

Conversion from Car Passenger Ferry into Passenger Ship

Builder: Shipyard TROGIR
 Name: LOGOS HOPE
 Owner: Educational Book Exhibits Ltd. (OM Ships International)
 Redelivered: December 2006



Original vessel ex GUSTAV VASA, ex NORRÖNA, is built 1974 by Werft Nobiskrug G.m.b.H., - Rendsburg as car passenger ferry and has following main dimensions:

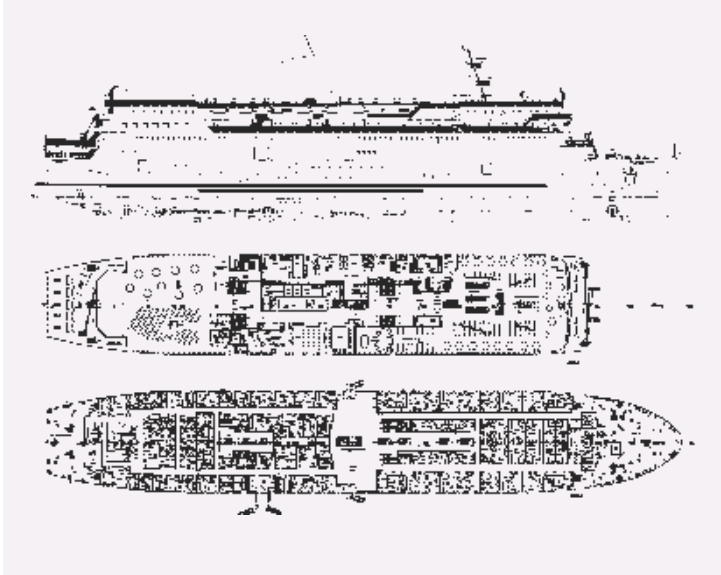
Length overall	abt. 132.50 m
Length p.p.	117.00 m
Breadth, moulded	20.80 m
Depth moulded to car deck	7.31 m
Depth moulded to deck 5	12.50 m
Subdivision draught moulded	5.20 m
Deadweight, after conversion	1,568 t

After conversion the vessel will carry 492 persons (crew and passengers) and will perform as floating book exhibition certified for unlimited international voyages.

- Installation of shell doors and side loading doors (totally 6)
- Installation of new portlights and windows
- Modification of mooring equipment
- Upgrading of fire / thermal insulation
- Installation of new partitions, paneling, ceiling, deck covering and wet units in accordance with new arrangement
- Outfitting of cabins
- Installation of strong steel shelves and bins in book storage space
- Installation of public toilets
- Installation of cold and hot water supply, grey and black waters collecting and discharge systems, new water firefighting system (sprinkler) for accommodation
- Relocation of bunkering / discharge stations P & S
- Installation of Hi-fog fire extinguishing system for all cabins, public and service spaces, including local fire extinguishing in machinery spaces and in galley
- Installation of new emergency generator set to cope with increased demand of high pressure hi-fog pumps
- Installation of new refrigerated store rooms
- Installation of new air handling units, ducting and spiral pipes with fire dampers and exhaust ventilation, including new chilled water distribution piping
- Installation of new water firefighting system (sprinkler) for accommodation
- Installation of complete electrical power supply system for new consumers, upgrading of main and emergency lighting and TPS system including installation or relocation of cable runs with racks and transits
- Installation of ISPS security lighting, dress lighting, low location lighting
- Installation of new public address system, telephone exchange with extensions, combined general / fire alarm system, fire door control, sprinkler monitoring system
- Installation of some components of bus control system
- Installation of wiring and cabinets for IT Network

Conversion has included

- Removal of hoistable car decks, flooding prevention doors, abt. 90% of all partitions, linings, ceilings, floor covering, furniture and air conditioning system, two life boats, water spraying system, garage ventilation and other redundant pipes, fittings and cables
- Exchange of all corroded steel material with new ones, dry docking with usual overhauling, maintenance and exchange of propellers / shafts, seals, bow thruster, stabilizers, sea chests, shell valves, anchors / chains and zinc anodes with renewal of underwater coating.
- Installation and upgrading of new/existing items of structure /equipment/ systems.
- Insertion of complete new mid-deck within garage space.
- Insertion of main fire bulkheads within garage, including new fire doors
- Extension of compass deck aft and restaurant deck with provision of carriage five cars
- Installation of two cargo lifts
- Installation of two cargo cranes, 32 KN at 10 m outreach
- Installation of all minor bulkheads in accordance with new arrangement



Conversion of Train Ferry to FPU (Floating Process Unit)

Builder: Shipyard VIKTOR LENAC
 Name: HELIX PRODUCER I
 Owner/Flag: Kommandor LLC, Bahama
 Designed by: Shipcon and NTD Offshore, DK
 Delivery: 2008



Classification: LR OI100A (1) Floating Production Unit, Multi Purpose Support Unit, (OIWS), PC, LI, LMC, UMS, DP (AA), PCR, Helicopter Landing Area

Length over all	161.5 m
Length between perpendiculars	154.7 m
Depth to main deck	14.2 m
Breadth molded	29.0 m
Draft	8.6 m
Deadweight	18,000 dwt
Main engines	6 off MAK 12 M 282
Total power	14,400 kW
Speed	12 kn
Complement	80 persons
Bollard pull	140 T

Equipment

- Provision crane
- 2 Offshore cranes (to be installed later)
- Gangway
- New lifeboats and rescue boat
- Preparation for Disconnectable Transfer System
- New mooring arrangement and equipment
- New navigation equipment
- New communication equipment

Accommodation

New accommodation block for crew of 80 persons
 HVAC system throughout the accommodation

Systems

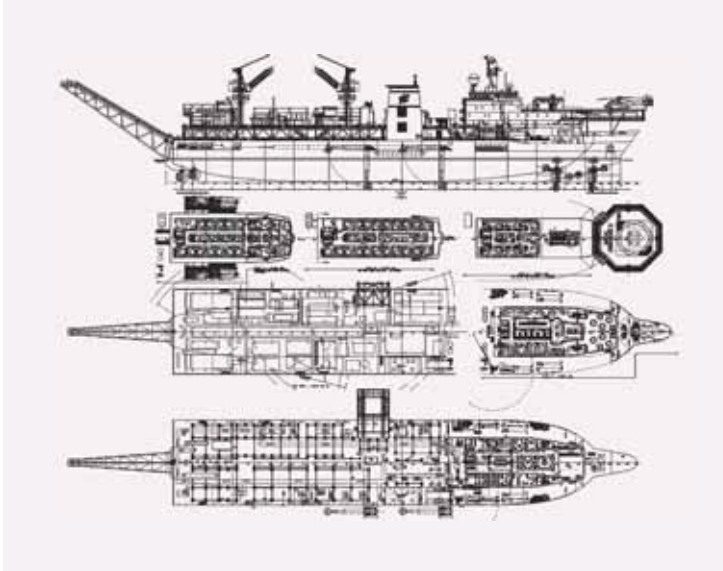
all ships and machinery systems were upgraded to accommodate requirements of the new topside process equipment, propulsion and DP systems and to comply with class requirements new electrical power supply and distribution systems

Hull work

- Widening of the vessel by installation of sponsons by 11.65 m
- New working deck
- New bow and forecastle
- Modification of the stern part
- New accommodation block
- Funnel
- Helideck
- Various bulkheads and reinforcements
- Totally installed 3500 tons of new steel

Propulsion and DP system

- 3 off azimuth thrusters
- 2 off tunnel thrusters
- 2 off retractable thrusters (to be installed later)
- 2 off side thrusters (to be installed later)
- DP system according to LRS (AA)
- Integrated Alarm, Control and Monitoring system



Ro/Ro General Cargo Vessel to Cable Laying Vessel Conversion

Builder: Shipyard VIKTOR LENAC
 Name: CS OCEANIC PRINCESS
 Owner: James Fisher (Logistics) Limited / England
 Designed by: BMT Shipdesign Ltd. / UK
 Redelivered: May 2001

Classification: DNV / Norway



	before conversion	after conversion
Length over all:	120.20 m	123.40 m
Breadth moduled:	21.00 m	21.00 m
Depth Working Deck:	14.50 m	14.50 m
Design Draught:	6.70 m	6.70 m

Steel work

- New accommodation consisting of a new deckhouse together with new accommodation constructed on the Main Deck for 40 people.
- 2 cable tanks, each with capacity of approximately 2500 tonnes.
- 2 spare cable tanks and 2 rope tanks.
- Shelter Deck erected over the Cable Working Deck
- Stern Whiskers with stern sheaves incorporated in new stern
- Cable Bight Slots, cable troughing stabilizer tank, new mooring deck
- New engine room
- Hull modifications due to installation of 3 bow thrusters and 2 azimuth thrusters

Totally installed 1,440 t of (new) steel.

Hull and Ship outfitting

- Lifeboat with davit, port and starboard
- Work boat with davit
- Installation of service crane 100 tm
- Installation of 5t Overhead crane bellow Shelter Deck
- Outfitting of new accommodation (for 40 people) and refurbishing of existing accommodation

Engines and Propulsion

- Removals of existing main engine, gearbox, shaft generator and bow thrusters
- Removals of existing rudder, rudderstock, controllable pitch propeller, shaft and steering
- Installation of new diesel generator sets, 2 x 3,130 kW & 2 x 2,340 kW
- Two azimuth thrusters installed 2 x 2,400 kW
- Three tunnel type bow thrusters 3 x 1,275 kW

Ship systems

- New Duplex Dinamyc Positioning Control System installed
- New Vessel Management System installed
- Installation of new navigation and communication equipment
- New electrical systems and services installed: Fire Detection, Public Adress, Computer Networks, Telephone System, TV System, Tank Monitoring and Valve Control System, PFE, Repeater & Cable Tank Temperature Monitoring System, Cable Laying System
- New Air Conditioning, Ventilation and Heating
- Modification or upgrading of all other ships system

Totally installed 99 t of miscellaneous pipelines
 Totally installed 109 km of miscellaneous cables

Cable laying equipment

- Installation of cable laying equipment
- Cable plough umbilical winch
- 60 t "A" frame
- 45 t cable drum engine
- 20 t linear cable engine
- 4 t linear cable engine
- 2 buoy handling davits
- Fabrication and installation of Cable Troughing

Ro/Ro General Cargo Vessel to Cable Laying Vessel Conversion

Builder: Shipyard VIKTOR LENAC
 Name: CS OCEANIC PEARL
 Owner: James Fisher (Logistics) Limited / England
 Designed by: BMT Shipdesign Ltd. / UK
 Redelivered: December 2001



Classification: BV / Norway

	before conversion	after conversion
Length over all:	95.30 m	108.61 m
Breadth moduled:	18.00 m	18.00 m
Depth Working Deck:	9.20 m	9.20 m
Design Draught:	5.10 m	6.80 m

Steel work

- New midbody section (180 T) for vessel lengthening 10.5 m
- New accommodation consisting of a new deckhouse together with new accommodation constructed on the Main Deck for 60 people
- 3 cable tanks, two with capacity of approximately 1600 tonnes, and one cable tanks 1000 tonnes and one rope tanks
- Shelter Deck erected over the Cable Working Deck
- Stern Whiskers with stern sheaves incorporated in new stern
- Cable Bight Slots, cable troughing stabilizer tank, new mooring deck
- New engine room
- Hull modifications due to installation of 3 bow thrusters and 2 azimuth thrusters

Totally installed 1,410 t of new steel.

Hull and Ship outfitting

- Lifeboat with davit, port and starboard
- Work boat with davit
- Removal of one existing crane and reinstallation of service crane 100 tm
- Installation of 5 t Overhead crane bellow Shelter Deck
- Outfitting of new accommodation (for 40 people) and refurbishing of existing accommodation and outfitting of technical spaces.

Engines and Propulsion

- Removals of existing main engine, gearbox, shaft generator and bow thrusters
- Removals of existing rudder, rudderstock, propellers, shaft and steering gear
- Installation of new diesel generator sets, 2 x 2,340 kW and generators 2 x 1,740 kW
- Two azimuth thrusters installed 2 x 1,600 kW
- Three tunnel type bow thrusters 3 x 1,000 kW

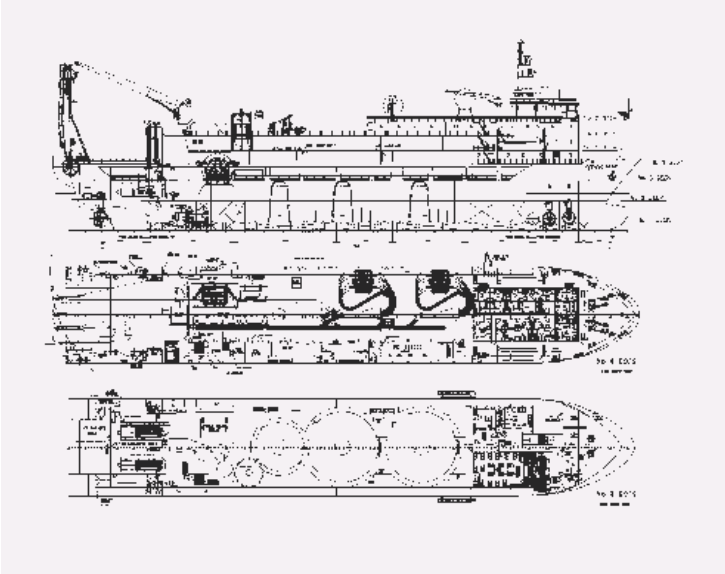
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- New electrical systems and services installed: Fire Detection, Public Adress, Computer Networks, Telephone System, TV System, Tank Monitoring and Valve Control System, PFE, Repeater & Cable Tank Temperature Monitoring System, Cable Laying System
- New Air Conditioning, Ventilation and Heating
- Modification or upgrading of all other ships system

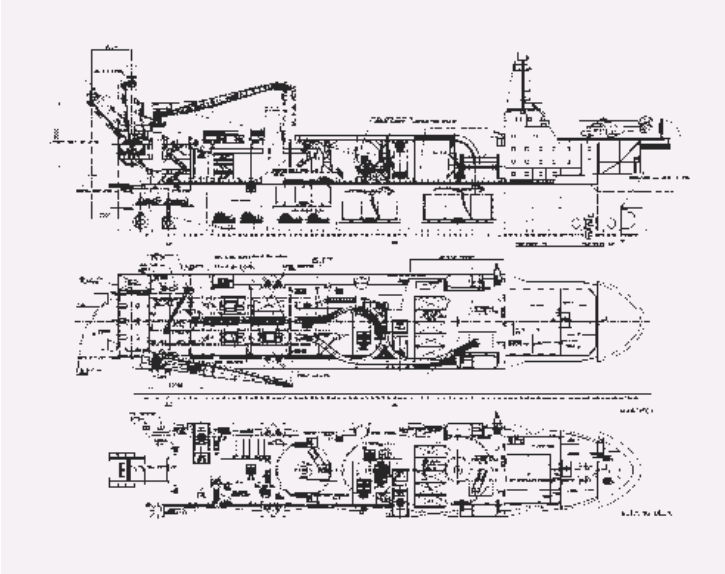
Totally installed 128 t of miscellaneous pipelines
 Totally installed 125 km of miscellaneous cables

Cable laying equipment

- Installation of cable laying equipment
- Cable plough umbilical winch
- 60 t "A" frame
- 45 t Cable plough tow winch
- 45 t cable drum engine
- 20 t linear cable engine
- 4 t linear cable engine
- 2 buoy handling davits
- Installation of Cable Troughing



Conversion of Rov Support Vessel to Pipe Laying Vessel



Builder: Shipyard VIKTOR LENAC
 Name: KOMMANDOR 3000
 Owner: Hays ships Ltd., UK
 Yard: Shipyard Viktor Lenac
 Redelivered: July 1999

Classification: LR ±100A 1± LMC, UMS, DP/(AA)
 TD/E for submersible equipment, helideck, pipe laying and pipe hoisting equipment

	before conversion	after conversion
Length overall (Loa)	85.52 m	118.37 m
Breadth (B)	18.00 m	21.00 m
Maximum draught	4.60 m	4.90 m
Dwt	2,609 t	3,400 t

MARINE PART

Steel works

- New parallelmid body section, length 20.91m, breadth 21 m, 325t steel
- New blister section, 220t of steel
- New main deck, 80t of steel
- Various foundations and reinforcements fabrication
- Forming of working areas and spaces under deck
- Construction of deck houses

Electrical works

- Switchboards and electric equipment installation
- Electric cabling

Machinery

- Installation of bow thruster, power 1,000 kW
- VROS propeller installation, power 1,800 kW
- Auxiliary diesel engines installation (4 pcs) power 1,450 kVA/1.160 kW, 60 Hz and forming of 2 new engine rooms
- Installation of incinerator, power 465 kW
- Installation of 2 new funnels, vessel systems upgrade (fuel, lube, cooling water, fresh water, etc.)

PIPE LAYING PART

Steel works

- Pipelay deck fabrication, 350t of steel
- Construction of sheaves for guiding pipes

- Construction of retractable stern hydraulic platform
- Miscellaneous smaller deck equipment fabrication, 90 t of steel

Electrical works

- Electric cabling
- Installation of devices and equipment for pipelaying process control
- Installation of CCTV and communication equipment

Hydraulic systems

- Installation of hydraulic power packs and pipelines
- Installation of devices and equipment for technological equipment control

Pipe Laying Equipment

- Installation of the complete sophisticated pipelaying process equipment
- Special umbilical winches, 2 pcs, total capacity: 4 x 4,000 m umbilical pipes
- Winches 200t, 100t, 50t, 30t
- Tensioners, 3 units, tension force 55t each
- Cranes, 2 units, load capacity 30t
- Stern 'A' frame, 200t capacity
- Sheaves, smaller winches
- Racks for flexible pipes (carousels), 3 pcs, diameter of each rack 16m, capacity 1,500t each, max. diameter of flexible pipes 300 mm
- Various smaller process equipment and devices
- Outfitting of the woking areas, workshops and ROV control room

Testing

- Testing of installed systems and equipment including sea trials

Supplier Vessel to Pipe Laying Vessel

Builder: Shipyard VIKTOR LENAC
 Name: LOCHNAGAR
 Owner: Farstaad Shipping ASA / Norway
 Orderer: DSND Sondenfjeldske ASA / Norway
 Designed by: Nordvest Consult
 Redelivered: September 1998



Classification: DNV

	before conversion:
Length overall:	82.40 m
Breadth moduled:	18.00 m
Max. draught:	4.65 m
Design Draught:	5.10 m
DWT:	2,735 t

Electric work

- Switchboards and electric equipment installation
- Electric cabling
- Installation of devices and equipment for technological equipment control
- Installation of CCTV control and communication

Steel work

- Parallel midbody section installed, 450 t of steel
- New blister section installed, length 60.5 m
- New "weather deck" including shell planting panels, length approx. 59 m
- Pipelay deck fabrication 600t
- Mics. Foundations and reinforcements fabrication

Total new built-in steel is approx 2,250 t

Hull and Ship outfitting

- Installation of HPU
- Installation of hydraulic system for driving technological equipment
- Installation of complete sophisticated technological equipment for pipe laying
- Winches 200 t, 120 t, 60 t, 40 t and special umbilical winches
- tensioner units 5, tension force 55 t each
- crane units 2, load capacity 30 t each
- Stern sheaves and "A" frame
- ROV
- Storage for flexible pipes units 2, max. diameter of flexible pipes 300mm

Machinery

- Bow thruster installed, power 590 kW
- VROS propeller installed, power 1,800 kW
- Main engine installed, power 2,120 kW
- Auxiliary diesel generator (3 units) installed, power 968 kW

