



Case Study : INS SINDHURAKSHAK - Submarine 877 EKM

Export of submarine from Eastern Naval Command, Vishakapatnam to Severodvinsk, Russia for refit

- This Project was awarded by the Ministry of Defence (Navy) , jointly to Hindustan Cargo Limited and Rolldock Shipping BV, Netherlands

- Cargo Specifications

Cargo : Submarine

- ~ Length : 74.50 mtrs including propeller
- ~ Width : 12.80 mtrs including stabilisers
- ~ Height : 14.73 mtrs including tower
- ~ Weight : 2560 Mtons

→ Scope of work

- ☞ Designing of craddles or dock blocks
- ☞ Customs Clearance
- ☞ Port Handling (2 port namely VPT and Naval Dockyard)
- ☞ Shipping to Severodvinsk, Russia



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JOB DESCRIPTION

Pre submarine loading activities

- Rolldock's Engineer arrived 25 days in advance to provide the drawing of the dock blocks/craddles to Navy Dockyard at Vishakapatnam, so that Navy could fabricate the dock blocks/craddles.
- Dock blocks were manufactured and placed on the wharf at navy berth N- 4 / 5
- Shipping was filed on 15th June, 2010
- VPT port notified about the arrival of the ship on 14th June, 2010
- Vessel m.v. Rolldock Sun arrived VPT port limits on 16th June, 2010 and was alongside navy berth on 17th June, 2010 at 0615 hrs
- The dock blocks were placed on the floor of the vessel hold and after completion of welding the Vessel m.v. Rolldock Sun was shifted to OB2 berth at VPT port on 20th June, 2010 pm hours



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Submarine loading activities

- On 21st June, 2010 ballasting work started. The ship had to be submerged to a depth of 6.3 mtrs because the total height of the submarine was 5.6 mtrs + height of the cradles 40 cms. But due to the swell caused by the rising tide the ballasting work was slow.
- Due to the swell there was a rolling movement and hence additional tugs was brought in to push the Vessel to the wharf in order to steady the vessel.
- The ship was submerged to the required depth and was stabilized at 1430 hrs on 21st June, 2010
- Navy was instructed to shift their submarine to OB2 berth whilst the ballasting was in its final stages



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Submarine loading activities

- The submarine was than towed into the Vizag harbour by the Navy tugs. The navy used 2 nos tugs to tow the submarine since their was a heavy swell
- Navy deployed their Destroyer D-49 to escort the submarine alongwith 3 nos lauches with Navy Commandos. The Deputy Conservator of the port and the Traffic Manager where also present to witness the operation
- Upon arrival the 2 lines where casted and all fasted to the submarine and slowly towed into the submerged vessel with the help of 2 nos winches.
- Once the submarine was pulled in, the deballasting work commenced. Under water cameras installed ensured that the submarine was getting lowered onto the pre welded sadlles.



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Submarine loading activities

- When the submarine completely rested onto the saddles / cradles / dock blocks it was lashed and secured. The stern ramp was then pulled up and locked.
- The ship was then steadied and this required time since the weight of the submarine indicated in the computer scale of the vessel m.v. Rolldock Sun showed the weight to be higher than the declared weight of 1998 tons. The weight indicated in the computer was 2560 tons.
- The entire operation was watched by the Commander in Chief of Navy from the helicopter.
- Once the vessel m.v. Rolldock Sun was steadied at 1200 hrs on 22st June, 2010 the port tugs were called in and the vessel was towed at 1650 hrs to the Navy harbour .



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Submarine loading activities

- The vessel took berth at navy harbour at 1830 hrs on 22nd June, 2010. The work of placing remaining side supports and welding commenced immediately upon berthing
- The welding / securing work was completed on 25th June, 2010 at 0830 hrs. The pilot was then called to sail the vessel. The tugs arrived at 1600 hrs on 25th June, 2010.
- The vessel m.v. Rolldock Sun sailed out at 1630 hrs on 25th June, 2010
- The vessel m.v. Rolldock Sun will sail to Russia via the Cape of Good Hope a total transit time of 37 – 40 days
- There are 6 nos Navy riders on the vessel to ensure that vessel does not call any unfriendly country on this voyage



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