion team made an initial feasibility study on launching an advanced amphibious assault vehicle (AAAV) from a Watson-class vessel.

The results were found to be encouraging and in 2009 an order was signed for the delivery of design and key fittings for facilitating amphibious discharge for the LMSR vessel, *USNS Dahl* (T-AKR 312).

MacGregor's scope of supply:

- Design of equipment/control systems and key components including a hydrodynamic study
- The necessary certificates for components and class approval of design drawings
- Mechanical fittings: new manual securing devices sections 1 and 2, grating panels and W1 wire ropes
- Electrical components: updated PLC program and new instruction signs
- Updated operating maintenance manuals and spare parts list
- Installation assistance by a MacGregor engineer during the installation period and commissioning.

MacGregor has also delivered similar stern ramp conversions for the Watson-class LMSR vessel, *USNS Sisler* (T-AKR 311) and in a modified form to the Bob Hope-class vessels, *USNS Seay* (T-AKR 302) and *USNS Pililaau* (T-AKR 304).

USNS Dahl (T-AKR 312) Main particulars

Vessel type: large, medium-speed Roll-on/Roll-off Ship.
Owner: US Government-Owned; one of Military Sealift Command's 19 LMSR's and part of its 30-ship Prepositioning Program
Length: 290m (950ft)
Beam: 30m (100ft)
Draft: 10m (34 ft)
Displacement: 63,649 tonnes
Speed: 24.0 knots
Civilian personnel: 30 contract mariners
Military personnel: 5

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Lloyd's Register Quality Assurance certifies that the Quality Management System for MacGregor is ISO 9001:2008 compliant.

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