Base Load Power Hub (BLPH)

TRANSPORT MANUAL

Document Number: 123A90-DDL-TI-RE-99011

Document Class: 1

2	31/07/2025	Accepted for Construction (AFC)	A.Balzarotti	A.Penserino	C.Giunchi
1	05/05/2025	Accepted for Construction (AFC)	A.Balzarotti	A.Penserino	C.Giunchi
0	24/03/2025	Issued for Approval (IFA)	A.Balzarotti	A.Penserino	D.LoSterzo
Rev.	Date	Description	Prepared	Reviewed	Approved
TECON					

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Revision / Change Log

Rev.	Description
00	Issued for Approval (IFA)
01	Accepted for Construction (AFC)
02	Accepted for Construction (AFC)

HOLDS LIST

No.	Description
1	
2	
3	
4	

Table of contents

1 INTRODUCTION 6

1.1 PROJECT OVERVIEW 6

1.1.1 Project Location 6

1.1.2 Project Concept 7

2 DOCUMENT SCOPE 9

3 REFERENCES 11

3.1 CODES AND STANDARDS 11

3.2 COMPANY SPECIFICATIONS 11

3.3 PROJECT DOCUMENTS 11

4 DEFINITIONS AND ABBREVIATIONS 13

5 ROLES AND RESPONIBILITIES 15

5.1 MARINE WARRANTY SURVEYOR 15

5.2 TUG MASTER 15

5.3 COMPANY 15

6 MARINE SPREAD 16

6.1 TRANSPORTATION BARGE DETAILS 16

6.2 SELECTED TUG 16

7 TRANSPORTATION 17

7.1 NAVAL ANALYSIS 17

7.1.1 Towline Pull Required 17

7.2 TOWING ARRANGEMENTS 17

7.3 PREPARATION FOR TOWING 18

8 TOW TO SITE 19

8.1 NOTIFICATION 19

8.2 TUG MOBILIZATION 19

8.3 READINESS REVIEWS 19

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

8.4 DECISION TO TOW 19
8.5 MANOEUVRING PLAN 19
8.6 TOWING ROUTE 19
8.6.1 Towage to Site 20
8.6.2 Communication Systems and Plan 21
8.6.3 Report Tow Status and Towing Progress Report (Daily Progress Report) 22
8.7 WEATHER FORECAST 24
8.7.1 Operational limits 24
8.7.2 Contingency Plans 25
8.7.3 Inspection during Towage 29
8.7.4 Post Towage Inspection 29
9 ATTACHMENT 1 – TOWING BRIDLE ARRANGEMENT & CERTIFICATES 30
10 ATTACHMENT 2 – TUG BP CERTIFICATE AND TOW WIRE CERTIFICATE 31
11 ATTACHMENT 3 – PASSAGE PLAN PREPARRED BY TUG MASTER 32
12 ATTACHMENT 4 – SHELTER AREA (if req'd) 33
13 ATTACHMENT 5 – BOLLARD PULL CALCULATION 34
14 ATTACHMENT 6 – HAND-OVER PROCEDURES 35

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

List of Figures

Figure 1 - HOLLANDSE KUST NOORD WIND PARK Location Map 6
Figure 2 - Wind Park Details 7
Figure 3 – BLPH Concept 7
Figure 4 – Barge Layout and view 10
Figure 5 – Towing route from Ravenna to Eemshaven 20

List of Tables

Table 1 – Transported loads 9
Table 2 - Definitions and Abbreviations 14
Table 3 – Criteria for TPR 17
Table 4 – Extent of NDT 18
Table 5 – Departure criteria 19
Table 6 – Organization and Communication Chart 21
Table 7 – Deteriorating Weather 26
Table 8 – Tug Failure 27
Table 9 – Tow line Failure 28

List of Attachments

Attachment 1 – Towing bridle arrangement & certificates
Attachment 2 – Tug BP certificates and tow wire certificates
Attachment 3 – Passage plan
Attachment 4 – Shelter areas
Attachment 5 – BP calculation
Attachment 6 – Hand-over procedures

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

1 INTRODUCTION

1.1 PROJECT OVERVIEW

Crosswind, a Shell and Eneco joint venture, was awarded the tender to develop the offshore Hollandse Kust Noord (HKN) wind farm, located 18.5km off the coast of Netherlands near the town of Egmond aan Zee. The consortium plans to have HKN operational in 2023 with an installed capacity of 759MW generating at least 3.3TWh per year. This is sufficient renewable power to supply more than 1 million Dutch households with green electricity.

Offshore wind farms produce intermittent electricity and balancing these dips and peaks and integrating this electricity into the national energy system requires new technologies. For this reason, the offshore wind farm will include several new technologies that could be implemented at full-scale in the future. The new technologies being explored include a floating solar park, a short-duration battery storage as well as long-term storage via green hydrogen produced by water electrolysis and subsequently consumed in a fuel cell. The combination of these individual measures, herein referred to as the Base Load Power Hub (BLPH) will ensure a continuous power supply regardless of the wind situation.

1.1.1 Project Location

The Hollandse Kust Noord (HKN) wind farm is located 18.5km off the coast of the Netherlands near the town of Egmond aan Zee.

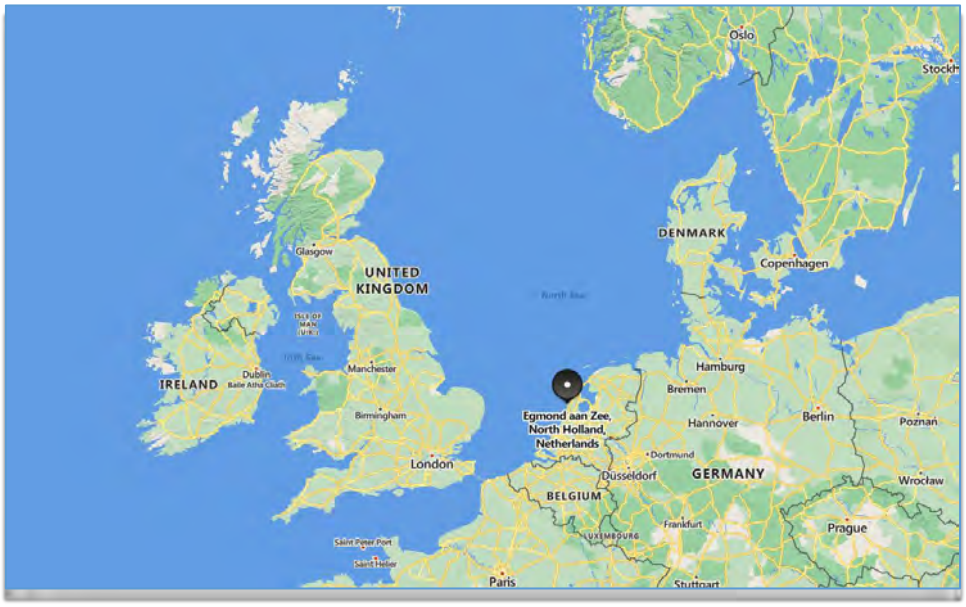


Figure 1 - HOLLANDSE KUST NOORD WIND PARK Location Map

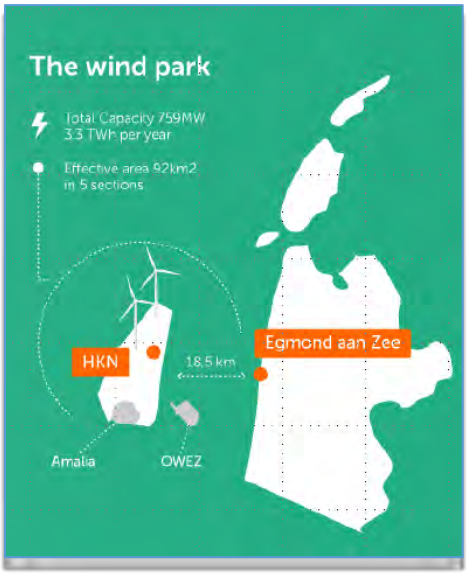


Figure 2 - Wind Park Details

The wind farm will consist of No. 69 x 11.5MW wind turbine generators each to be installed on a dedicated monopile structure. A 70th monopile located on coordinates E 590719.1, N 5841602.3 is reserved for installing the platform accommodating the BLPH. The monopile structure was designed and installed by Van Oord Offshore Wind (VooW) and therefore not part of the BLPH scope.

1.1.2 Project Concept

All components included in the BLPH will be integrated onshore on a topsides and installed in an offshore location within the boundaries of the HKN wind farm. At its simplest, the BLPH will store energy during periods of high electricity generation from renewable sources (a wind turbine generator and the floating solar PV farm) and release it during periods of low generation. In practice. It is expected that the energy stored will supplement generation from renewable sources to ensure that at least 1.0MW of power is exported to the electrical grid regardless of wind/solar availability.

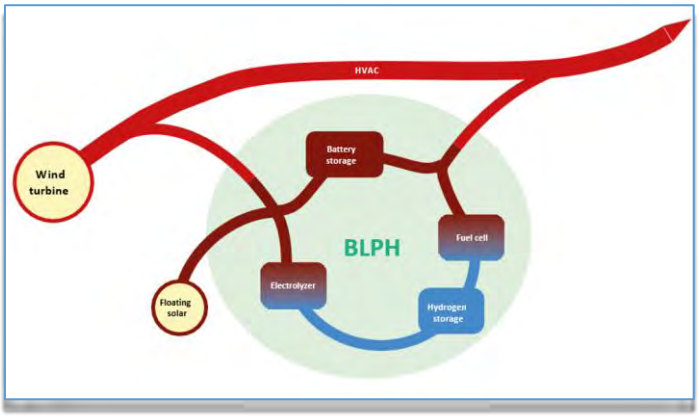


Figure 3 – BLPH Concept

Electricity in the BLPH will be stored in the form of electrons in a battery energy storage system (BESS) as well as converted into green hydrogen via water electrolysis. When the power output from the connecting wind turbine drops to below 1 MWe, the BLPH will return its stored energy to supplement the remaining power output. This will be by discharging the BESS, while stored hydrogen will be converted back into electricity using a fuel cell to extend the discharge duration.

The purpose of the BLPH s to function as a testbed for the integration of energy storage technologies with renewable generation. It is expected that equipment installed on the BLPH will operate as Normally Unmanned Installation for at least two (2) years with no or minimal maintenance and it will have its own independent control room with the ability to communicate with Crosswind's control room.

2 DOCUMENT SCOPE

This report presents the information, certificates, and instruction necessary to perform the transportation from Ravenna (Italy) to Eemshaven port (The Netherland) of the BLPH topside, transition piece and caissons.

- Start of Towing = Ravenna (IT)
- End of Towing = Eemshaven (NL)
- Tow window = August – Sept. 2025
- Time of Tow = about 27 days (+3 days contingency)
- Tow type = Restricted Tow

The selected transportation barge is the VERVECE cargo barge, owned by OCEAN, towed by AHT-FORT tug. Details of marine spread is presented in Section 6. The following figure and Table present the arrangement on barge deck and transported items weights. The barge draft is set equal to 2.50m at bow having 0.80m trim to stern.

cargo ID	Cargo Description	W (ton)	(CoG coordinates from: bow / CL / deck)		
			x (m)	y (m)	z (m) excluded barge height (6.10m)
BLPH	BLPH topside	1700	31.16	-1.24	9.67
TP	Transition Piece	254.5	65.41	-2.42	5.70
BLPH-GS	Topside grillage and SF	75	30.86	-1.14	1.25
TP-GS	TP grillage and SF	45	65.20	-2.92	1.30
CF	Caisson Frame	30	69.38	11.22	1.45
CF-GS	Caisson Frame grillage and SF	0.5	67.44	11.22	1.00
		2105 t			

Table 1 – Transported loads

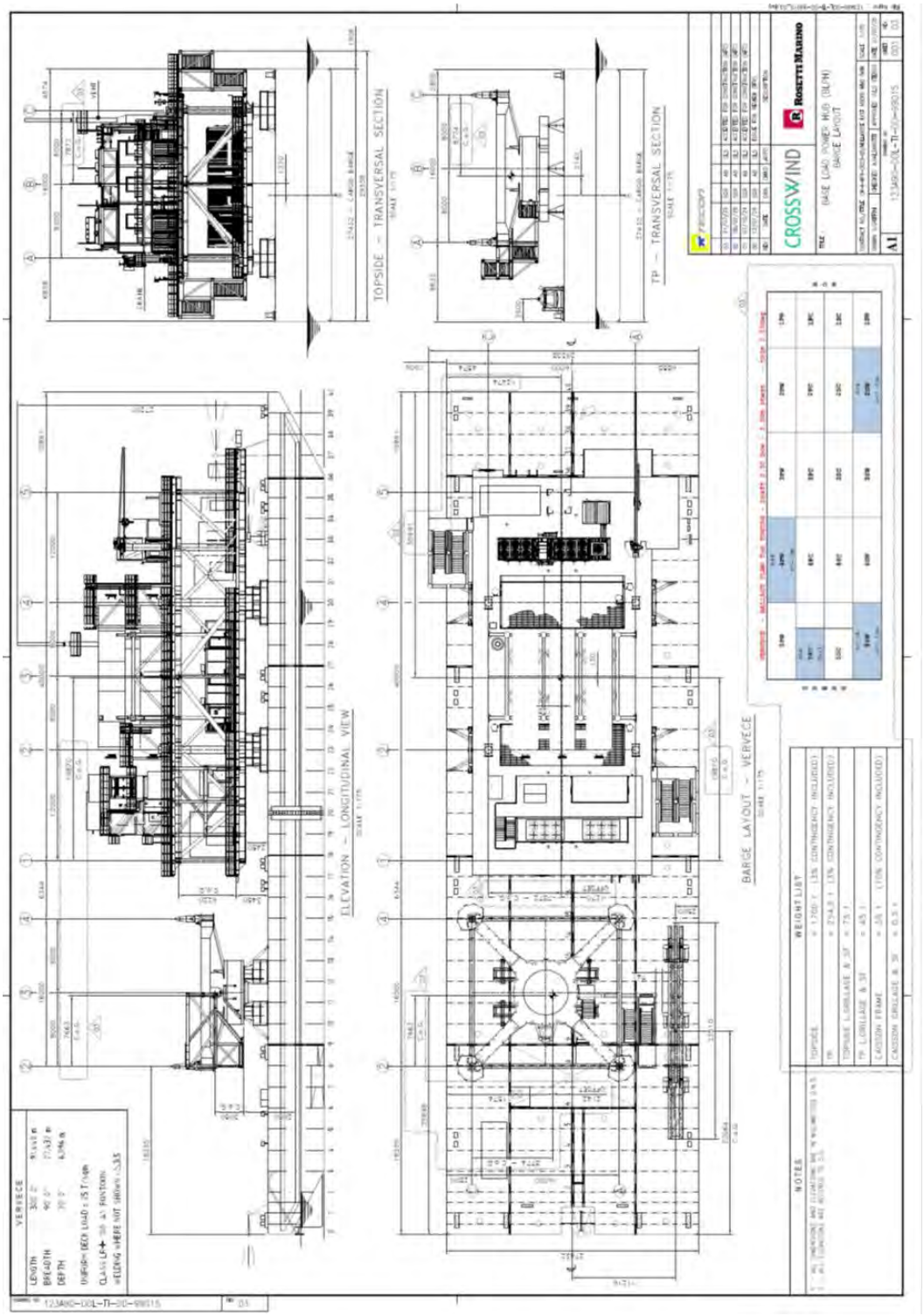


Figure 4 – Barge Layout and view

3 REFERENCES

3.1 CODES AND STANDARDS

Doc. No.	Description
/1/ BS EN ISO 19901-6	Specific requirements for offshore structures – Part 6: Marine Operations – 2009
/2/ DNV-ST-N001	DNV - Marine operation and marine warranty - 2023
/3/ DNV-ST-0145	DNV, Offshore substations
/4/ DNV-RP-C203	DNV, Fatigue design of offshore steel structures, September 2019 and Amendment January 2020
/5/ DNV-RP-C205	DNV - Environmental conditions and environmental loads, 2023.
/6/ DNV-ST-0126	Support structures for wind turbine, 2018

3.2 COMPANY SPECIFICATIONS

Doc. No.	Description
/7/ DEP 37.19.00.12	Gen - Offshore Topsides Structures, 2021
/8/ DEP 37.19.00.30	Gen - Fixed Steel Offshore Structures (Adoption of IOGP S-631-11, Amendments / Supplements to ISO 19902:2020), 2021
/9/ DEP 37.81.10.19	Gen - Marine Operations Requirements – Loadout, Transportation and Installation of Offshore Structures (Amendments / Supplements to ISO 19901-6), 2021

3.3 PROJECT DOCUMENTS

Doc. No.	Description
/10/ 123A90-DDL-ST-SP-90017	Structural Design Basis
/11/ 123A90-DDL-MD-RE-01006	Monthly Weight Report – rev. July 24
/12/ 123A90-DDL-PP-DS-70070	BLPH Platform - Plot Plan Lower & Upper Deck
/13/ 123A90-DDL-ST-SP-90018	Structural Material Specification for Topside and TP
/14/ 123A90-DDL-ST-SP-90118	Structural Material Specification for Flange and Bolts
/15/ 123A90-DDL-TI-SP-99014	Specification for TP, Topside and Caissons Transportation and Installation
/16/ 123A90-DDL-TI-DD-99015	BLPH Platform – Barge Layout
/17/ 123A90-DDL-ST-TN-90119	Evaluating ISO and DNV Approaches

/18/ 123A90-DDL-TI-DD-99021	BLPH – Topside – Grillage Assembly
/19/ 123A90-DDL-TI-DD-99023	BLPH – Topside – Grillage – Plan and Section
/20/ 123A90-DDL-TI-DD-99024	BLPH – Sea Fastening - Assembly
/21/ 123A90-DDL-TI-DD-99025	BLPH – Sea Fastening - Details
/22/ 123A90-DDL-ST-RE-90002	BLPH – Topside Transportation Analysis
/23/ 123A90-DDL-ST-RE-90003	BLPH – Topside Fatigue Transportation Analysis
/24/ 123A90-DDL-TI-RE-99001	BLPH – Topside Grillage and Sea Fastening Design Report
/25/ 123A90-DDL-TI-RE-99003	Validation of TP Grillage and SF on barge Vervece
/26/ 123A90-DDL-TI-RE-99004	TP – Grillage and Sea Fastening Design Report
/27/ 123A90-DDL-TI-DD-99036	BLPH - TP - Upper Grillage - Plan View
/28/ 123A90-DDL-TI-DD-99037	BLPH - TP - Upper Grillage - Sections
/29/ 123A90-DDL-TI-DD-99038	BLPH - TP - Upper Grillage - Sections and Details
/30/ 123A90-DDL-TI-DD-99039	TP - Sea Fastening Drawing – Assembly
/31/ 123A90-DDL-TI-DD-99040	TP - Sea Fastening Drawing - Details
/32/ 123A90-DDL-ST-RE-90010	TP – Transportation Fatigue Analysis
/33/ 123A90-DDL-ST-RE-90015	Caisson Frame – In service, Lifting and transportation design report
/34/ 123A90-DDL-ST-DD-90094	Caisson frame – Elevations
/35/ 123A90-DDL-ST-DD-90095	Caisson frame - Details
/36/ 123A90-DDL-ST-DD-90096	Caisson frame - Details
/37/ 123A90-DDL-TI-DD-99007	Caisson – Grillage and Sea fastening Design report
/38/ 123A90-DDL-TI-DD-99047	CF – Grillage drawing
/39/ 123A90-DDL-TI-DD-99048	CF – Sea fastening drawing
/40/ RI-82304	Vervece Loading Manual including Stability booklet
/41/ 123A90-DDL-TI-DD-99009	Transport Barge Stability and BP calculation

4 DEFINITIONS AND ABBREVIATIONS

COMPANY or Client (CPY)	Crosswind
CONTRACTOR (CTR)	ROSETTI MARINO S.p.A.
PROJECT	HOLLANDSE KUST NOORD WIND PARK Project
TRANSPORT CONTRACTOR	OCEAN
BLPH	Base Load Power Hub
BESS	BATTERY ENERGY STORAGE SYSTEM
BLPH	Base Load Power Hub
BP	Bollard Pull
CF	Caisson Frame
CL	Concentrated Load
CoG	Centre of Gravity
CTV	Crew Transfer Vessel
CW	CrossWind
DAF	Dynamic Amplification Factor
DFF	Damage Fatigue Factors
DNV	Det Norske Veritas
El.	Elevation
EPCI	Engineering Procurement Construction and Installation
FEED	Front End Engineering Design
HAT	Highest Astronomical Tide
HKN	Hollandse Kust Noord
LAT	Lowest Astronomical Tide
LRFD	Load and Resistance Factor Design
MSL	Mean Sea Level
NTE	Not-to-Exceed
OD	Outside Diameter
PAU	Pre-Assembled Unit (H2 Vessels)
PG	Plate Girder

T&I	Transport & Installation
ToS	Top of Steel
TP	Transition Piece
TPR	Towline pull required
UC	Unity Check
UDL	Uniformly Distributed Load
VIV	Vortex Induced Vibration
VOOW	Van Oord Offshore Wind
WTG	Wind Turbine Generator
W2W	Walk to Work

Table 2 - Definitions and Abbreviations

5 ROLES AND RESPONIBILITIES

The general roles and responsibilities for this document are defined as follows:

5.1 MARINE WARRANTY SURVEYOR

The Marine Warranty Surveyor is responsible of the inspection of the transport spread and of the operation. The correct release of the Certificates of Approval relevant to the above inspections is MWS responsibility.

MWS will release the CoA at departure of the FORT from Ravenna and at the start of each sector along the route.

5.2 TUG MASTER

The tug Master remains solely responsible for the tug, for the towing arrangements and for the towing during the voyage.

If any special situations arise during the towage and the Master is unable to comply with any specific recommendations, agreed procedures or International Regulations, then he shall take such measures he deems appropriate for the safety of life and property. MWS, Company and Contractor shall be informed as soon as practical of any such circumstances.

5.3 COMPANY

Company shall approve this document as part of the any towing certificate.

6 MARINE SPREAD

This section presents the selected TUG and cargo barge.

6.1 TRANSPORTATION BARGE DETAILS

The VERVECE barge is used in transporting the Topside, Transition piece and Caisson frame. Details of this barge are as below.

- Barge Name: VERVECE
- LOA: 91.50 m
- Breadth: 27.40 m
- Depth: 6.10 m
- Frame Spacing: 2.286 m
- Light ship: 1833 t
- Towing gear arrangement: see Attachment 1.

6.2 SELECTED TUG

The AHT-Fort tug is used to tow the cargo barge. Details of this Tug are as below.

- Tug Name: Fort
- IMO No. 9388467
- Flag/Port of registry: Madeira/Portugal
- LOA: 45.64 m
- Breadth: 13.20 m
- Depth: 5.30 m
- Bollard pull: 75 t
- Tow wire: MT x dia. mm. See Attachment 2

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

7 TRANSPORTATION

7.1 NAVAL ANALYSIS

For naval transportation analysis refer to reports Ref./22//23//24/ (topside), /25//26//32/(TP), /33//37/ (CF). The report covers the intact and damaged stability check and the hull longitudinal strength check. All stability and strength requirement are satisfied, Ref. /41/.

7.1.1 Towline Pull Required

The min. bollard pull calculation has been performed considering the towing route, described in section 8.6, for a whole length of about 3200 NM, and the meteorological criteria as per Table 11-6of Ref./2/.

Table 11-16 Meteorological criteria for calculating TPR (towline pull required)

Section	*Condition*	*H_s [m]*	*Wind [m/sec]*	*Current [m/sec]*
[11.12.2.3]	Standard	5	20	0.5
[11.12.2.3]	Benign weather areas	As agreed with the MWS company but not less than:		
		2	15	0.5
[11.12.2.4]	Limited sea room	Design	Design (1 hour mean)	0.5 or predicted current if greater
[11.12.2.5]	Weather restricted towage	To document that the tow will maintain forward speed under all possible weather conditions and to render probable that the tow can be carried out within T_{POP}.		
[11.12.2.6]	< 24 hour staged tow or < 24 hour jack-up move	3	15	0.5 or predicted current if greater
[11.12.2.7]	Sheltered from waves	As agreed with the MWS company.		

Table 3 – Criteria for TPR

BP calculation is presented in section 8.7.1 and in Appendix 5. Limitations were defined considering the Tug BP and the requested TPR.

The full cargo surfaces have been considered in calculation, hence 30x20m of cargo windage area has been introduced in calculation with shape coefficient 1.30 to consider the exposed plate girders and beams.

7.2 TOWING ARRANGEMENTS

The towing arrangement is shown in the Attachment 1.

Certificates of the towing gears are available on board for MWS inspection and reported in Attachment 1 and 2.

7.3 PREPARATION FOR TOWING

Prior starting the tow the following checks shall be performed as a minimum:

- Check that all cargo items are placed in the correct position, as per structural drawings approved by Client
- Check that all seafastening is installed, welded and NDT inspected as required.

  Gr&SF material have been categorized as DC3, SQL II (ref. Structural design basis Ref. /10/, section 7). Accordingly, table in Structural Material Specification, defines the extent of NDT.

Steel Classification	Inspection Category[11]		Type of Connection	Visual Examination	RT	UT	MPI
	ISO	EEMUA					
DC1 and DC2[9]	A[13]	I	Butt Welds	100%	10%	100%	100%
			T. K. Y. joints[16]		-	100%	100%
			Fillet welds		-	-	100%
DC3 and DC4	C[13,14]	III	Butt Welds	100%	Spot[15]	50%[14,17]	50%[14,17]
			T. K. Y. joints[16]		-	50%[14,17]	50%[14,17]
			Fillet welds		-	-	50%[14,17]
DC5	D	V	All welds	100%			10%
	E	N/A	All welds	100%			

Table 4 – Extent of NDT

- Check that the barge ballast is in accordance with the ballast plan for towing
- Check that the towing line is properly connected
- Refuelling is planned in Gibraltar, Master to confirm the port entry procedure or barge to barge refuelling plan.

Perform any other checks requested by MWS to obtain the approval for towing.

8 TOW TO SITE

8.1 NOTIFICATION

Contractor will be responsible for notifying the Harbour Authorities that the tow will commence.

8.2 TUG MOBILIZATION

The Pilot, the towing and port handling tugs will be mobilized in due time to meet the sail away date.

8.3 READINESS REVIEWS

Sail-away barge and tug inspections will be carried out by Warranty Surveyor, Company, Contractor and Tug Master before the decision to commence the tow is made.

8.4 DECISION TO TOW

Based on at least 48 hours good weather forecast information, the decision to commence the tow will be made by common agreement between the Contractor, the Tow Master and the Company, subject to the MWS approval, who will issue the formal sail away authorization.

Towage departure weather criteria shall be in accordance with table 11.20 of Ref./2/ considering unusual tow and therefore with max wind of 15 knots, valid for the first 24h and departure carried out in day light.

Table 11-20 Typical maximum initial towage departure weather forecasts limits

Type of tow	*Maximum wind*
Unusual tows with large wind area	15 knots (BF 4)
'Standard' tows	20 knots (BF 5)
'Standard' tows with small wind areas and a towing master familiar with the type of tow and the towing route	25 knots (BF 6)

Table 5 – Departure criteria

The tug Master, in consultation with Contractor, Company and MWS will make the final decision to delay the commencement of tow if the weather forecast is not considered safe for the tow.

8.5 MANOEUVRING PLAN

The harbour Pilot and the tug Master shall be in charge of coordinating the manoeuvring of cargo barge from mooring quay to harbour entrance as necessary. If requested by the tug Master additional assistance tugs shall be provided by the towing Subcontractor.

8.6 TOWING ROUTE

The distance between Port of Departure and destination is approximately 3200 nautical miles. The expected tow speed is of approximately five (5) knots which end up with an approximate duration of the tow of about 27 days.

The picture here below presents the navigation route.

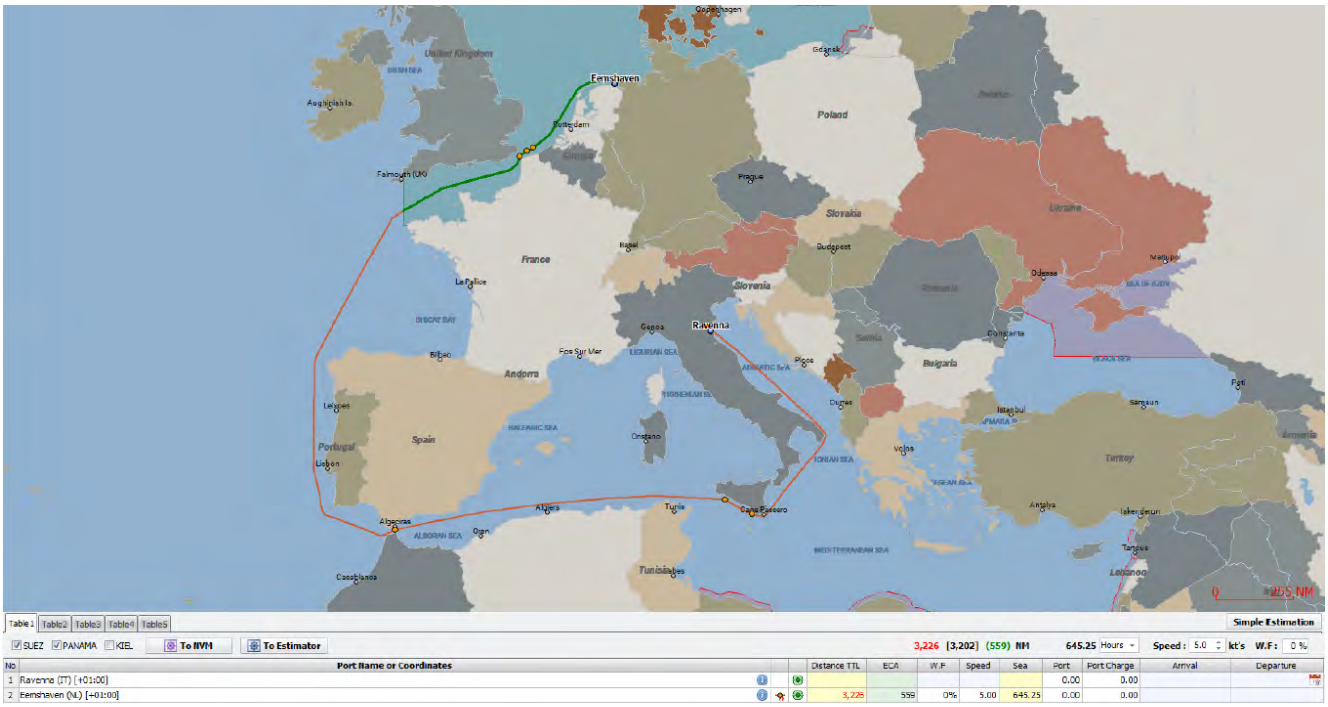


Figure 5 – Towing route from Ravenna to Eemshaven

Passage plan prepared by Tug master is attached in Attachment 3.

The shelter areas identified over the route are presented in ref. Attachments 3 and 4.

8.6.1 Towage to Site

The Tug Master shall endeavour to perform the tow by the shortest and safest route in accordance with the time schedule.

Tug Master during the tow shall always keep radio contact with Company using the means indicated in 8.6.2.

The liaison between the Contractor and the tug Master will be ensured by the Project Manager or his appointed representatives.

The liaison between Company and the tug Master will be ensured by the Company Representative or his appointed representatives.

Before entering a specific sector or departing from a safe haven along the route, the Captain will inform the MWS and CPY to get the CoA.

8.6.2 Communication Systems and Plan

From departure to arrival, the Tug Master shall keep constant contacts with the Client and MWS.

The communication system references are reported in the following table:

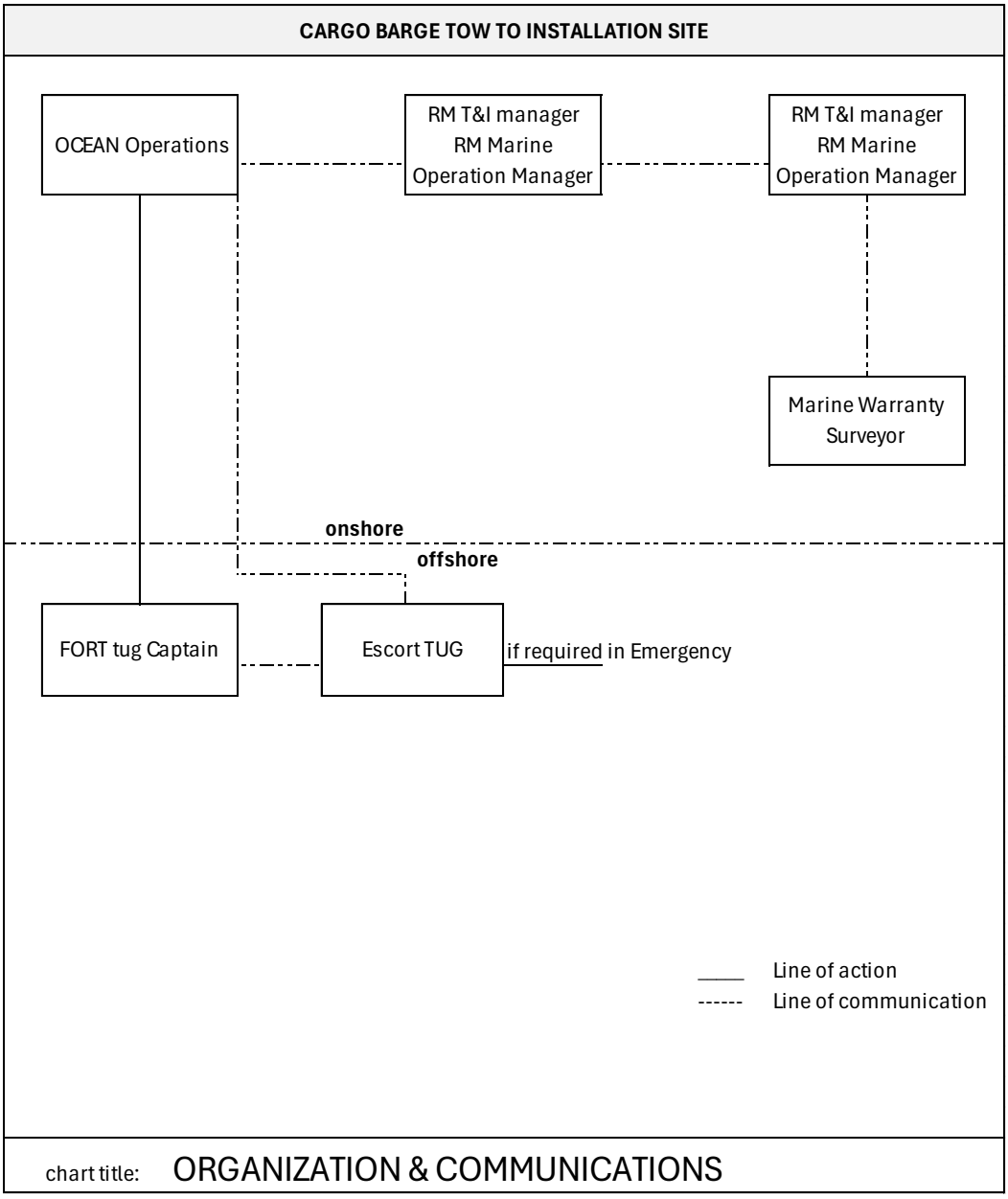


Table 6 – Organization and Communication Chart

8.6.3 Report Tow Status and Towing Progress Report (Daily Progress Report)

The Tow tug must have regular contact with its home base during the voyage and provide a Daily Progress Report (DPR). This report will be dispatched to OCEAN and to the distribution list including MWS, RM, crosswind and meteo forecaster.

The document shall include (ref. section 11.32 of DNV-ST-N001):

- date and time;
- position
- present speed and heading;
- wind speed and direction;
- sea height and direction;
- swell height and direction;
- tow progress during the previous 24 hours
- Present position
- Distance run and to go the the next safe haven
- ETA port of Eemshaven
- Engine RPM (400-800)
- Wire tension and the length of paid out wire (N.A. wire tension for tug FORT)
- any unusual cargo and vessel behaviour;
- condition of vessel;
- daily consumptions
- delays and breakdown
- any concerns (e.g. reduction in speed or in engine performance ..)

Daily meeting is planned at Capt. or OCEAN rep. convenience (proposed time 11 AM) with MWS and Client informing about the status of the tow and the weather conditions, including evaluation of alpha factor and the next 12 hours.

Decision to proceed the tow shall be made based on the weather forecast along the course of tow considering the operational limit presented in the Appendix 5, based on DNV-ST-N001, ref./2/ and considering the tables 2-12 and 2.15 for weather forecast level B.

Table 2-12 ASD/WSD alpha factor for waves, level A2 or B – with environmental monitoring

Planned operation period [h]	*Operational limiting (OP_{LIM}) significant wave height [m]*						
	$H_s = 1$	$1 < H_s < 2$	$H_s = 2$	$2 < H_s < 4$	$H_s = 4$	$4 < H_s < 6$	$H_s \geq 6$
$T_{POP} \leq 4$	0.80	Linear interpolation	0.85	Linear interpolation	0.89	Linear interpolation	0.89
$T_{POP} \leq 12$	0.67		0.79		0.82		0.83
$T_{POP} \leq 24$	0.62		0.72		0.75		0.77
$T_{POP} \leq 36$	0.58		0.67		0.69		0.71
$T_{POP} \leq 48$	0.56		0.63		0.67		0.69
$T_{POP} \leq 72$	0.52		0.59		0.63		0.68

Table 2-15 ASD/WSD alpha factors (wind - all forecast requirements)

Planned operation period	*Operational limiting wind speed (V_d)*	
	$V_d < 0.5 \times V10$ year return	$V_c > 0.5 \times V10$ year return
$T_{POP} \leq 1$ [1)]	0.80 [1)]	0.85 [1)]
$T_{POP} \leq 24$	0.71	0.76
$T_{POP} \leq 48$	0.67	0.71
$T_{POP} \leq 72$	0.62	0.67

[1)] These values shall be used only when the weather is stable and there is reliable on-site monitoring.

8.7 WEATHER FORECAST

Before departure and during the tow the tug Master shall obtain 48 hours weather forecasts two times daily from a minimum 2 independent provider reliable and approved by Contractor and MWS. The most severe of the two weather forecasts must be the basis for decisions regarding the voyage.

As minimum the contents of weather reports shall be:

- Sea state.
- Wave (sig. and max) height and direction.
- Swell height and direction.
- Wind (average and gust) speed and direction.
- Barometric pressure.
- Predictions and visibility.

Tow is considered a staged voyage and the list of shelter areas, port of refugees is given in Appendix 4.

Dedicated meteorological provider will provide every day at 7 AM and 6 PM the weather bulletin for the route and calculated considering tug position, route and speed. Forecast will cover the next sector with high confidence level.

MWS after consultation with tug Captain will release CoA certificate for the next sector or propose the go-no-go to the next sector.

8.7.1 Operational limits

The transport has been classified as restricted tow, restricted by the design seastate criteria defined in Appendix 5.

The OP limits are:

max Hs [m]	Wind [m/s]	Current [m/s]
3.5	22.0	1.0

while the OPwf:

max Hs [m]	Wind [m/s]	Current [m/s]
3	16.0	0.5

Decision during the tow shall be made based on the weather forecast along the course of tow considering the operational limit presented in the next Table, that presents alpha factors and operational limits based on DNV-ST-N001, ref./2/, tables 2-12 and considering Weather forecast level B.

8.7.2 Contingency Plans

In case of unexpected weather conditions and extreme emergency the tug Master shall be in contact with other tugs and/or supply vessel that, in a short reaction time can be available to assist the tow with an eventual towage in tandem or suggest port of refugee.

The following pages contain flow diagrams showing the recommended course of action in each of the following emergency situation during the transportation itself:

1) Safe havens / ports of refuge shall be contacted to ensure that the tow can safely enter these areas if necessary
2) For long tow sections (more than 72 hours – as per passage plan VIGO to BREST) a 2nd go / no-go decision at max 36 hours from departure port shall be established, to determine whether to return or continue to next safe haven.

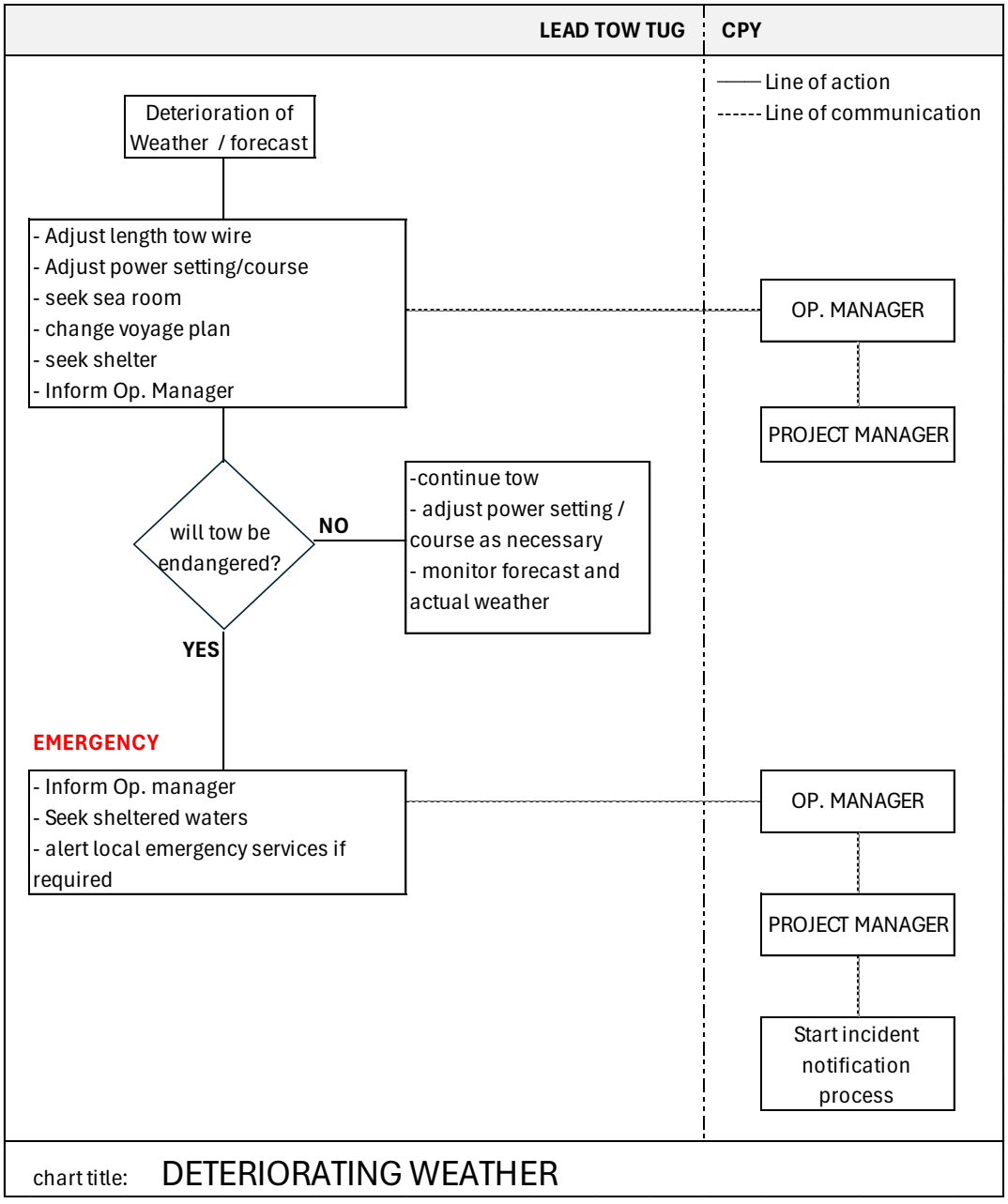


Table 7 – Deteriorating Weather

If during the voyage worsening weather conditions or predictions are encountered, the tug captain shall consider the option to proceed to a sheltered area. The selection of such shelter area will be at the discretion of Tug Captain in close consultation with the Operational Manager and MWS.

Refer to Passage planning document for detail about the route and shelter area, they are presented in Attachment 3 and 4.

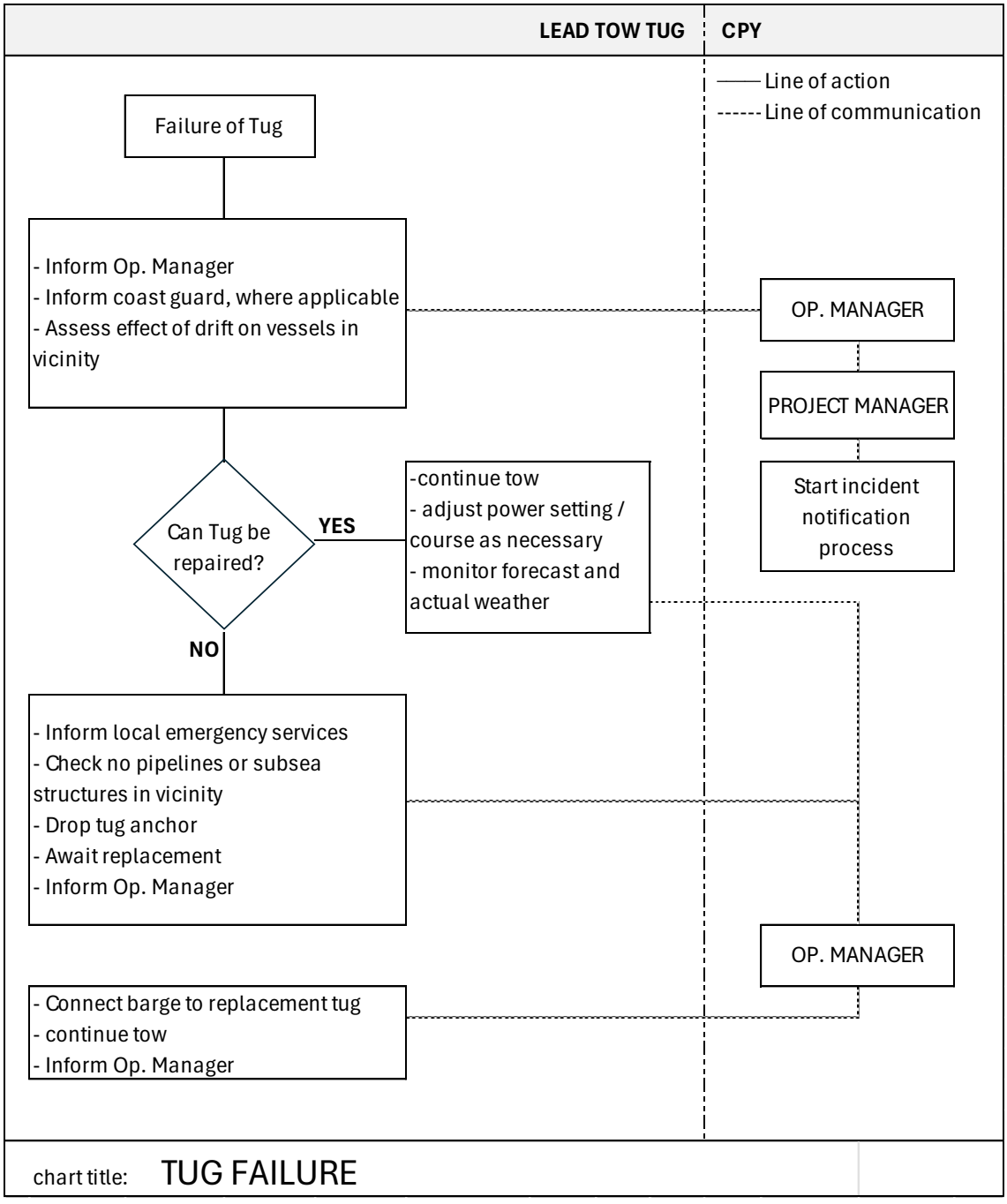


Table 8 – Tug Failure

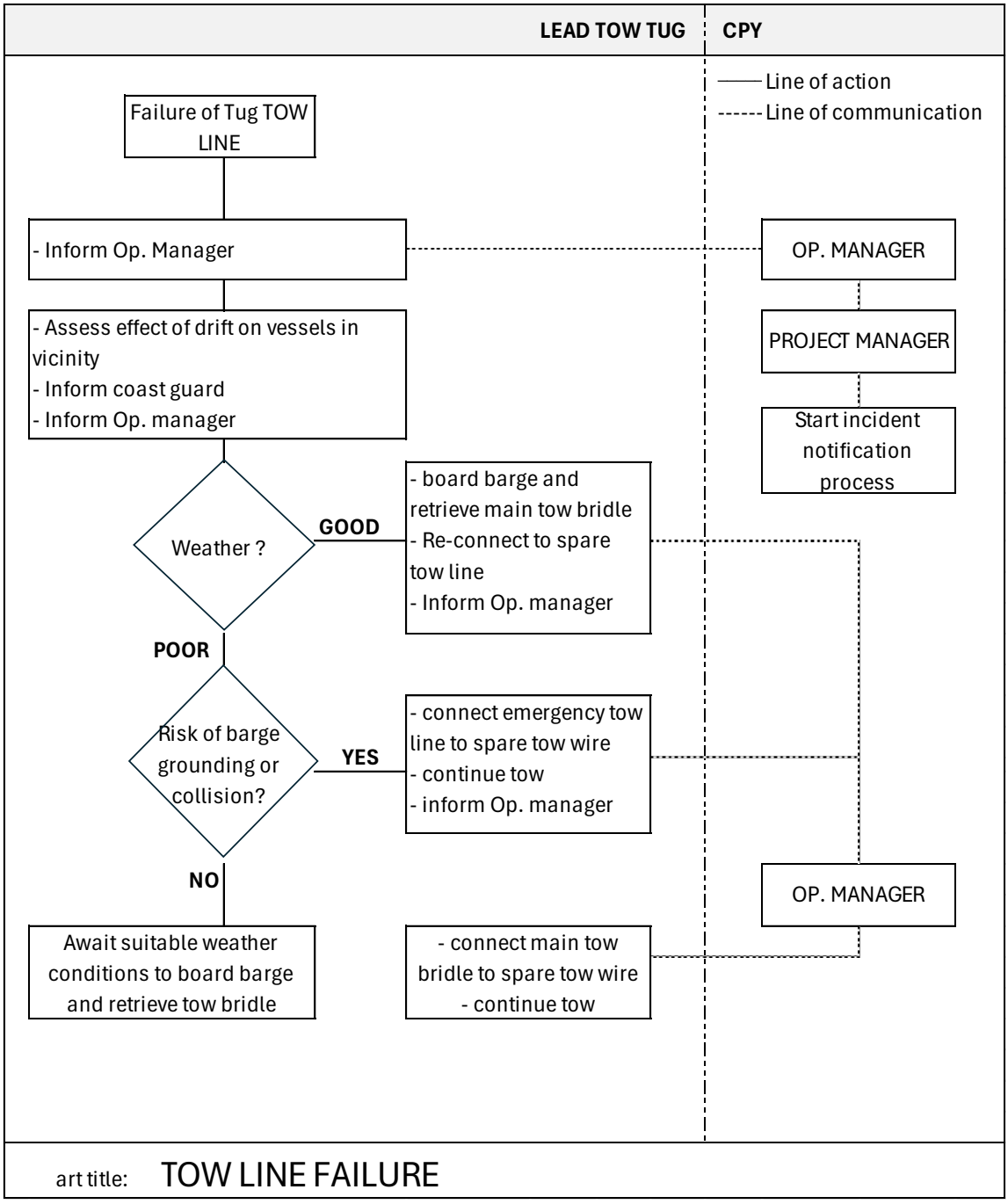


Table 9 – Tow line Failure

8.7.3 Inspection during Towage

During the voyage, the barge will be checked by sight from the tug. Barge shall be inspected following any period of adverse weather conditions by sight from the tug.

8.7.4 Post Towage Inspection

On arrival at destination, a post towage inspection will be carried out to assess the condition of all cargo items.

9 ATTACHMENT 1 – TOWING BRIDLE ARRANGEMENT & CERTIFICATES

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

OCEAN OPER

RINA Approved

TOWING PLAN

RBP = 74.3 t (729 kN)

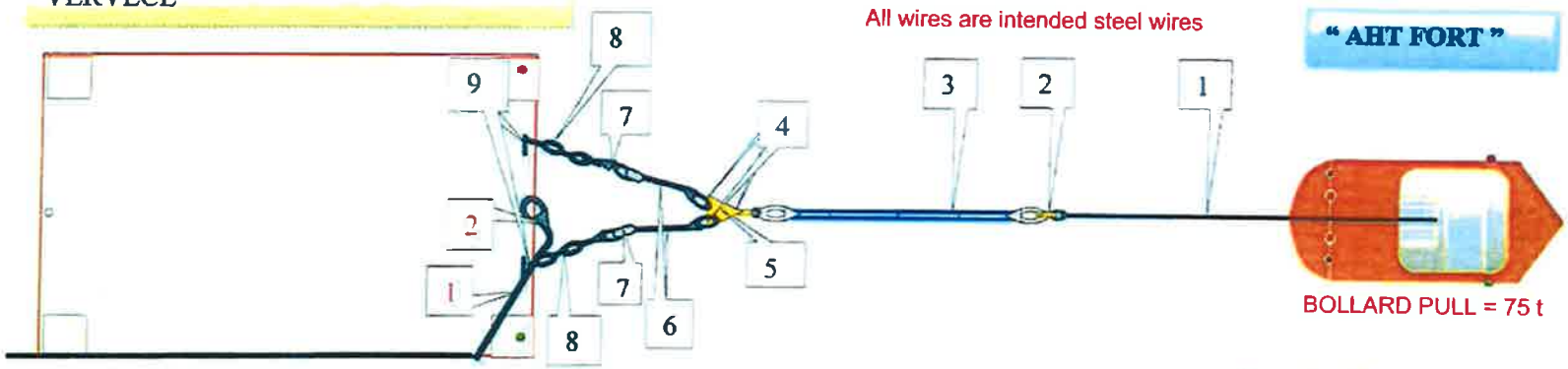
The approval refers to a maximum BP equal to 75 t for the following conditions:

Wind speed ≤ 19 m/s
Hs ≤ 4 m
Current speed ≤ 0.5 m/s
T_barge = 3 / 3.5 m
Exposed frontal area of cargo of Barge < 250 m2
Towing speed = 6 kn

A spare towline with same characteristics of the main towline is to be kept on board the towing vessel.

All wires are intended steel wires

VERVECE



BOLLARD PULL = 75 t

S	Description	Dimensions	Strength/ WLL/MBL	Registration Mark/Label
1	Main Tow Wire (Fort)	825m x 52mm	MBL 1890 kN	Cert. No. ROT2010461
2	Shackle (Fort)	Safety Bow shackle	~~SWL 85 T~~ (*)	Cert.No:T6743
3	Pennant 25 mtrs	25m x 52 mm	MBL 1971 kN	Cert.No:22.RA.01.4.322
4	Shackles 3 pcs	Gunebbo (BP 85T)	MBL 5001,39	Cert.No:22.RA.01.4.322
5	Triangle plate	ID P4634	MBL 425T	Cert.No:22.RA.01.4.322
6	Bridles 25mtrs (2X)	25m x 52mm	MBL 1971 kN	Cert.No:22.RA.01.4.322
7	Shackles	Gunebbo (BP 85T)	MBL 5001,39	Cert.No:22.RA.01.4.322
8	STUD LINK CHAIN (3Pcs.)	6m x 76 mm	Mbl 4300kN	2013WS01-1904-01
9	SMITH BRACKET (3 PCS)		SWL 80 T	RS/2015/PA/01/152
	EMERGENCY TOWING			
1	Em.tow wire	64mm x 159m	MBL 3040 kN	Cert.No:2014/MI/01/565
2	SHACKLES	Gunebbo (BP 85T)	MBL 5001,39	Cert.No:22.RA.01.4.322

(*) MBL ≥ 2570 kN or PL ≥ 1485 kN

AHT FORT
CONTACT DETAILS:
EMAIL:
FORT.Fort@SkyFile.com
CELL NO: +386 31 390 950
SAT NO: +47 23 67 96 30
OFFICE CONTACT DETAILS:
24HR OFFICE NUMBER:
+386 31 375 182

OWNER REP: SEBASTJAN V
Ocean Oper d.o.o

MASTER :Capt.

Date: 06.06.2025

Genova Tuesday, June 10, 2025

(Encl.: 1) OCEAN KOPER D.O.O.

Koper, Ankaranska cesta 5A,
6000 Koper SVN SLOVENIA

Our Ref.: STRT/2025/788/DANTR File No.: (RS/2025/CS/01/2989)
Subject: 82304 VERVECE 98063 FORT - Approval of towing plan

Copy to: 1) RINA Services S.p.A.
Ravenna Marine

Via Candiano, 27
48122 RAVENNA (RA) ITALY

Tuesday, June 10, 2025

We send the following approved drawings:

Number	Sheets	Date	Title Of Drawing / Your Ref	Annuls/Replaces
STRT-62133	1	Tuesday, June 10, 2025	Towing arrangemnt Fort +Vervece	
Remarks to the drawing to be managed by client and verified by the attending surveyor (a written reply to this Plan Approval Centre is not required):				
B1. See red remarks on the drawing.				

Additional Information

In case of any question please contact DANIELE TORRE at Daniele.Torre@rina.org.

Yours faithfully,
RINA Services S.p.A.
FABIO MORBIONI

RINA Services S.p.A.
Plan Approval Centre in Italy TEL: +39 010 53851
Via Corsica, 12 FAX: +39 010 5351000
16128 Genova - Italy

Inspection Certificate

Project: **Tugboat FORT**
Towing Wire

Client: **Adrimed d.o.o.**

Office: **Rotterdam**

Client's Order Number: **O200203007**

Date: **07 February 2020**

Order Status: **Complete**

Inspection Dates
First: **06 February 2020**

Complete
Final: **06 February 2020**

This certificate is issued to **the above named Client in order to certify that the undersigned Surveyor to this Society did at their request attend their works of Rotterdam on the above date, in order to verify the destruction test results and examine upon completion of the following item:**

1. Description of item:

52 MM GALVANIZED STEEL WIRE ROPE – MBL 192.6 Metric Tons

Particulars taken over from ABS report no. RY-2156-19R and manufacturer's cert no. E-2351, both dated 04 September 2019 and client's order

Quantity	: 1 (One) Reel
Client's reel no.	: PL19110349
Actual diameter / length	: 52.80 mm / 825 meters
Construction / lay / Tensile strength	: 6x36SW+IWRC / RHOL / 1960 N/mm²
MBL / ABL	: 1890 kN (without end terminations) / 1986.7 kN (manufacturer's cert no. E-2351 refers)
Cable ends (acc. to EN 13411-4:2002)	: One end provided with a poured on closed spelter socket no. 222 (Make: De Haan, Heat no. G001, MBL 280 mT, PL 1099 kN), other end plain

Intended for: Adrimed D.O.O., Koper, Slovenia, Their reference: T/B FORT

2. Scope of Examination (as agreed with above client):
Traceability of materials mentioned on this certificate has been verified. The wire rope has been manufactured at an LR approved works.
Review of test certificates for verification of break-load test results of the wire rope and proof-load test results of the closed spelter socket.

3. Applicable Rules and Regulations, Specification and Documents:
The following documents provided the basis of examinations as far as applicable.
- Lloyd's Register Rules for the Manufacture, Testing and Certification of Materials (July 2019), Ch. 10, Sec. 6.
- Lloyd's Register Rules and Regulations for the Classification of Ships (July 2019) with direction to Part 3, Chapter 13, Sec 7.

4. Identification:
For identification, above rope has been marked at the socket with **ROT 2010461** and surveyor's stamp **02(DT)20**, indicating inspection per this certificate.

5. Conclusion:
No reportable defects and/or deformations affecting the breaking load could be observed as far as could be ascertained.
The quality of workmanship in fabrication of subject wire rope including end terminations were found good and of adequate standard and, based on the above examinations found to comply with relevant Rules and Regulations listed in 3 above, as applicable and client's order no. O200203007.

02 [DT] 20

HV ROT 2010461

D. Tessel for M. Rheling and Self
Surveyors to Lloyd's Register EMEA

a member of the Lloyd's Register group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

(2)

سيفتي ستار للفحوص الميكانيكية والفيزيائية

SAFETY SERVICES GROUP

SAFETY Star TESTING

MECHANICAL AND PHYSICAL

014-IB

A MEMBER OF LIFTING EQUIPMENT ENGINEERS ASSOCIATION U.K.
PO Box 34128, Dubai - U.A.E., Tel.: 009714-3246664, Fax: 3244415, safetyst@emirates.net.ae, www.safetystardubai.com

HEALTH AND SAFETY EXECUTIVE
Lifting Operation & Lifting Equipment Regulations (LOLER) 1998
LIFTING EQUIPMENT AND LIFTING ACCESSORY

M/s. MANNINO MARINE LLC
P.O. BOX : 5209
DUBAI : UAE

TEST CERTIFICATE NO. 249451/1

REFERENCE NO 249451

Certificate of Test and Thorough Examination

F 97

(1) PARTICULARS OF THE COMPONENTS

Distinguishing Number or mark (i)	Description of items (This should include size, material & particular of any heat treatment) (ii)	Number tested & Examined (iii)	Date of test and examination (iv)	Proof Load applied tonnes / ~~Lbs / Kgs~~ (v)	Safe working load tonnes / ~~Lbs / Kgs~~ (vi)
T 6743 T 6744	**SHACKLE** 3" Dia, Nut & Bolt Type Safety Bow Shackle As per RR-C-271F	02	30/11/2021	170.0	85.0

In Accordance to Federal Ministry Order No. 32 1982, the above equipment is "SAFE TO USE" at the time of inspection

(2) Name and address of maker, supplier or repairer

(3) Name and address of firm, company association or person undertaking the test and thorough examination. Safety Star Testing

TEST SUPERINTENDENT

(4) Name and position of the person who carried out the test and thorough examination. Jubel Roy

(5) I hereby certify that the testing and thorough examination of the equipment described in this certificate was completed in accordance with the above regulation on (date) 30th November 2021 that the above particulars are correct, and that the equipment was found free from any defects likely to affect safety and found safe for use at this time.

(6) Next due date 29th May 2022

Signature Jubel Roy Date 30th November 2021 Counter Signature Roshil Nandan

SPECIALIST : VERIFICATION OF LIFTING EQUIPMENT AND ACCESSORIES
CERTIFICATION APPROVED BY THE MINISTRY OF LABOUR AND SOCIAL AFFAIRS

The Inspection Certificate/Report shall not be reproduced except in full without the approval of the Inspection Body and the client. Liability clause- Under no circumstances Safety Star Mechanical And Physical Testing be liable for injury/damages arising by the reason of negligent operations or defect in design, machinery, equipment or any other possible defects arising during the inspection and after the completion of the inspection process.

CERTIFICATE OF CONFORMITY
CERTIFICATO DI CONFORMITÀ

No. 22.RA.01.4.322

RINA file No. *Pratica RINA N.*	22.RA.01.4.322
Manufacturer *Fabbricante o Fornitore*	ITALMET S.R.L. - RAVENNA (ITALY)
Work order No. *Commessa N.*	/
Purchaser *Committente*	OCEAN KOPER D.O.O. - KOPER - (Slovenia).
Order No. *Ordine N.*	/ Intended for *Destinazione* PONTOON "VERVECE" RI 82304
Material description: *Descrizione del materiale:*	Item 1) No.3pcs. - Galvanized steel wire rope slings dia.52 mm., construction 6 x 36WS +IWRC, tensile 1960 N/mm2, RHRL, MBL 1971 KN, length 25mts with at both ends galvanized closed spelter socket CSS222 (id "P4402"x 2pcs, "P4456"x 2pcs, "P3761"and "P4010"), fixed by wirelock procedure. Proof load applied: 1036 KN. Item 2) No.6pcs - Galvanized bow safety pin shackles type Gunnebo No.855 (id"BA6/6BV") suitable for a Bollard Pull of 85 T - M.B.L.: 5001,39 KN – P.L. : 1076 KN. Item 3) No.1pc - Triangle plate (id "P4634") suitable for a Bollard Pull of 85 T - M.B.L.: 425 ton. - P.L. : 1076 KN.
Identification marks: *Marche di identificazione:*	Item 1) 22.RA.01.4.322 MBL 1971 KN 10.22 RI Items 2 -3) 22.RA.01.4.322 BP 85 T 10.22 RI

THIS IS TO CERTIFY that the material described above has been constructed and tested with satisfactory results in accordance with the applicable RINA Rules.
The results of the tests and control carried out are shown on the attached test certificates.
SI CERTIFICA *che il materiale sopra descritto è stato costruito e collaudato in conformità ai regolamenti del RINA con esito soddisfacente.*
I risultati degli accertamenti e prove effettuati sono indicati nei certificati di prova allegati.

Enclosures: Declaration of Conformity no.22.RA.01.4.322 dated October 27, 2022
Allegati:

italmet srl
48122 RAVENNA - Via delle Industrie, 81
Tel. 0544.451555 Fax 451345
C.F./P.I.: 00178180394

Date: October 27, 2022
Data:

THE MANUFACTURER
IL FABBRICANTE

This certificate is issued by the manufacturer in accordance with the arrangements authorized by RINA in the statement of admission to alternative testing system No. 2017/RA/01/919 dated December 22, 2017 on the basis of the certified Quality System.
Questo certificato è rilasciato dal fabbricante in accordo a quanto previsto nella dichiarazione di ammissione a sistema di collaudo alternativo N. 2017/RA/01/919 *del* 22 Dicembre 2017 *rilasciata sulla base del Sistema di Qualità certificato.*

THIS IS TO CERTIFY that these arrangements are being kept under review by regular and systematic auditing of the approved manufacturing and quality control procedures.
The above material will be accepted for fitting in a ship classed or intended to be classed with RINA subject to satisfactory installation under the usual survey and testing conditions.

Si certifica che il Sistema di Qualità ed il prodotto sono tenuti sotto controllo mediante verifiche periodiche.
Il suddetto materiale sarà accettato a bordo di navi classificate o da classificare dal RINA subordinatamente a soddisfacente installazione come previsto per i singoli prodotti.

Issued at: Ravenna (Italy) **on:** OCTOBER 27, 2022
Rilasciato a: *il:*

RINA

L. Ballardo
RINA Services

The rules, surveys and activities performed by RINA, reports, certificates and other documents issued by RINA are in no way intended to replace the duties and responsibilities of other parties such as Governments, designers, ship builders, manufacturers, repairers, suppliers, contractors or sub-contractors, owners, operators, charterers, underwriters, sellers or intended buyers of a ship or other product or system surveyed.
These documents and activities do not relieve such parties from any fulfillment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them according to the law, nor do they confer on such parties any right, claim or cause of action against RINA. With particular regard to the duties of the ship Owner, the services undertaken by RINA do not relieve the Owner of his duty to ensure at all times proper maintenance of the ship and seaworthiness. Likewise, the rules, surveys performed, reports, certificates and other documents issued by RINA are intended neither to guarantee the buyers of the ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction.
In providing the services, as well as other correlated information or advice, RINA, its surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see art. 2.4 of the General Conditions), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. Therefore, express and implied warranties are specifically disclaimed.
In providing its services, and also in the case of activities carried out by delegation of Governments, neither RINA nor any of its surveyors will be liable for any loss, damage or expense of whatever nature sustained by any person, in tort or in contract, derived from carrying out the services.
However, should any user of RINA's services prove that he has suffered a loss or damage due to any negligent act or omission of RINA, its surveyors, servants or agents, then RINA will pay compensation to such person for his proved loss, up to, but not exceeding, five times the amount of the fees charged for the specific services, information or opinions from which the loss or damage derives or, if no fee has been charged, a maximum of one hundred thousand Euro.
Any liability for indirect or consequential loss, damage or expense is specifically excluded. In any case, irrespective of the amount of the fees charged, the maximum damages payable by RINA will not be more than 1 million Euro.
No report, statement, notation on a plan, review, class certificate, document or information issued or given as part of the services provided by RINA shall have any legal effect or implication other than a representation that, on the basis and at the time of the checks made by RINA, the ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the rules issued by RINA or by the Governments delegating RINA. Therefore, RINA cannot be held liable for any act made or document issued by other parties on the basis of the statements or information given by RINA.
I regolamenti, le visite e le attività effettuate da RINA, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono intesi a sostituire per nessuna ragione gli obblighi e le responsabilità di altre parti quali, a titolo esemplificativo, Governi, progettisti, costruttori, fabbricanti, riparatori, fornitori, imprenditori, subcontraenti, Armatori, gestori, noleggiatori, assicuratori, venditori o acquirenti di una nave o altro prodotto o sistema sottoposto a ispezione.
Detti documenti e attività non esimono tali parti da qualsiasi adempimento, garanzia, onere, responsabilità, dovere o obbligo (anche di natura contrattuale), da essi esplicitamente o implicitamente assunti o comunque loro incombenti in base alla legge, né conferiscono a tali parti alcun diritto, pretesa o titolo nei confronti di RINA. Con particolare riguardo ai doveri dell'armatore, i servizi svolti da RINA non lo esimono dall'obbligo di assicurare un'adeguata manutenzione della nave e di garantirne la navigabilità in ogni momento. Parimenti, i regolamenti, le visite effettuate, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono finalizzati a garantire gli eventuali acquirenti della nave, di suoi componenti o di altro bene oggetto di verifica o certificazione, o a sollevare il venditore degli stessi rispetto agli obblighi derivanti dalla legge o dal contratto, quanto alla qualità, al valore commerciale o alle caratteristiche del bene oggetto di transazione.
Nel prestare i propri servizi, come pure nel dare informazioni o pareri ad essi correlati, RINA, i suoi tecnici, dipendenti o agenti operano con la dovuta diligenza al fine di una corretta esecuzione dell'incarico. Tuttavia, stante la natura delle attività svolte (v. art. 2.4 Condizioni Generali), non è possibile garantire l'assoluta precisione, correttezza e completezza delle informazioni o dei pareri forniti. Pertanto RINA non presta alcuna garanzia esplicita od implicita.
Nel prestare i propri servizi ed anche nel caso di attività eseguite per delega di Governi, né RINA, né alcuno dei suoi tecnici sarà responsabile di qualsiasi perdita, danno o spesa di qualunque natura sostenuta da qualsiasi persona, sia in via contrattuale, sia in via extracontrattuale, derivanti dall'esecuzione dei servizi. Tuttavia qualora un utente dei servizi di RINA dimostri di aver subito una perdita o un danno a causa di qualche azione od omissione negligente da parte di RINA, dei suoi tecnici, dipendenti o agenti, RINA risarcirà il danno dimostrato fino a concorrenza della somma non superiore a cinque volte l'ammontare dei compensi fatturati per le specifiche prestazioni, informazioni o pareri da cui è derivata la perdita o il danno o, se non sono stati fatturati compensi, fino a un massimo di centomila Euro. Qualsiasi responsabilità per perdite o danni indiretti o "consequenziali" e per le relative spese è espressamente esclusa. In ogni caso, indipendentemente dall'ammontare dei compensi fatturati, l'ammontare massimo risarcibile da RINA non potrà essere superiore a 1 milione di Euro.
A nessun rapporto, dichiarazione, certificato, documento o informazione emessi o rilasciati in esecuzione dei servizi prestati da RINA possono essere attribuiti effetti o implicazioni legali diversi dall'attestazione che, sulla base degli accertamenti eseguiti, la nave, la struttura, i materiali, le apparecchiature, i macchinari o qualsiasi altro elemento cui tale documento o informazione si riferiscono, risultano conformi, al momento dell'esecuzione degli accertamenti, ai regolamenti o alle norme emesse da RINA o dai Governi su delega dei quali RINA agisce. Quest'ultima non assume pertanto alcun obbligo in relazione agli atti compiuti o ai documenti emessi da altre parti sulla base delle dichiarazioni o informazioni rilasciate dalla stessa.

DECLARATION OF CONFORMITY ACCORDING TO UNI EN 10204
N. 22.RA.01.4.322

Customer: OCEAN KOPER D.O.O. – KOPER – (Slovenia)

Intended for: PONTOON "VERVECE" RI 82304

Order no.: /

Certificate reference and traceability

Item 1) No.3pcs. - Galvanized steel wire rope slings dia.52 mm., construction 6 x 36WS +IWRC, tensile 1960 N/mm2, RHRL, MBL 1971 KN (as per RINA certificate no. 13.RA.01.4.145 dated April 18, 2013 and manufacturer certificate no. 037336/527284 dated July 22, 2010) length 25mts with at both ends galvanized closed spelter socket CSS222 (id "P4402" x 2pcs and id "P4456" x 2pcs as per declaration of compliance no. 5206004 dated 17.06.2022, id "P3761" as per declaration of compliance no. 5205814 dated 01.04.2022, id "P4010" as per declaration of compliance no. 5206218 dated 10.10.2022), fixed by wirelock procedure. Proof load applied: 1036 KN

Item 2) No.6pcs - Galvanized bow safety pin shackles type Gunnebo No.855 (id"BA6/6BV" as per inspection certificate No. 82357554/20 dated 2019.09.30) suitable for a Bollard Pull of 85 T - M.B.L.: 5001,39 KN – P.L. : 1076 KN.

Item 3) No.1pc - Triangle plate (id "P4634" as per declaration of compliance No.5206086 dated 13-07-2022) suitable for a Bollard Pull of 85 T - M.B.L.: 425 ton. - P.L. : 1076 KN.

October 27, 2022

RINA L. Ballarin RINA Services S.p.A.

MAGLIE CATENE BARGE

RINA

TEST CERTIFICATE FOR CHAIN-CABLES
CERTIFICATO DI COLLAUDO PER CATENE

No. 2013WS01-1904-01

RINA file No. / *Pratica RINA N.*: 2013WS01-1904

Manufacturer or Supplier / *Fabbricante o Fornitore*: Zhejiang Shuangniao Anchor China Co.,Ltd

Work order No. / *Commessa N.:* --

Purchaser / *Committente*: --

Order No. / *Ordine N.*: T131108Y5A029 Intended for / *Destinazione*: store

THIS IS TO CERTIFY that the stud(*) chain-cables, particulars of which are given below, have been tested as per RINA rules with satisfactory results.
SI CERTIFICA che le catene con traversino(*), le cui caratteristiche sono di seguito indicate, sono state sottoposte agli accertamenti ed alle prove di collaudo previste dai regolamenti del RINA con esito soddisfacente.
The calibration status and adequacy of the test measurements devices used have been satisfactorily verified.
Lo stato di taratura e l'adeguatezza degli strumenti di misura utilizzati per il collaudo sono stati verificati con esito soddisfacente

Chain diameter (mm) / *Diametro catena*	76	Grade / *Grado*	Q3a	Mass (kg) / *Massa*	20872
Lengths of chain No. / *Lunghezze di catena N.*	6	of (m) / *di*	27.5	each / *ciascuna*	
Breaking load test (kN) / *Trazionamento a rottura*	4300				
Proof load test (on each length) (kN) / *Trazionamento al carico di prova (su ogni lunghezza)*	3010				

Markings / *Marche apposte*	2013WS01-1904; Ø76; Q3a	Testing date / *Data collaudo*	26/12/2013

Particulars of the mechanical properties, together with details of the supply condition, are shown in the attached test certificates.
Le proprietà meccaniche verificate, le caratteristiche del materiale e le condizioni di fornitura sono riportate nei certificati di prova allegati.

Enclosures / *Allegati*: COLALL

Issued at / *Rilasciato a*: SHANGHAI on / *il* 26/12/2013

RINA
Z.E. Hu
RINA

(*) Delete as appropriate
Cancellare quando non pertinente

Form COLCAT - 04/2010

This certificate consists of / *Questo certificato è composto da* 2 pages / *pagine*

The rules, surveys and activities performed by RINA, reports, certificates and other documents issued by RINA are in no way intended to replace the duties and responsibilities of other parties such as Governments, designers, ship builders, manufacturers, repairers, suppliers, contractors or sub-contractors, owners, operators, charterers, underwriters, sellers or intended buyers of a ship or other product or system surveyed. These documents and activities do not relieve such parties from any fulfillment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them according to the law, nor do they confer on such parties any right, claim or cause of action against RINA. With particular regard to the duties of the ship Owner, the services undertaken by RINA do not relieve the Owner of his duty to ensure at all times proper maintenance of the ship and seaworthiness. Likewise, the rules, surveys performed, reports, certificates and other documents issued by RINA are intended neither to guarantee the buyers of the ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction.
In providing the services, as well as other correlated information or advice, RINA, its surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see art. 2.4 of the General Conditions), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. Therefore, express and implied warranties are specifically disclaimed.
In providing its services, and also in the case of activities carried out by delegation of Governments, neither RINA nor any of its surveyors will be liable for any loss, damage or expense of whatever nature sustained by any person, in tort or in contract, derived from carrying out the services.
However, should any user of RINA's services prove that he has suffered a loss or damage due to any negligent act or omission of RINA, its surveyors, servants or agents, then RINA will pay compensation to such person for his proved loss, up to, but not exceeding, five times the amount of the fees charged for the specific services, information or opinions from which the loss or damage derives or, if no fee has been charged, a maximum of one hundred thousand Euro.
Any liability for indirect or consequential loss, damage or expense is specifically excluded. In any case, irrespective of the amount of the fees charged, the maximum damages payable by RINA will not be more than 1 million Euro.
No report, statement, notation on a plan, review, class certificate, document or information issued or given as part of the services provided by RINA shall have any legal effect or implication other than a representation that, on the basis and at the time of the checks made by RINA, the ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the rules issued by RINA or by the Governments delegating RINA. Therefore, RINA cannot be held liable for any act made or document issued by other parties on the basis of the statements or information given by RINA.

I regolamenti, le visite e le attività effettuate da RINA, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono intesi a sostituire per nessuna ragione gli obblighi e le responsabilità di altre parti quali, a titolo esemplificativo, Governi, progettisti, costruttori, fabbricanti, riparatori, fornitori, imprenditori, subcontraenti, Armatori, gestori, noleggiatori, assicuratori, venditori o acquirenti di una nave o altro prodotto o sistema sottoposto a ispezione.
Detti documenti e attività non esimono tali parti da qualsiasi adempimento, garanzia, onere, responsabilità, dovere o obbligo (anche di natura contrattuale), da essi esplicitamente o implicitamente assunti o comunque loro incombenti in base alla legge, né conferiscono a tali parti alcun diritto, pretesa o titolo nei confronti di RINA. Con particolare riguardo ai doveri dell'armatore, i servizi svolti da RINA non lo esimono dall'obbligo di assicurare un'adeguata manutenzione della nave e di garantirne la navigabilità in ogni momento. Parimenti, i regolamenti, le visite effettuate, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono finalizzati a garantire gli eventuali acquirenti della nave, di suoi componenti o di altro bene oggetto di verifica o certificazione, o a sollevare il venditore degli stessi rispetto agli obblighi derivanti dalla legge o dal contratto, quanto alla qualità, al valore commerciale o alle caratteristiche del bene oggetto di transazione.
Nel prestare i propri servizi, come pure nel dare informazioni o pareri ad essi correlati, RINA, i suoi tecnici, dipendenti o agenti operano con la dovuta diligenza ai fini di una corretta esecuzione dell'incarico. Tuttavia, stante la natura delle attività svolte (v. art. 2.4 Condizioni Generali), non è possibile garantire l'assoluta precisione, correttezza e completezza delle informazioni o dei pareri forniti. Pertanto RINA non presta alcuna garanzia esplicita od implicita.
Nel prestare i propri servizi ed anche nel caso di attività eseguite per delega di Governi, né RINA, né alcuno dei suoi tecnici sarà responsabile di qualsiasi perdita, danno o spesa di qualunque natura sostenuta da qualsiasi persona, sia in via contrattuale, sia in via extracontrattuale, derivanti dall'esecuzione dei servizi. Tuttavia qualora un utente dei servizi di RINA dimostri di aver subito una perdita o un danno a causa di qualche azione od omissione negligente da parte di RINA, dei suoi tecnici, dipendenti o agenti, RINA risarcirà il danno dimostrato fino a concorrenza della somma non superiore a cinque volte l'ammontare dei compensi fatturati per le specifiche prestazioni, informazioni o pareri da cui è derivata la perdita o il danno o, se non sono stati fatturati compensi, fino a un massimo di centomila Euro. Qualsiasi responsabilità per perdite o danni indiretti o "consequenziali" e per le relative spese è espressamente esclusa. In ogni caso, indipendentemente dall'ammontare dei compensi fatturati, l'ammontare massimo risarcibile da RINA non potrà essere superiore a 1 milione di Euro.
A nessun rapporto, dichiarazione, certificato, documento o informazione emessi o rilasciati in esecuzione dei servizi prestati da RINA possono essere attribuiti effetti o implicazioni legali diversi dall'attestazione che, sulla base degli accertamenti eseguiti, la nave, la struttura, i materiali, le apparecchiature, i macchinari o qualsiasi altro elemento cui tale documento o informazione si riferiscono, risultano conformi, al momento dell'esecuzione degli accertamenti, ai regolamenti o alle norme emesse da RINA o dai Governi su delega dei quali RINA agisce. Quest'ultima non assume pertanto alcun obbligo in relazione agli utili compiuti o ai documenti emessi da altre parti sulla base delle dichiarazioni o informazioni rilasciate dalla stessa.

Attachment 1 to certificate No.: **2013WS01-1904-01**
Allegato al certificato N.

RINA file No.: **2013WS01-1904**
Pratica RINA N.

Anchor chain and accessories have been tested as follows:

Description	Diameter (mm)	Grade	Mass (Kg)
N.6 of Lengths chain	76	Q3a	20872
N.6 of Kenter Shackles	76	Q3a	364

Break load test: 4300 KN

Proof load test: 3010 KN

RINA Z.E. Hu

RINA

CERTIFICATO VALIDO PER QUANTITA'

COME DA DDT N. 3310

DEL 08/07/2014

ALIOTO GROUP SRL

TEST CERTIFICATE

CERTIFICATO DI COLLAUDO

N°15/PA/01/152/1

RINA file No.: *Pratica RINA N.* RS/2015/PA/01/152

Manufacturer or Supplier: *Fabbricante o Fornitore* MARNAVI OFFSHORE S.R.L. - VIA S. BRIGIDA 39 NAPOLI (NA) - ITALY

Work Order No.: *Commessa N.* -

Purchaser: *Committente* MARNAVI OFFSHORE S.R.L. - VIA S. BRIGIDA 39 NAPOLI (NA) - ITALY

Order No.: *Ordine N.* -

Intended for: *Destinazione* Marnavi RI 82304 - VERVECE

THIS IS TO CERTIFY that the items, particulars of which are given below, have been tested and found to be in compliance with the requirements of Other

SI CERTIFICA che gli oggetti / apparecchi, le cui caratteristiche sono di seguito indicate. sono stati sottoposti a collaudo e sono stati riscontrati conformi alle prescrizioni di Other

The calibration status and adequacy of the test measurements devices used have been satisfactorily verified.
Lo stato di taratura e l'adeguatezza degli strumenti di misura utilizzati per il collaudo sono stati verificati con esito soddisfacente.

Description of material / Descrizione del material	Quantity / Quantità	Serial number / N. di serie
SMIT BRACKET - S.W.L. 80 TONS (980,67 KN)	3	n.a.

Inspection and test carried out
Accertamenti e prove di collaudo effettuati

- NDT on weldings
- Visual and dimensional examination
- Document review

Markings: *Marche apposte* 2015/PA/01/152 18 41 RI

Testing date: *Data collaudo* 17Feb2015

Enclosures: *Allegati* Vervece Certificato Smith Braket.pdf
Disegno Smith Brakets.pdf

Issued at: *Rilasciato a* TRAPANI

on: *il* 18Feb2015

Ruben Piemonte

RINA Services S.p.A.

The rules, surveys and activities performed by RINA, reports, certificates and other documents issued by RINA are in no way intended to replace the duties and responsibilities of other parties such as Governments, designers, ship builders, manufacturers, repairers, suppliers, contractors or sub-contractors, owners, operators, charterers, underwriters, sellers or intended buyers of a ship or other product or system surveyed. These documents and activities do not relieve such parties from any fulfillment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them according to the law, nor do they confer on such parties any right, claim or cause of action against RINA. With particular regard to the duties of the ship Owner, the services undertaken by RINA do not relieve the Owner of his duty to ensure at all times proper maintenance of the ship and seaworthiness. Likewise, the rules, surveys performed, reports, certificates and other documents issued by RINA are intended neither to guarantee the buyers of the ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction.

In providing the services, as well as other correlated information or advice, RINA, its surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see art. 2.4 of the General Conditions), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. Therefore, express and implied warranties are specifically disclaimed.

In providing its services, and also in the case of activities carried out by delegation of Governments, neither RINA nor any of its surveyors will be liable for any loss, damage or expense of whatever nature sustained by any person, in tort or in contract, derived from carrying out the services.

However, should any user of RINA's services prove that he has suffered a loss or damage due to any negligent act or omission of RINA, its surveyors, servants or agents, then RINA will pay compensation to such person for his proved loss, up to, but not exceeding, five times the amount of the fees charged for the specific services, information or opinions from which the loss or damage derives or, if no fee has been charged, a maximum of one hundred thousand Euro.

Any liability for indirect or consequential loss, damage or expense is specifically excluded. In any case, irrespective of the amount of the fees charged, the maximum damages payable by RINA will not be more than 1 million Euro.

No report, statement, notation on a plan, review, class certificate, document or information issued or given as part of the services provided by RINA shall have any legal effect or implication other than a representation that, on the basis and at the time of the checks made by RINA, the ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the rules issued by RINA or by the Governments delegating RINA. Therefore, RINA cannot be held liable for any act made or document issued by other parties on the basis of the statements or information given by RINA.

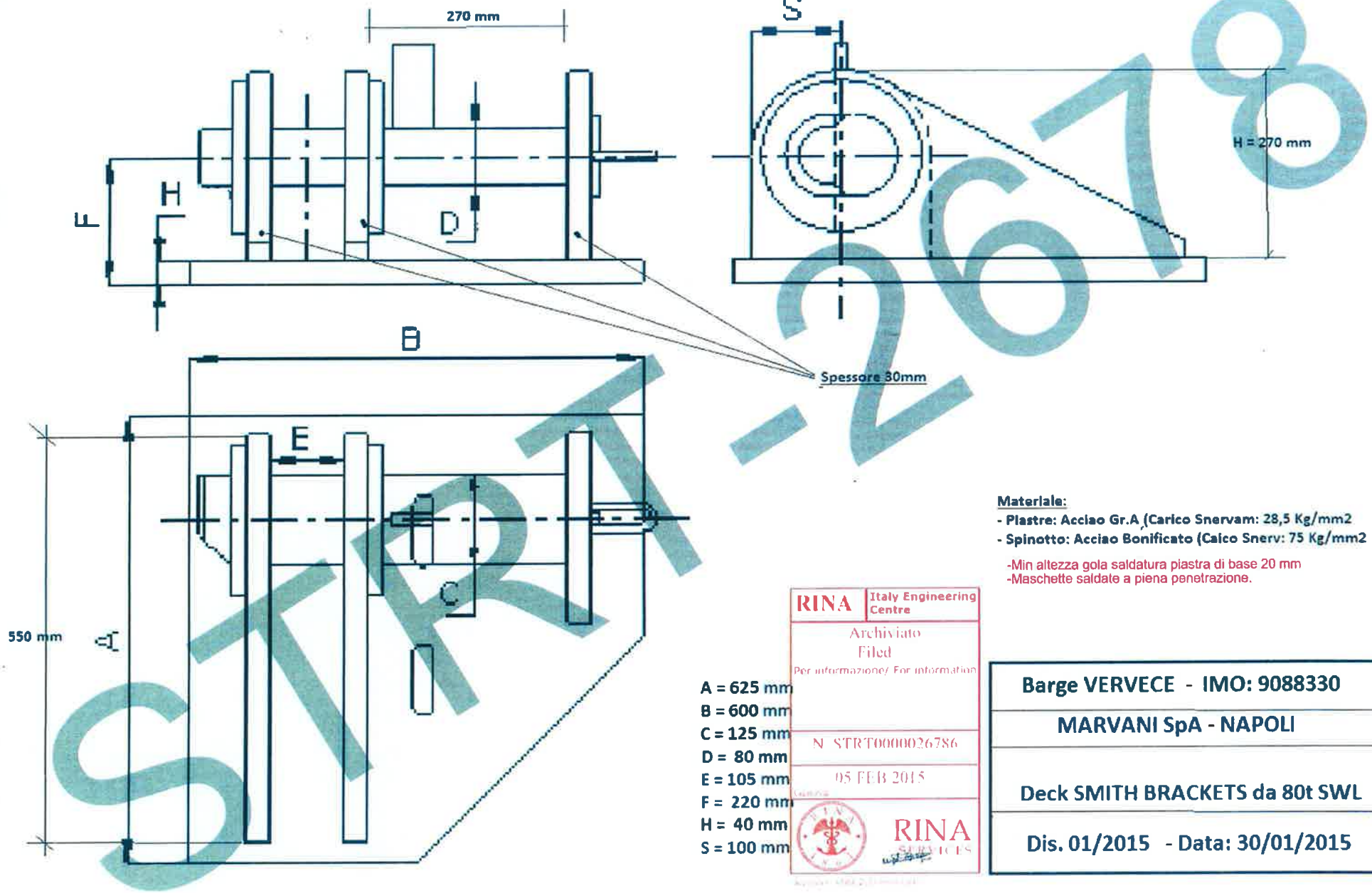
I regolamenti, le visite e le attività effettuate da RINA, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono intesi a sostituire per nessuna ragione gli obblighi e le responsabilità di altre parti quali, a titolo esemplificativo, Governi, progettisti, costruttori, fabbricanti, riparatori, fornitori, imprenditori, subcontraenti, Armatori, gestori, noleggiatori, assicuratori, venditori o acquirenti di una nave o altro prodotto o sistema sottoposto a ispezione.

Detti documenti e attività non esimono tali parti da qualsiasi adempimento, garanzia, onere, responsabilità, dovere o obbligo (anche di natura contrattuale), da essi esplicitamente o implicitamente assunti o comunque loro incombenti in base alla legge, né conferiscono a tali parti alcun diritto, pretesa o titolo nei confronti di RINA. Con particolare riguardo ai doveri dell'armatore, i servizi svolti da RINA non lo esimono dall'obbligo di assicurare un'adeguata manutenzione della nave e di garantirne la navigabilità in ogni momento. Parimenti, i regolamenti, le visite effettuate, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono finalizzati a garantire gli eventuali acquirenti della nave, di suoi componenti o di altro bene oggetto di verifica o certificazione, o a sollevare il venditore degli stessi rispetto agli obblighi derivanti dalla legge o dal contratto, quanto alla qualità, al valore commerciale o alle caratteristiche del bene oggetto di transazione.

Nel prestare i propri servizi, come pure nel dare informazioni o pareri ad essi correlati, RINA, i suoi tecnici, dipendenti o agenti operano con la dovuta diligenza al fine di una corretta esecuzione dell'incarico. Tuttavia, stante la natura delle attività svolte (v. art. 2.4 Condizioni Generali), non è possibile garantire l'assoluta precisione, correttezza e completezza delle informazioni o dei pareri forniti. Pertanto RINA non presta alcuna garanzia esplicita od implicita.

Nel prestare i propri servizi ed anche nel caso di attività eseguite per delega di Governi, né RINA, né alcuno dei suoi tecnici sarà responsabile di qualsiasi perdita, danno o spesa di qualunque natura sostenuta da qualsiasi persona, sia in via contrattuale, sia in via extracontrattuale, derivanti dall'esecuzione dei servizi. Tuttavia qualora un utente dei servizi di RINA dimostri di aver subito una perdita o un danno a causa di qualche azione od omissione negligente da parte di RINA, dei suoi tecnici, dipendenti o agenti, RINA risarcirà il danno dimostrato fino a concorrenza della somma non superiore a cinque volte l'ammontare dei compensi fatturati per le specifiche prestazioni, informazioni o pareri da cui è derivata la perdita o il danno o, se non sono stati fatturati compensi, fino a un massimo di centomila Euro. Qualsiasi responsabilità per perdite o danni indiretti o "consequenziali" e per le relative spese è espressamente esclusa. In ogni caso, indipendentemente dall'ammontare dei compensi fatturati, l'ammontare massimo risarcibile da RINA non potrà essere superiore a 1 milione di Euro.

A nessun rapporto, dichiarazione, certificato, documento o informazione emessi o rilasciati in esecuzione dei servizi prestati da RINA possono essere attribuiti effetti o implicazioni legali diversi dall'attestazione che, sulla base degli accertamenti eseguiti, la nave, la struttura, i materiali, le apparecchiature, i macchinari o qualsiasi altro elemento cui tale documento o informazione si riferiscono, risultano conformi, al momento dell'esecuzione degli accertamenti, ai regolamenti o alle norme emesse da RINA o dai Governi su delega dei quali RINA agisce. Quest'ultima non assume pertanto alcun obbligo in relazione agli atti compiuti o ai documenti emessi da altre parti sulla base delle dichiarazioni o informazioni rilasciate dalla stessa.



STRT - 26786

Materiale:

- **Piastre: Acciao Gr.A (Carico Snervam: 28,5 Kg/mm2**
- **Spinotto: Acciao Bonificato (Caico Snerv: 75 Kg/mm2**

-Min altezza gola saldatura piastra di base 20 mm
-Maschette saldate a piena penetrazione.

A = 625 mm
B = 600 mm
C = 125 mm
D = 80 mm
E = 105 mm
F = 220 mm
H = 40 mm
S = 100 mm

RINA | Italy Engineering Centre

Archiviato
Filed
Per informazione/ For information

N. STRT0000026786

05 FEB 2015

RINA SERVICES

Barge VERVECE - IMO: 9088330

MARVANI SpA - NAPOLI

Deck SMITH BRACKETS da 80t SWL

Dis. 01/2015 - Data: 30/01/2015

emer (1)

CAVO EMERGENZA - BRACA

RINA

TEST CERTIFICATE FOR STEEL ROPES
CERTIFICATO DI COLLAUDO PER CAVI DI ACCIAIO

No 2014/MI/01/565

RINA file No *Pratica RINA N*	2014/MI/01/565		
Manufacturer or Supplier *Fabbricante o Fornitore*	SIRTEF s.r.l. Via dei Lavoratori, i 20080 Calvignasco MI		
Work order No *Commessa N*	48.971/GE		
Purchaser *Committente*	MARNAVI s.p.a. NAPOLI		
Order No *Ordine N*	400026417	Intended for *Destinazione*	M/T IEVOLI RED

THIS IS TO CERTIFY that the steel ropes, particulars of which are given below, have been tested as per RINA rules with satisfactory results.
SI CERTIFICA che i cavi di acciaio, le cui caratteristiche sono di seguito indicate, sono stati sottoposti agli accertamenti ed alle prove di collaudo previste dai regolamenti del RINA con esito soddisfacente

The calibration status and adequacy of the test measurements devices used have been satisfactorily verified.
Lo stato di taratura e l'adeguatezza degli strumenti di misura utilizzati per il collaudo sono stati verificati con esito soddisfacente

Length (m) *Lunghezza*	159	Diameter (mm) *Diametro*	64		
Construction *Formazione*	6x47WS + I.W.R.C.	Strands *Trefoli*	6	Wires per strand *Fili per trefolo*	47
Lay *Senso di avvolgimento*	R.H.R.L.	Zinc coating grade *Grado di zincatura*	B		
Minimum tensile strength of the wires (N/mm2) *Resistenza minima alla trazione dei fili*	1960				
Minimum breaking strength (kN) *Carico di rottura minimo*	3040	Mass of the rope (kg) *Massa del cavo*	2770		
Markings *Marche apposte*	RINA 13 86 2014/MI/01/565	Testing date *Data collaudo*	09.07.2014		

The results of the tests carried out are shown in the page 2
I risultati delle prove eseguite sono riportati nella pagina 2

10 ATTACHMENT 2 – TUG BP CERTIFICATE AND TOW WIRE CERTIFICATE

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

OCEANTEAM

FORT



IMO: 9388467 MMSI: 255806144 CALL SIGN: CQAD6 OFFICIAL #: 1630

MAIN DATA (*)

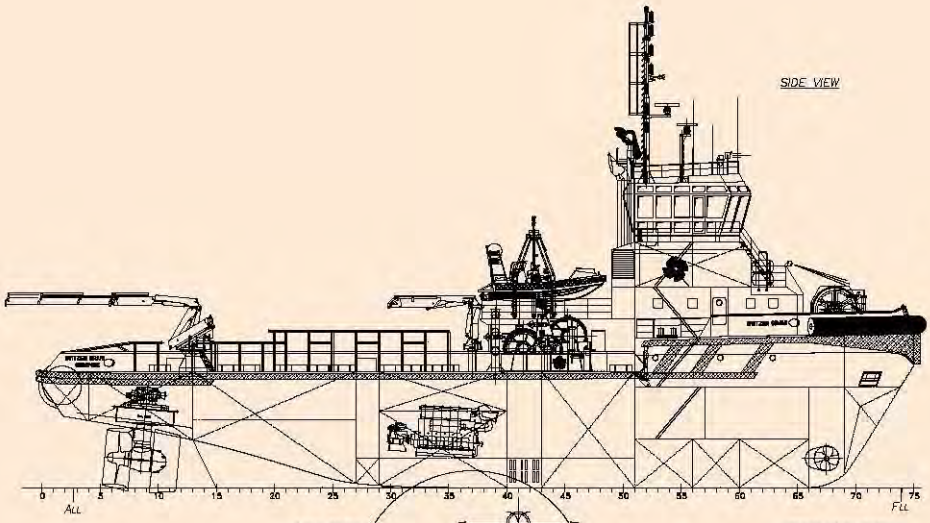
Tug type	Aht	Generators	3X3408C Caterpillar - 280kW
Tug function	Anchor Handling Tug	Bow Thruster	Wartsila 5 Ton CPP / 550 HP
Shipbuilding yard	Unithai Shipyard Thailand	Propulsion type	2X Niigata Z-peller ZP-41 Niigata 6L28HLX 2228kW
Built/Delivery	2007 /13 Nov 2007/Unithai & eng. Ltd Sri Racha	Aft Towing Winch	Upper drum dia. 58mm 800 m, Bottom drums dia. 64mm 300 m
Flag/Port of registry	Madeira-Portugal	Sharkjaw/Towing pin	Marine Eqipment 200 m
Lenght o.a./Reg. Lenght	45,64 m / 42.36	Radio aparatus	MF/HF-DSC, INMARSAT C, SSAS, Navtex, EPIRB, Sart, Satelite Comunication
Breadth	13,20 m	Navigational equip.	2x Marine Radar, 1x Gyrocompass, 1x Autopilot, 1x Magnetic Compass, 1x Echo Sounder, 1x Wind speed sensor, 1x Wind direction sensor, 1x GPS, 1x Ais, 1x Speed Log
Maximum draught	5,30 m		
Gross / Net tonnage / DWT	855T / 256T / 798.91 T		
Bollard pull	67.8 T ASTERN (04 Apr 2024)		
Call Sign / IMO / MMSI	CQAD6 / 9388467 / 255806144		
Accomodation	14 Person	MOB	–
Class notatfion/ RINA #	RINA / 98063	Fuel oil capacity	370,0 m^3
Max Tug speed	13 kt	Rec-oil capacity	–
Main Engine	2X Niigata 6L28HLX	Fresh Water capacity	147,0 m^3
Horse power hp/kw	2 X 2228kW	Foam capacity	15,2 m^3
Fire fighting	FIFI1	Main deck area	17,0 9,0 m (5 Ton/m^2)
		Navigation	A1+A2+A3

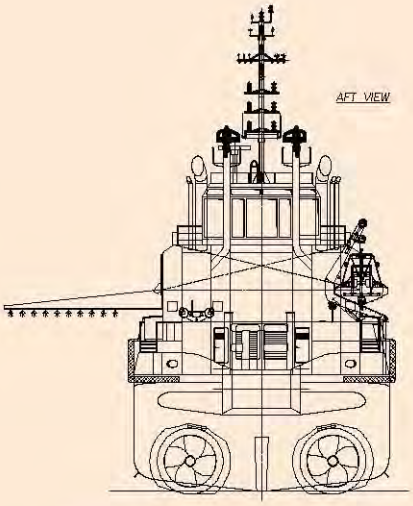
Company IMO #: 5257603
Summer Draft: 4.86 m

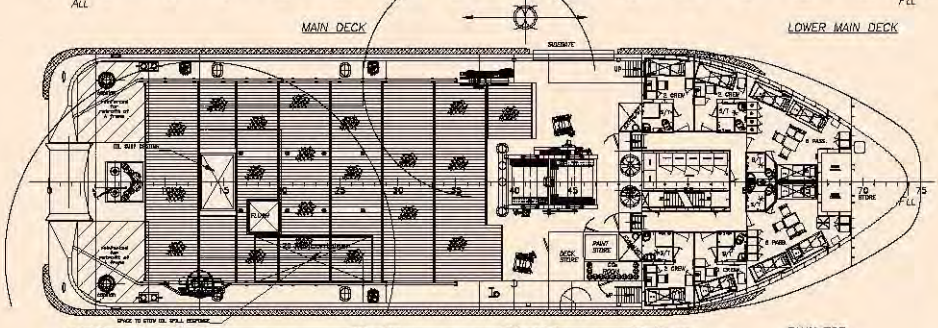
PHONE #: +38651390950 MAIL: 1) tug.fort01@gmail.com MOB ITALY: +393275519796 INMARSAT C #1: 425501894
2) FORT.Fort@SkyFile.com
#2: 425501895

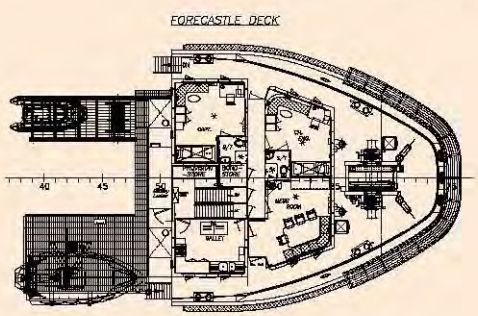
OCEANTEAM

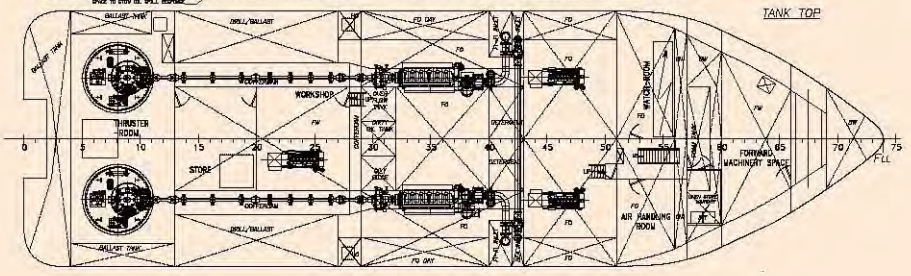
FORT

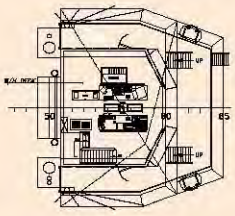












CERTIFICATE OF CLASS

N. 98063-V005-001

RINA No. 98063

IMO number	**9388467**				
Name of ship	**FORT**				
Owner	OCEAN KOPER D.O.O.				
Distinctive number or letters	CQAD6		Flag	Portugal	
Shipyard - place of build	UNITHAI SHIPYARD & ENGINEERING LTD - Sri Racha				
Date of build	13 November 2007		Date of commissioning	13 November 2007	
Overall Length	45.64 m	**Gross Tonnage**	**855**	**Net Tonnage**	**256**
Length Between Perpendiculars	42.38 m	Moulded Breadth	13.20 m	Depth	6.00 m
Number of main engines	2	Total power	4456 kW		

THIS IS TO CERTIFY that the above ship has been surveyed in accordance with the Classification Rules and, on the basis of the survey report submitted, has been assigned the class (*)

C ✠ tug ; fire-fighting ship - 1 - water-spraying ; unrestricted navigation

based on the freeboard indicated in the Load Line Certificate

with additional Class notations: **✠ AUT-UMS; INWATERSURVEY**

This certificate is valid until: **22 November 2027**

The validity may be extended at RINA SERVICES S.p.A.'s decision where allowed by the Rules.

This certificate will be invalidated whenever the requirements of the Rules are not complied with.

Issued at: DUBAI

on: 07 March 2023

Petrovskiy Roman

RINA SERVICES S.p.A.

(*)Service and navigation are described at page 2

Former names ----------

Service

tug ; fire-fighting ship - 1 - water-spraying
Ship specially equipped for towing and/or pushing;
specially intended and equipped for fighting fire, fitted with a self-protection water-spraying system.

Navigation

unrestricted navigation
Unrestricted navigation

Class Additional Notations

✠ **AUT-UMS**	Unattended machinery space: automated installations enabling machinery spaces to remain periodically unattended in all sailing conditions including manoeuvring. System surveyed during construction by a QSCS Classification Society.
INWATERSURVEY	Ship provided with suitable arrangements to facilitate the in-water surveys.

The Certificate of Class becomes invalid in the following cases:
1. when the ship's class is suspended in accordance with the provisions indicated in Part A, Ch 2, Sec 3, [1.2] of Rules for the Classification of Ships,
2. when the ship's class is withdrawn in accordance with the provisions indicated in Part A, Ch 2, Sec 3, [1.3] of Rules for the Classification of Ships.

Furthermore, where the ship is assigned with additional class notations or more than one service notations, these notations are suspended and/or withdrawn in accordance with the provisions indicated in Part A, Ch 2, Sec 3, [1.5] of Rules for the Classification of Ships.

The certificate of class is issued on the basis of the requirements and conditions specified in RINA SERVICES S.p.A. Classification Rules of which the interested party has acquired full knowledge, accepting them unconditionally, with particular regard to the following clauses: RINA SERVICES S.p.A. carries out its duties through officers or other persons it considers possess all the requirements of suitability and competence for the tasks which have been assigned to them. In its capacity as expert, RINA SERVICES S.p.A. only expresses opinions and evaluations of compliance with its own rule requirements and does not, in any case whatsoever, (even if its opinions are requested on matters not expressly covered by Rules) assume the liabilities pertaining to the designers, shipowners, builders, test inspectors, shipyards or any person or organization responsible by law or contractually for providing guarantees for all of whom the respective liabilities remain unchanged even in the case of consultative actions by RINA SERVICES S.p.A.. For what concerns the tasks taken on and carried out directly, other than those delegated in the following, RINA SERVICES S.p.A. is answerable in law terms. Within the context of the tasks under the responsibility of RINA SERVICES S.p.A. as delegate of an Administration, liability can only be recognized in the case of fraud or gross negligence by the officers or the persons encharged. In no case shall the liability, regardless of the amount of damage reported, exceed a value equal to 5 times the total of the fees received by RINA SERVICES S.p.A. as consideration of the services rendered from which the damage reported derives.

PERIODICAL CLASS SURVEYS ENDORSEMENTS

ANNUAL SURVEYS

First annual survey Place Trapani Date 26/01/2024	Signature and seal RINA Tomasello Antonio Marine Surveyor RINA Services S.p.A. 92300
Second annual survey Place TRIESTE Date 17/02/2025	Signature and seal RINA Ivan Kouznetsov Marine Surveyor RINA Services S.p.A. 81736
Third annual survey Place Date	Signature and seal
Fourth annual survey Place Date	Signature and seal
Fifth annual survey Place Date	Signature and seal

INTERMEDIATE SURVEY

The intermediate survey is applicable at any period of class to oil tankers, chemical tankers, FLS tankers, liquefied gas carriers, combination carriers and at any period of class of other ships which are five years old and over

Place Date	Signature and seal

EXTENSION TO ALLOW COMPLETION OF CLASS RENEWAL SURVEY (maximum 3 months)

Place Date Class Certificate extended until:	Signature and seal

CLASS RENEWAL SURVEY

Place Date Validity of Class Certificate confirmed until:	Signature and seal

NOTE: for other Class endorsements refer to the "Class survey endorsement sheets" issued by the Offices in charge of the relevant surveys.

CERTIFICATE OF CONFORMITY
CERTIFICATO DI CONFORMITÀ

No. 25.RA.01.1.206.2ult

RINA file No. *Pratica RINA N.*	25.RA.01.1.206
Manufacturer *Fabbricante o Fornitore*	ITALMET S.R.L. - RAVENNA (ITALY)
Work order No. *Commessa N.*	/
Purchaser *Committente*	OCEAN KOPER D.O.O.
Order No. *Ordine N.*	Intended for *Destinazione* STOCK PURPOSE
Material description: *Descrizione del materiale:*	Item 2) No. 1 Galvanized steel wire rope rope sling dia.54 mm, construction 6XWS(36)+IWRC, Tensile 1960 N/mm2, RHOL, MBL 2176 kN, L=1000m with at one end closed spelter socket CSS.222 (id. "P8436") fixed by "wirelock" procedure. Proof load applied 942 kN
Identification marks: *Marche di identificazione:*	Item 2) 25.RA.01.1.206 BP 70 TON 07.25 RI

THIS IS TO CERTIFY that the material described above has been constructed and tested with satisfactory results in accordance with the applicable RINA Rules.
The results of the tests and control carried out are shown on the attached test certificates.
SI CERTIFICA *che il materiale sopra descritto è stato costruito e collaudato in conformità ai regolamenti del RINA con esito soddisfacente.*
I risultati degli accertamenti e prove effettuati sono indicati nei certificati di prova allegati.

Enclosures: Declaration of Conformity no.25.RA.01.1.206.2ult dated July 21, 2025.
Allegati:

Date: July 21, 2025
Data:

italmet srl
48122 RAVENNA - Via delle Industrie, 81
Tel. 0544.451355 Fax 451345
C.F./P.I. 00178180394

THE MANUFACTURER
IL FABBRICANTE

This certificate is issued by the manufacturer in accordance with the arrangements authorized by RINA in the statement of admission to alternative testing system No. ATS065122RA and 2022/RA/01/651a dated 23/11/2022 on the basis of the certified Quality System.
Questo certificato è rilasciato dal fabbricante in accordo a quanto previsto nella dichiarazione di ammissione a sistema di collaudo alternativo N. ATS065122RA and 2022/RA/01/651a *del* 23/11/2022 *rilasciata sulla base del Sistema di Qualità certificato.*

THIS IS TO CERTIFY that these arrangements are being kept under review by regular and systematic auditing of the approved manufacturing and quality control procedures.
The above material will be accepted for fitting in a ship classed or intended to be classed with RINA subject to satisfactory installation under the usual survey and testing conditions.
Si certifica che il Sistema di Qualità ed il prodotto sono tenuti sotto controllo mediante verifiche periodiche.
Il suddetto materiale sarà accettato a bordo di navi classificate o da classificare dal RINA subordinatamente a soddisfacente installazione come previsto per i singoli prodotti.

Issued at: Ravenna (Italy) *Rilasciato a:*
on: JULY 21, 2025 *il:*

Firmato digitalmente da: Sisto Farina
Organizzazione: RINASERVICESSPA/03487840104
Data: 30/07/2025 23:28:15

RINA

The rules, surveys and activities performed by RINA, reports, certificates and other documents issued by RINA are in no way intended to replace the duties and responsibilities of other parties such as Governments, designers, ship builders, manufacturers, repairers, suppliers, contractors or sub-contractors, owners, operators, charterers, underwriters, sellers or intended buyers of a ship or other product or system surveyed.

These documents and activities do not relieve such parties from any fulfillment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them **according to the law**, nor do they confer on such parties any right, claim or cause of action against RINA. With particular regard to the duties of the ship Owner, the services undertaken by RINA do not relieve the Owner of his duty to ensure **at all times** proper maintenance of the ship and seaworthiness. Likewise, the rules, surveys performed, reports, certificates and other documents issued by RINA are intended neither to guarantee the buyers of the ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction.

In providing the services, as well as other correlated information or advice, RINA, its surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see art. 2.4 of the General Conditions), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. **Therefore,** express and implied warranties are specifically disclaimed.

In providing its services, and also in the case of activities carried out by delegation of Governments, neither RINA nor any of its surveyors will be liable for any loss, damage or expense of whatever nature sustained by any person, in tort or in contract, derived from carrying out the services.

However, should any user of RINA's services prove that he has suffered a loss or damage due to any negligent act or omission of RINA, its surveyors, servants or agents, then RINA will pay compensation to such person for his proved loss, up to, but not exceeding, five times the amount of the fees charged for the specific services, information or opinions from which the loss or damage derives or, if no fee has been charged, a maximum of one hundred thousand Euro.

Any liability for indirect or consequential loss, damage or expense is specifically excluded. In any case, irrespective of the amount of the fees charged, the maximum damages payable by RINA will not be more than 1 million Euro.

No report, statement, notation on a plan, review, class certificate, document or information issued or given as part of the services provided by RINA shall have any legal effect or implication other than a representation that, on the basis **and at the time** of the checks made by RINA, the ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the rules issued by RINA **or by the Governments delegating RINA**. Therefore, RINA cannot be held liable for any act made or document issued by other parties on the basis of the statements or information given by RINA.

I regolamenti, le visite e le attività effettuate da RINA, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono intesi a sostituire per nessuna ragione gli obblighi e le responsabilità di altre parti quali, a titolo esemplificativo, Governi, progettisti, costruttori, fabbricanti, riparatori, fornitori, imprenditori, subcontraenti, Armatori, gestori, noleggiatori, assicuratori, venditori o acquirenti di una nave o altro prodotto o sistema sottoposto a ispezione.

Detti documenti e attività non esimono tali parti da qualsiasi adempimento, garanzia, onere, responsabilità, dovere o obbligo (anche di natura contrattuale), da essi esplicitamente o implicitamente assunti o comunque loro incombenti ***in base alla legge****, né conferiscono a tali parti alcun diritto, pretesa o titolo nei confronti di RINA. Con particolare riguardo ai doveri dell'armatore, i servizi svolti da RINA non lo esimono dall'obbligo di assicurare un'adeguata manutenzione della nave e di garantirne la navigabilità in ogni momento. Parimenti, i regolamenti, le visite effettuate, i rapporti, i certificati e gli altri documenti rilasciati da RINA non sono finalizzati a garantire gli eventuali acquirenti della nave, di suoi componenti o di altro bene oggetto di verifica o certificazione, o a sollevare il venditore degli stessi rispetto agli obblighi derivanti dalla legge o dal contratto, quanto alla qualità, al valore commerciale o alle caratteristiche del bene oggetto di transazione.*

Nel prestare i propri servizi, come pure nel dare informazioni o pareri ad essi correlati, RINA, i suoi tecnici, dipendenti o agenti operano con la dovuta diligenza al fine di una corretta esecuzione dell'incarico. Tuttavia, stante la natura delle attività svolte (v. art. 2.4 Condizioni Generali), non è possibile garantire l'assoluta precisione, correttezza e completezza delle informazioni o dei pareri forniti. ***Pertanto*** *RINA non presta alcuna garanzia esplicita od implicita.*

Nel prestare i propri servizi ed anche nel caso di attività eseguite per delega di Governi, né RINA, né alcuno dei suoi tecnici sarà responsabile di qualsiasi perdita, danno o spesa di qualunque natura sostenuta da qualsiasi persona, sia in via contrattuale, sia in via extracontrattuale, derivanti dall'esecuzione dei servizi. Tuttavia qualora un utente dei servizi di RINA dimostri di aver subito una perdita o un danno a causa di qualche azione od omissione negligente da parte di RINA, dei suoi tecnici, dipendenti o agenti, RINA risarcirà il danno dimostrato fino a concorrenza della somma non superiore a cinque volte l'ammontare dei compensi fatturati per le specifiche prestazioni, informazioni o pareri da cui è derivata la perdita o il danno o, se non sono stati fatturati compensi, fino a un massimo di centomila Euro. Qualsiasi responsabilità per perdite o danni indiretti o "consequenziali" e per le relative spese è espressamente esclusa. In ogni caso, indipendentemente dall'ammontare dei compensi fatturati, l'ammontare massimo risarcibile da RINA non potrà essere superiore a 1 milione di Euro.

A nessun rapporto, dichiarazione, certificato, documento o informazione emessi o rilasciati in esecuzione dei servizi prestati da RINA possono essere attribuiti effetti o implicazioni legali diversi dall'attestazione che, sulla base degli accertamenti eseguiti, la nave, la struttura, i materiali, le apparecchiature, i macchinari o qualsiasi altro elemento cui tale documento o informazione si riferiscono, ***risultano*** *conformi,* ***al momento dell'esecuzione degli accertamenti,*** *ai regolamenti o alle norme emesse da RINA* ***o dai Governi su delega dei quali RINA agisce****. Quest'ultima non assume pertanto alcun obbligo in relazione agli atti compiuti o ai documenti emessi da altre parti sulla base delle dichiarazioni o informazioni rilasciate dalla stessa.*

DECLARATION OF CONFORMITY ACCORDING TO UNI EN 10204
N. 25.RA.01.1.206.2ult

Customer: OCEAN KOPER D.O.O.

Intended for: STOCK PURPOSE

Order no.: /



Firmato digitalmente da: Sisto Farina
Organizzazione: RINASERVICESSPA/03487840104
Data: 30/07/2025 23:28:57

Certificate reference and traceability

No.1pc. - Galvanized steel wire rope sling dia. 54mm, construction 6xWS(36) + IWRC, Tensile 1960 N/mm2, RHOL, MBL 2176 kN (as per RINA certificate no. 25RA01.1.206.1 dated July 21, 2025 and mill's certificate no. 202403-3139p3-4 dated March 12, 2024), L=1000m with at one end Closed Spelter Socket CSS.224 (id. "P8436" as per manufacturer certificate n.5208450 dated 28.03.2025) fixed by "wirelock" procedure. Proof load applied : 942 KN.

July 21, 2025

CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF WIRE ROPE (CG4)

Certificate No:
N1435WA7
Date of issue:
2025-07-24

Location

Name of Vessel, Platform etc: **--**

DNV Id No: **--**

Call sign: **--**

Owners: **--**

Port of Registry: **--**

Nominal diameter of rope (mm):	**52**	Number of strands:	**6**	Number of wires per strand:	**36**
Core:	**IWRC**	Lay:	**RHOL**	Quality of wire (N/mm²):	**1960**
Date of test of sample:	**2025-07-24**				
Load at which sample broke (tonnes):		**197,85 t [1940,9 kN]**	Safe working load of rope (tonnes):		**(*)**
Intended use:	**unknown (*)**				

Remarks:
(*) SWL shall be determined by applying a coefficient of utilisation to breaking load.
Coefficients of utilisation will depend on intended use !

- 1 pce of galvanized steel wire rope, length 825,0m
- one end closed spelter socket 222
- other end plain
- Marked "N1435WA7 + 07EC25 082 01" on tag plate
- Ordered by: Eurocable Holland BV ref. 25301196

Makers or Suppliers name: **Eurocable N.V. - Ref. S17520**

Makers or Suppliers address: **Zwaluwbeekstraat 12, B-9150 Kruibeke, Belgium**

DNV station employing the competent person: **Antwerp**

I certify that the above particulars are correct, and that the rope was tested and examined and no defects affecting its SWL were found.

Issued at **Antwerp** on **2025-07-24**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signatures.

Steven Vlegels
Surveyor

Note:
This Certificate is the standard international form as recommended by the International Labour Office in accordance with ILO Convention No. 152.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Instructions

1. Wire rope shall be tested by sample, a piece being tested to destruction.

2. The test procedure should be in accordance with an international or recognized national standard.

3. The SWL of the rope is to be determined by dividing the load at which the sample broke, by a coefficient of utilisation, determined as follows:

Item	Coefficient
Wire rope forming part of a sling:	
SWL of the sling	
SWL ≤ 10 tonnes	5
10 tonnes < SWL ≤ 160 tonnes	$\frac{10^4}{(8.85 \times SWL) + 1910}$
SWL > 160 tonnes	3
Wire rope as integral part of a lifting appliance:	
SWL of the lifting appliance	
SWL ≤ 160 tonnes	$\frac{10^4}{(8.85 \times SWL) + 1910}$
SWL > 160 tonnes	3

These coefficients should be adopted unless other requirements are specified by a national authority.

4. The expression 'tonne' shall mean a tonne of 1000 kg.

5. The terms 'competent person', 'thorough examination' and 'lifting appliance' are defined in Form No.CG.1.

Note:
For recommendations on test procedures, reference may be made to the ILO document 'Safety and Health in Dock Work'.

11 ATTACHMENT 3 – PASSAGE PLAN PREPARRED BY TUG MASTER

F 12.2-05-D VOYAGE PLANNING

SHIP	FORT	Voyage number	18 /2025
Departure port	RAVENNA, ITALY	Departure date	04 AUG 2025
Arrival port	EEEMSHAVEN, NETHERLANDS	Arrival date	26 AUG 2025
Total miles- Pilot to Pilot	3201.9 nm	Speed	6.0 Knots
Total miles -Berth to Berth	3231.9 nm	Total miles -Berth to Pilot Total miles - Pilot to Berth	4.0 nm 26.0 nm

WAY POINT (WP)	HEADING	DISTANCE IN MILES	MILES TO ARRIVAL	ETA NEXT WP
RAVENNA / 44° 29.7' N / 012° 19' E	082°	1.5	3201.9	04-08-25 12:00
WP 2 / 44° 29.9' N / 012° 21.1' E	090°	1.0	3200.3	04-08-25 12:15
WP 3 / 44° 29.9' N / 012° 22.5' E	137°	2.9	3199.3	04-08-25 12:25
WP 4 / 44° 27.8' N / 012° 25.2' E	126°	5.1	3196.5	04-08-25 12:53
WP 5 / 44° 24.8' N / 012° 30.9' E	085°	6.8	3191.4	04-08-25 13:44
WP 6 / 44° 25.4' N / 012° 40.4' E	096°	15.4	3184.6	04-08-25 14:52
WP 7 / 44° 23.7' N / 013° 1.7' E	128°	45.3	3169.2	04-08-25 17:26
WP 8 / 43° 56.1' N / 013° 51.6' E	131°	13.6	3123.9	05-08-25 00:59
WP 9 / 43° 47.2' N / 014° 5.8' E	145°	16.9	3110.3	05-08-25 03:15
WP 10 / 43° 33.3' N / 014° 19' E	135°	104.4	3093.4	05-08-25 06:04
WP 11 / 42° 19.8' N / 016° 0' E	135°	135.2	2989.0	05-08-25 23:28
WP 12 / 40° 44.5' N / 018° 7.6' E	144°	40.1	2853.8	06-08-25 22:00
WP 13 / 40° 11.9' N / 018° 38.1' E	193°	27.9	2813.8	07-08-25 04:40
WP 14 / 39° 44.7' N / 018° 30.2' E	217°	246.8	2785.9	07-08-25 09:19
WP 15 / 36° 28.2' N / 015° 21.1' E	272°	37.1	2539.1	09-08-25 02:27
WP 16 / 36° 29.3' N / 014° 35.2' E	298°	205.3	2502.0	09-08-25 08:38
WP 17 / 38° 5.4' N / 010° 48.1' E	269°	132.5	2296.7	10-08-25 18:51
WP 18 / 38° 3.9' N / 008° 0.5' E	260°	489.7	2164.2	11-08-25 16:56
WP 19 / 36° 38.9' N / 002° 3.7' W	268°	2.6	1674.5	15-08-25 02:33
WP 20 / 36° 38.8' N / 002° 6.9' W	257°	156.7	1671.9	15-08-25 02:59
WP 21 / 36° 3.2' N / 005° 15.5' W	253°	17.7	1515.2	16-08-25 05:06
WP 22 / 35° 58' N / 005° 36.3' W	270°	29.1	1497.5	16-08-25 08:03
WP 23 / 35° 58.1' N / 006° 12.1' W	292°	147.5	1468.4	16-08-25 12:54
WP 24 / 36° 54.1' N / 009° 1' W	311°	6.1	1320.9	17-08-25 13:29
WP 25 / 36° 58.1' N / 009° 6.8' W	342°	3.4	1314.8	17-08-25 14:30
WP 26 / 37° 1.3' N / 009° 8.1' W	345°	110.3	1311.4	17-08-25 15:04
WP 27 / 38° 47.7' N / 009° 44.8' W	000°	42.8	1201.1	18-08-25 09:27
WP 28 / 39° 30.5' N / 009° 44.4' W	360°	220.9	1158.3	18-08-25 16:35
WP 29 / 43° 11.4' N / 009° 46.1' W	026°	20.7	937.4	20-08-25 05:24
WP 30 / 43° 29.9' N / 009° 33.5' W	029°	353.7	916.7	20-08-25 08:51
WP 31 / 48° 39.4' N / 005° 27.1' W	056°	123.0	563.0	22-08-25 19:48
WP 32 / 49° 48.7' N / 002° 52' W	075°	154.1	440.1	23-08-25 16:17
WP 33 / 50° 29.7' N / 000° 59.2' E	049°	18.1	286.0	24-08-25 17:58
WP 34 / 50° 41.6' N / 001° 20.7' E	022°	14.7	267.8	24-08-25 21:00
WP 35 / 50° 55.2' N / 001° 29.3' E	043°	17.7	253.2	24-08-25 23:26
WP 36 / 51° 8.1' N / 001° 48.5' E	061°	10.3	235.5	25-08-25 02:23
WP 37 / 51° 13.1' N / 002° 2.8' E	028°	3.7	225.2	25-08-25 04:06

WP 38 / 51° 16.4' N / 002° 5.6' E	012°	9.3	221.5	25-08-25 04:43
WP 39 / 51° 25.5' N / 002° 8.6' E	041°	27.9	212.2	25-08-25 06:16
WP 40 / 51° 46.5' N / 002° 38.2' E	040°	28.8	184.2	25-08-25 10:56
WP 41 / 52° 8.5' N / 003° 8.4' E	045°	33.8	155.4	25-08-25 15:44
WP 42 / 52° 32.5' N / 003° 47.3' E	045°	22.8	121.6	25-08-25 21:22
WP 43 / 52° 48.7' N / 004° 13.8' E	023°	11.6	98.7	26-08-25 01:11
WP 44 / 52° 59.4' N / 004° 21.3' E	031°	20.4	87.1	26-08-25 03:07
WP 45 / 53° 16.9' N / 004° 38.7' E	022°	7.7	66.7	26-08-25 06:31
WP 46 / 53° 24' N / 004° 43.5' E	068°	13.8	59.0	26-08-25 07:48
WP 47 / 53° 29.2' N / 005° 4.9' E	072°	33.9	45.2	26-08-25 10:06
WP 48 / 53° 39.6' N / 005° 59.1' E	096°	11.4	11.4	26-08-25 15:45
WP 49 / 53° 38.4' N / 006° 18.1' E	***	***	0.0	26-08-25 17:38

VARIOUS INFORMATIONS

A	Nautical charts used (in sequence): 1445, 146, 220 , 200, 186, 187, 1941, 1018 ,2122, 2123, 166, 2121, 252, 1910, 2717, 1909, 774, 773, 3578, 91, 142, 93, 89, 3132, 87, 3636, 3635, 3634, 3633, 1111, 1104, 20, 2675, 2643, 2647, 2656, 2454, 2450, 2451, 1892,1406, 2449, 323,1630, 110,122, 207, 208, 2669, 1632, 1504, 1631, 1408, 1633, 90		
B	Tracks are pencilled on charts	YES X	NO
C	Nautical publications used:		
	Tides and currents NP 208, NP 202 VOL 2 & VOL 1A	Guide to port entry N.: YES	NAVTEX and Meteofax Messages YES
	List of Lights NP 78, NP 77, NP 74, NP 75	List of Radio signals NP281(1), NP282(1), NP283(1), NP285, NP286(3), NP286(1)	Ship routeing NP 47, NP 45, NP 67, NP 22, NP 27, NP 28, NP 55
D	Charts and publications updated to NTM number: 30 /2025	on date 20 July 2025	

DANGERS TO NAVIGATION

Take care of small fishing boats alongside the route predominately on departure from Ravenna, Otranto, South of Sicily, off Algerian and Spanish coast, Gibraltar strait, off Portuguese coast, along English Channel and off Texel and Ems approaches.

Use a parallel index when leaving and entering inside -outside port and in coastal navigation.

Follow Master Standing Orders.

MASTER'S ADDITIONAL INSTRUCTIONS

RAVENNA, ITALY
Ravenna Port informer on VHF Ch.09
Piloti Ravenna on VHF Ch.12
Harbour Master Ravenna VHF ch. 11/16
Tugs Ravenna VHF Ch. 12/16

CABO DE GATA, SPAIN
Gata Trafico on VHF Ch.16/11

GIBREP
Tarifa Traffic on VHF Ch.16/10/67

COPREP
Roca Control on VHF Ch.16/22/69/79

FINREP
Finisterre Traffic on VHF Ch.16/11/74

OUESSREP
Ouessant Traffic on VHF Ch.13

MANCHEREP
Jobourg Traffic on VHF Ch.13

CALLDOVREP
Gris-Nez Traffic on VHF Ch.13

EEMSHAVEN
Eemshaven Pilots on VHF Ch.19
VTS Eemshaven on VHF Ch.01

LIST OF REFUGEE PORTS FOR THE VOYAGE:

BRINDISI – 40°39'N / 17°58'E – PILOTI BRINDISI VHF CH 16/11/12
CROTONE – 39°06'N / 17°08'E – PILOTI CROTONE VHF CH 16/14
PALERMO – 38°15'N / 13°32'E – PILOTI PALERMO VHF CH 12
CAGLIARI – 39°12'N / 9°06'E – PILOTI CAGLIARI VHF CH 16/12
ALGIERS – 36°46'N / 3°04'E – ALGER PILOTS VHF CH 16/12
CARTAGENA – 37°35'N / 0°59'W – CARTAGENA PILOTS VHF CH 16/12
ALGECIRAS – 36°09'N / 5°26' W – ALGECIRAS PILOTS VHF CH 16/13
CADIZ – 36°34'N / 6°18'W – CADIZ PILOTS VHF CH 16/14
LISBON – 38°42'N / 9°09'W – PILOTOS LISBOA VHF CH14
VIGO – 42°14'N / 8°44'W – VIGO PILOT STATION VHF CH 16/14
BREST – 48°22'N / 4°29'W – BREST PILOTS VHF CH 12
PLYMOUTH – 50°21'N / 4°11'W – PLYMOUTH PILOTS VHF CH 16/14
ROTTERDAM – 51°54'N / 4°19'E – MAAS APPROACH VHF CH01, PILOT MAAS VHF CH02
EEMSHAVEN – 53°28'N / 6°50'E – EEMSHAVEN PILOT VHF CH 19

Prepared by: Chief Mate -PAOLO GALOVIC..... Date: 1 AUG 2025 .....

Master's approval: MARIN SESTAN .....

MADEIRA - PORTUGAL
GT: 855
NT: 256
IMO No.: 9353467

12 ATTACHMENT 4 – SHELTER AREA (IF REQ'D)

DISTANCE BETWEEN SHELTER AREAS					
sector	**ROUTE**	**DISTANCE (NAUTICAL MILES)**	**SPEED (KNOTS)**	**DURATION (DAYS)**	**DURATION (hours)**
1	RAVENNA TO BRINDISI	350	5	2.9	70.0
2-1	BRINDISI TO CROTONE	140	5	1.2	28.0
2-2	CROTONE TO PALERMO	380	5	3.2	76.0
3-1	PALERMO TO CAGLIARI	200	5	1.7	40.0
3-2	CAGLIARI - ALGIERS	310	5	2.6	62.0
3-3	ALGIERS - CARTAGENA	210	5	1.8	42.0
3-4	CARTAGENA TO ALGECIRAS	240	5	2.0	48.0
4	ALGECIRAS TO CADIZ	80	5	0.7	16.0
5-1	CADIZ TO LISBON	240	5	2.0	48.0
5-2	LISBON TO VIGO	240	5	2.0	48.0
6-1	VIGO TO BREST	450	5	3.8	90.0
6-2	BREST TO PLYMOUTH	150	5	1.3	30.0
6-3	PLYMOUTH TO ROTTERDAM	320	5	2.7	64.0
6-4	ROTTERDAM TO EEMSHAVEN	160	5	1.3	32.0

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

13 ATTACHMENT 5 – BOLLARD PULL CALCULATION

BP CALCULATION ACCORDING TO DNV-ST-N001, 2023

1. ROUTE and SEASONAL DATA

The fig 1.1 shows the route and the sectors (ref document DK-TYYY-TNI-RPT-000-10002_B_IFC_2018-06-19_02.



Table III. Transportation route 2

Sector	1	2	3	4	5	6
Latitude	42.5ºN	38.5ºN	38.0ºN	36.0ºN	43.5ºN	48.5ºN
Longitude	16.0ºE	19.0ºE	5.0ºE	10.5ºW	10.5ºW	5.5ºW

Figure 1.1 – Voyage Route – Sectors of North route – Route 2

1-year extreme values – ref. DK-TYYY-TNI-RPT-000-10002_B_IFC_2018-06-19_02

Table VIII. 1-year extremes for transportation route 2

Sector	1-year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Hs [m]	3.3	2.7	3.4	2.9	2.4	2.4	1.8	1.9	2.4	2.7	3.2	3.7
	Ws [m/s]	15.9	14.6	18.4	15.5	14.8	13.9	11.4	12.3	16.6	14.6	16.1	16.8
2	Hs [m]	5.2	5.3	3.9	3.9	3.3	3.3	2.7	3.1	2.6	4.3	4.5	5.4
	Ws [m/s]	19.2	19.9	18.5	17.6	15.2	14.9	13.8	14.0	14.4	17.6	18.3	19.6
3	Hs [m]	5.0	6.4	5.5	4.8	3.1	3.1	2.4	2.1	3.3	3.9	5.1	5.6
	Ws [m/s]	19.5	19.4	19.9	19.3	15.3	14.3	12.7	12.6	13.2	16.3	18.5	18.1
4	Hs [m]	7.3	6.9	5.6	5.8	3.9	2.9	3.0	3.3	4.0	6.1	6.8	6.7
	Ws [m/s]	16.1	16.7	15.9	14.1	14.7	13.8	12.4	13.8	12.7	17.1	16.5	18.5
5	Hs [m]	9.1	7.8	7.9	6.4	5.9	4.5	3.7	4.1	6.1	7.7	9.2	7.9
	Ws [m/s]	19.2	17.0	17.4	15.7	15.1	15.0	13.0	15.0	15.7	19.7	18.9	22.0
6	Hs [m]	8.4	7.8	9.8	7.2	5.2	4.4	5.1	4.8	4.9	7.5	7.1	9.5
	Ws [m/s]	20.4	19.2	22.7	17.5	19.8	15.2	15.5	15.1	15.8	18.4	18.2	20.9

Table 1 – Voyage Route – Sectors of route 2 - 1-y extreme wind and wave

10-year extreme values – ref. DK-TYYY-TNI-RPT-000-10002_B_IFC_2018-06-19_02

Table IX. 10-year extremes for transportation route 2

Sectors	10-year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Hs [m]	4.4	3.6	4.5	3.8	3.2	3.1	2.3	2.5	3.2	3.6	4.2	4.9
	Ws [m/s]	18.8	17.3	21.8	18.3	17.6	16.5	13.5	14.5	19.6	17.3	19.1	19.8
2	Hs [m]	7.0	7.2	5.3	5.2	4.4	4.5	3.7	4.1	3.5	5.8	6.1	7.3
	Ws [m/s]	23.0	23.8	22.2	21.0	18.2	17.9	16.5	16.7	17.3	21.0	21.9	23.4
3	Hs [m]	6.8	8.7	7.4	6.5	4.2	4.2	3.2	2.8	4.5	5.3	6.9	7.5
	Ws [m/s]	23.1	23.0	23.6	22.8	18.1	16.9	15.0	14.9	15.6	19.2	21.9	21.4
4	Hs [m]	9.5	9.1	7.3	7.6	5.1	3.9	3.9	4.3	5.3	8.0	8.9	8.8
	Ws [m/s]	19.4	20.1	19.2	17.0	17.7	16.6	14.9	16.6	15.3	20.5	19.8	22.3
5	Hs [m]	11.7	10.1	10.2	8.2	7.6	5.8	4.8	5.2	7.8	10.0	11.9	10.2
	Ws [m/s]	23.2	20.5	21.0	18.9	18.3	18.1	15.7	18.1	19.0	23.7	22.8	26.5
6	Hs [m]	11.3	10.4	13.1	9.7	6.9	5.8	6.8	6.4	6.5	10.0	9.5	12.6
	Ws [m/s]	24.1	22.7	26.8	20.6	23.3	18.0	18.3	17.8	18.6	21.7	21.5	24.6

Table 2 – Voyage Route – Sectors of route 2 - 10-y extreme wind and wave

The above tables are given as a reference only. Please note from above table max wind 10-y is always lower than 20 m/s.

2. MARINE SPREAD

This section presents the selected TUG and cargo barge.

2.1 TRANSPORTATION BARGE DETAILS

The VERVECE barge is used in transporting the Topside, Transition piece and Caisson frame. Details of this barge are as below.

- Barge Name: VERVECE
- LOA: 91.50 m
- Breadth: 27.40 m
- Depth: 6.10 m
- Light ship: 1833 t

2.2 SELECTED TUG

The AHT-Fort tug is used to tow the cargo barge. Details of this Tug are as below.

- Tug Name: Fort
- IMO No. 9388467
- Flag/Port of registry: Madeira/Portugal
- LOA: 45.64 m
- Breadth: 13.20 m
- Depth: 5.30 m
- Bollard pull: 67.8 t

3. MIN BP CALCULATION

3.1 DNV-ST-N001, 2023

According to section 11.12.2.5 of DNV-ST-N001, the calculation of minimum BP for weather restricted tow shall be carried out using the worst of the 2 following approaches:

11.12.2.5 For weather restricted towages, the TPR shall be the greater of the TPRs calculated for the following sets of environmental conditions:

1) to document that the tow will maintain forward speed under all possible weather conditions:
   - the OPLIM significant wave height, OP_{LIM} < 5 m (i.e. such towages should not be attempted if the design wave is more than 5 m significant)
   - the ten-minute sustained wind velocity of 1.2 times the OP_{LIM} wind speed and
   - a one year return period current + 0.5 m/s.

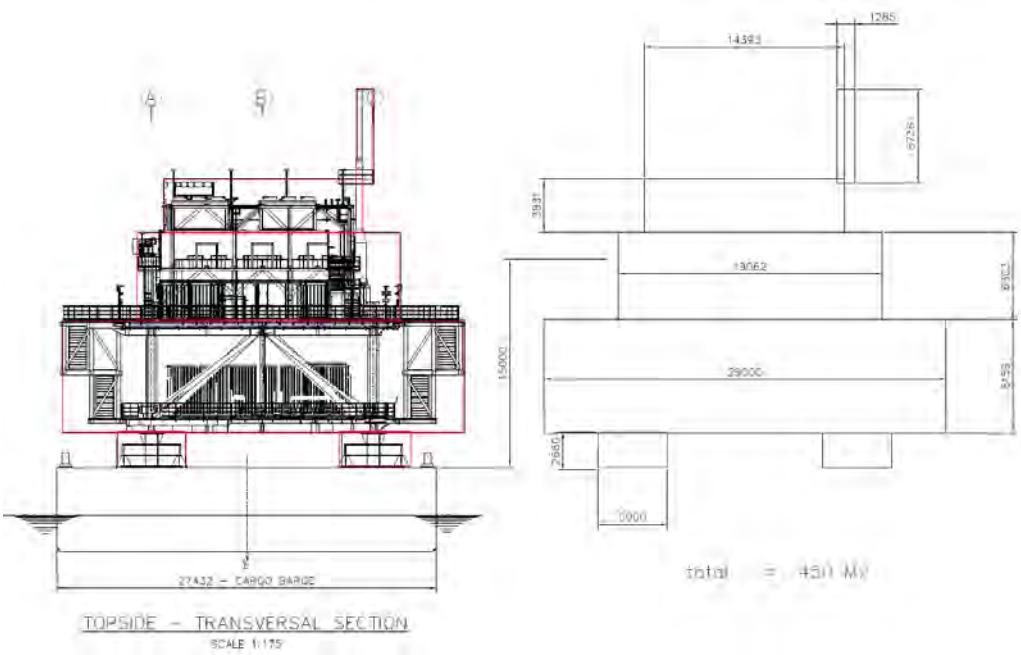
2) to render probable that the tow can be carried out within T_{POP}:
   - the OP_{WF} significant wave height
   - the ten-minute sustained wind velocity of the OP_{WF} wind speed and
   - a one year return period current + the required forward speed to obtain T_{POP}.

3.2 ALPHA FACTORS

On top of the calculated values of BP, a reduction factor based on DNV-ST-N001, table 2-12 considering Weather forecast level **B** applies for wave and 2-15 for wind.

3.3 CARGO EXPOSED SURFACE

The calculated exposed area is taken into calculation using height factor = 1.10 and shape factor = 1.30 according to DNV-RP-C205.



Ch: Height Coefficient			
Height above sea level (metres)			
Over	Not exceeding		Ch
0	15.3		1.00
15.3	30.5		1.10
30.5	46		1.20
46	61		1.30
61	76		1.37
76	91.5		1.43
91.5	106.5		1.48
106.5	122		1.52
122	137		1.56
137	152.5		1.60
152.5	167.5		1.63
167.5	183		1.67
183	198		1.70
198	213.5		1.72
213.5	228.5		1.75
228.5	244		1.77
244	259		1.79
259+			1.80

Table 2: Height Coefficient

DNV-RP-C205

Cs : Shape Coefficient	
Spherical	0.40
Cylindrical	0.50
Large flat surface (hull, deckhouse, smooth under deck areas)	1.00
Drilling derrick	1.25
Wires	1.20
Exposed beams and girders under deck	1.30
Small parts	1.40
Isolated shapes (cranes, beam, etc)	1.50
Clustered deck houses or similar structures	1.10

Table 1: Shape Coefficient

DNV-RP-C205

A total of 450 m2 is considered covering TP (behind the BLPH) and Caisson Frame (tubular surface)

Cd for current assumed 0.6 for pontoon with raked bow (ref. IMO)

3.4 APPROACH 1

11.12.2.5 For weather restricted towages, the TPR shall be the greater of the TPRs calculated for the following sets of environmental conditions:

1) to document that the tow will maintain forward speed under all possible weather conditions:
   - the OPLIM significant wave height, OP_{LIM} < 5 m (i.e. such towages should not be attempted if the design wave is more than 5 m significant)
   - the ten-minute sustained wind velocity of 1.2 times the OP_{LIM} wind speed and
   - a one year return period current + 0.5 m/s.

Tug speed = 1 knots

OP lim = 3.50m

Wind = 19m/s (10-y Sept.)*1.2 = 22 m/s

Current = 0.50+0.50 m/s

input values for BP calculation (approach 1 - 11.12.2.5)		
max Hs [m]	**Wind [m/s]**	**Current [m/s]**
3.5	22.0	1.0

INPUT

GENERAL			
Parameter	**Notation**	**Value**	**Units**
Air Density	ρ_a	1.225	kg/m^3
Sea Water Density	ρ_w	1025	kg/m^3
Acc. Due to Gravity	g	9.81	m/s^2

TOWED BARGE			
VERVECE			
Parameter	**Notation**	**Value**	**Units**
Length	L	91.20	m
Breadth	B	27.40	m
Depth	D	6.10	m
Draft (Mid)	T	2.90	m
Freeboard	f	3.20	m
Hull Windage Area	A_{WH} = B X f	87.68	m^2
Wind Coefficient (Hull)	C_W	1.20	
Hull Underw ater Area	A_{CH} = B X T	79.46	m^2
Current Drag Coefficient (Hull)	C_D	0.60	

CARGO			
BLPH			
Parameter	**Notation**	**Value**	**Units**
Breadth Overall	B_c	25.00	m
Height Overall	H_c	18.00	m
Height Coefficient	Ch	1.10	*RP-C205*
Shape Coefficient	Cs	1.30	*RP-C205*
Cargo Windage Area	A_{WC} = B_C x H_C	450.00	m^2

SEA STATE			
Parameter	**Notation**	**Value**	**Units**
Wave Height	H_S	3.5	m
Current Speed	V_C	1.0	m/s
Wind Speed	V_W	22.0	m/s

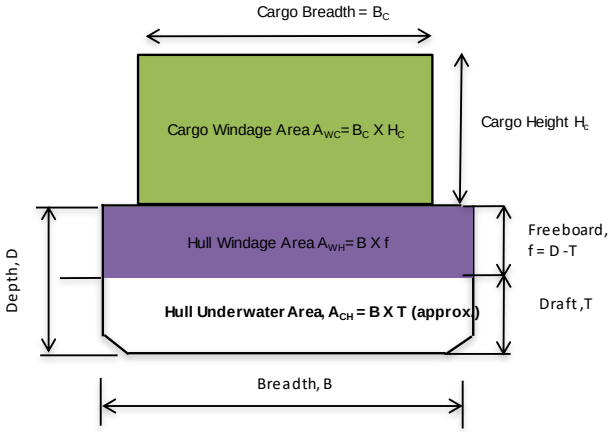
TUG PROPERTY			
Parameter	**Notation**	**Value**	**Units**
Length	LOA	45.7	m
Actual Bollard Pull of Tug	BP	67.8	MT
Tug Efficiency	η	0.674	11.12.2.10
Tow ing Speed, Vt	Vt	1.0	knots
		0.5	*m/s*

TUG	FORT	
BP	67.8	t
length	45.74	m

REQUIRED BOLLARD PULL CALCULATION FOR BARGES

Based on DNV Rules for Marine Operations DNV-OS-H202 (2-2) / DNV-ST-N001 / DNVGL-RP-N103 / DNV-RP-C205

REQUIRED BOLLARD PULL 66.87 MT



Sectional View of Barge with Cargo

TOW PULL CALCULATION

APPLICABILITY CHECK			
Ratio	**Minimum Applicable**	**Actual**	**Check**
L/B	3.0	3.3	**OK**
B/T	6.0	9.4	**OK**

Wind Resistance, $F_W = F_{WH} + F_{WC}$		
F_{WH} = Wind Resistance for Hull		
$F_{WH} = 1/2 \times \rho_a \times (V_W^2 + Vt^2) \times A_{WH} \times C_W$		
F_{WH}	**3.18**	MT
F_{WC} = Wind Resistance for Cargo		
$F_{WC} = 1/2 \times \rho_a \times (V_W^2 + Vt^2) \times A_{WC} \times C_h \times C_s$		
F_{WC}	**19.46**	MT
F_W = Total Wind Resistance		
$F_W = F_{WH} + F_{WC}$	**22.64**	**MT**

Current (& fwd speed) Resistance F_C		
$F_C = 1/2 \times \rho_s \times C_D \times (V_C^2 + Vt^2) \times A_{CH}$		
Fc	**3.15**	**MT**

Wave Drift Resistance F_D		
Fwd = 1/8 x ρw x g x R^2 x B x Hs^2		
R	0.67	reflection coeff
B11	-	drift damping
F_D	**19.31**	**MT**

Ref. DNVGL-RP-N103, sect 7.2.6.4 @ 0 fwd speed

TOTAL RESISTANCE, $F_T = F_W + F_C + F_D$		
Wind Resistance, F_W	**22.64**	**MT**
Current Resistance, F_C	**3.15**	**MT**
Wave Drift Resistance, $F_{D\ @0\ fwd\ speed}$	**19.31**	**MT**
Wave Drift Resistance, F_D + speed		
Total Resistance, F_T	**45.09**	**MT**

TUG EFFICIENCY		
Tug Efficiency, η	**0.67**	11.12.2.10

REQUIRED BOLLARD PULL (BP = F_T / η)		
BP	**66.9**	**MT**
Required Bollard Pull < Actual Bollard Pull => OK		

Min. Req. TBL - RTBL (MT)		Table 11-18
Continuous Bollard Pull (BP)	Benign Areas	Other Ares
BP < 40 MT	133.7	200.6
40 <= BP <= 100 MT	133.7	170.7
BP > 100 MT	133.7	133.7

3.5 APPROACH 2

2) to render probable that the tow can be carried out within T_{POP}:
   - the OP_{WF} significant wave height
   - the ten-minute sustained wind velocity of the OP_{WF} wind speed and
   - a one year return period current + the required forward speed to obtain T_{POP}.

OPwf = 3.0m

Associated Beaufort scale shows wind = 22-27 knots, assumed 16 m/s

Wind Force	Description	Wind Speed			Specifications	Probable Wave Height		Sea State
5	**Fresh Breeze**	29-38	19-24	17-21	Small trees in leaf begin to sway; crested wavelets form on inland waters. Moderate waves, many white horses	2.0	2.5	4
6	**Strong Breeze**	38-49	25-31	22-27	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty. Large waves, extensive foam crests	3.0	4	5

Current 0.5m/s

input values for BP calculation with 5knots FWD speed (approach 2 -11.12.2.5)		
max Hs [m]	**Wind [m/s]**	**Current [m/s]**
3	16.0	0.5

Tug FWD speed of 5 knots, and the increased number of shelter areas over the route, allows the convoy to cover all the sectors in max 80 hours, 50% of the sector in less than 48hours.

DISTANCE BETWEEN SHELTER AREAS							
sector	**ROUTE**	**DISTANCE (NAUTICAL MILES)**	**SPEED (KNOTS)**	**DURATION (DAYS)**	**DURATION (hours)**	**50% over the sector [hours]**	**alpha at [h]**
1	RAVENNA TO BRINDISI	350	5	2.9	70.0	35.0	36h
2-1	BRINDISI TO CROTONE	140	5	1.2	28.0	14.0	24h
2-2	CROTONE TO PALERMO	380	5	3.2	76.0	38.0	48h
3-1	PALERMO TO CAGLIARI	200	5	1.7	40.0	20.0	24h
3-2	CAGLIARI - ALGIERS	310	5	2.6	62.0	31.0	36h
3-3	ALGIERS - CARTAGENA	210	5	1.8	42.0	21.0	24h
3-4	CARTAGENA TO ALGECIRAS	240	5	2.0	48.0	24.0	24h
4	ALGECIRAS TO CADIZ	80	5	0.7	16.0	8.0	12h
5-1	CADIZ TO LISBON	240	5	2.0	48.0	24.0	24h
5-2	LISBON TO VIGO	240	5	2.0	48.0	24.0	24h
6-1	VIGO TO BREST	450	5	3.8	90.0	45.0	48h
6-2	BREST TO PLYMOUTH	150	5	1.3	30.0	15.0	24h
6-3	PLYMOUTH TO ROTTERDAM	320	5	2.7	64.0	32.0	36h
6-4	ROTTERDAM TO EEMSHAVEN	160	5	1.3	32.0	16.0	24h

INPUT

GENERAL			
Parameter	**Notation**	**Value**	**Units**
Air Density	ρ_a	1.225	kg/m^3
Sea Water Density	ρ_w	1025	kg/m^3
Acc. Due to Gravity	g	9.81	m/s^2

TOWED BARGE			
VERVECE			
Parameter	**Notation**	**Value**	**Units**
Length	L	91.20	m
Breadth	B	27.40	m
Depth	D	6.10	m
Draft (Mid)	T	2.90	m
Freeboard	f	3.20	m
Hull Windage Area	A_{WH} = B X f	87.68	m^2
Wind Coefficient (Hull)	C_W	1.20	
Hull Underwater Area	A_{CH} = B X T	79.46	m^2
Current Drag Coefficient (Hull)	C_D	0.60	

CARGO			
BLPH			
Parameter	**Notation**	**Value**	**Units**
Breadth Overall	B_c	25.00	m
Height Overall	H_c	18.00	m
Height Coefficient	Ch	1.10	*RP-C205*
Shape Coefficient	Cs	1.30	*RP-C205*
Cargo Windage Area	A_{WC} = B_C x H_C	450.00	m^2

SEA STATE			
Parameter	**Notation**	**Value**	**Units**
Wave Height	H_S	3.0	m
Current Speed	V_C	0.5	m/s
Wind Speed	V_W	16.0	m/s

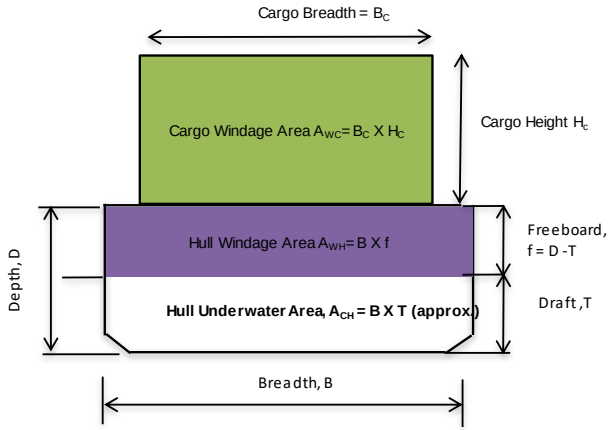
TUG PROPERTY			
Parameter	**Notation**	**Value**	**Units**
Length	LOA	45.7	m
Actual Bollard Pull of Tug	BP	67.8	MT
Tug Efficiency	η	0.699	11.12.2.10
Towing Speed, Vt	Vt	5.0	knots
		2.6	*m/s*

TUG	FORT	
BP	67.8	t
length	45.74	m

REQUIRED BOLLARD PULL CALCULATION FOR BARGES

Based on DNV Rules for Marine Operations DNV-OS-H202 (2-2) / DNV-ST-N001 / DNVGL-RP-N103 / DNV-RP-C205

REQUIRED BOLLARD PULL 62.28 MT



Sectional View of Barge with Cargo

TOW PULL CALCULATION

APPLICABILITY CHECK			
Ratio	**Minimum Applicable**	**Actual**	**Check**
L/B	3.0	3.3	**OK**
B/T	6.0	9.4	**OK**

Wind Resistance, $F_W = F_{WH} + F_{WC}$		
F_{WH} = Wind Resistance for Hull		
$F_{WH} = 1/2 \times \rho_a \times (V_w^2 + Vt^2) \times A_{WH} \times C_W$		
F_{WH}	**1.73**	MT
F_{WC} = Wind Resistance for Cargo		
$F_{WC} = 1/2 \times \rho_a \times (V_w^2+Vt^2) \times A_{WC} \times C_h \times C_s$		
F_{WC}	**10.55**	MT
F_W = Total Wind Resistance		
$F_W = F_{WH} + F_{WC}$	**12.28**	**MT**

Current (& fwd speed) Resistance F_C		
$F_C = 1/2 \times \rho_s \times C_D \times (V_c^2 + Vt^2) \times A_{CH}$		
Fc	**17.10**	**MT**

Wave Drift Resistance F_D		
Fwd = 1/8 x ρw x g x R^2 x B x Hs^2		
R	0.67	reflection coeff
B11	-	drift damping
F_D	**14.18**	**MT**

Ref. DNVGL-RP-N103, sect 7.2.6.4 @ 0 fwd speed

TOTAL RESISTANCE, $F_T = F_W + F_C + F_D$		
Wind Resistance, F_W	**12.28**	**MT**
Current Resistance, F_C	**17.10**	**MT**
Wave Drift Resistance, F_D @0 fwd speed	**14.18**	**MT**
Wave Drift Resistance, F_D + speed		
Total Resistance, F_T	**43.56**	**MT**

TUG EFFICIENCY		
Tug Efficiency, η	**0.70**	11.12.2.10

REQUIRED BOLLARD PULL (BP = F_T / η)		
BP	**62.3**	**MT**
Required Bollard Pull < Actual Bollard Pull => OK		

Min. Req. TBL - RTBL (MT)			Table 11-18
Continuous Bollard Pull (BP)	Benign Areas	Other Ares	
BP < 40 MT	124.6	186.8	
40 <= BP <= 100 MT	124.6	163.7	
BP > 100 MT	124.6	124.6	

14 ATTACHMENT 6 – HAND-OVER PROCEDURES

Procedure for hand-over of tow at sea

This procedure is to be used when the towed asset has to be passed from one tug to another at sea, amended procedure can be used for hand-over single to double tow and vice versa (hand-over of only one leg of the bridle).

Communication:

- A working language shall be agreed upon.
- The means of communication shall be agreed (VHF).
- The communication shall be tested (tug and deck).
- A person in charge shall be appointed.

Planning:

Following items shall be verified before executing the operation, after agreement of the final hand-over procedure between both Masters:

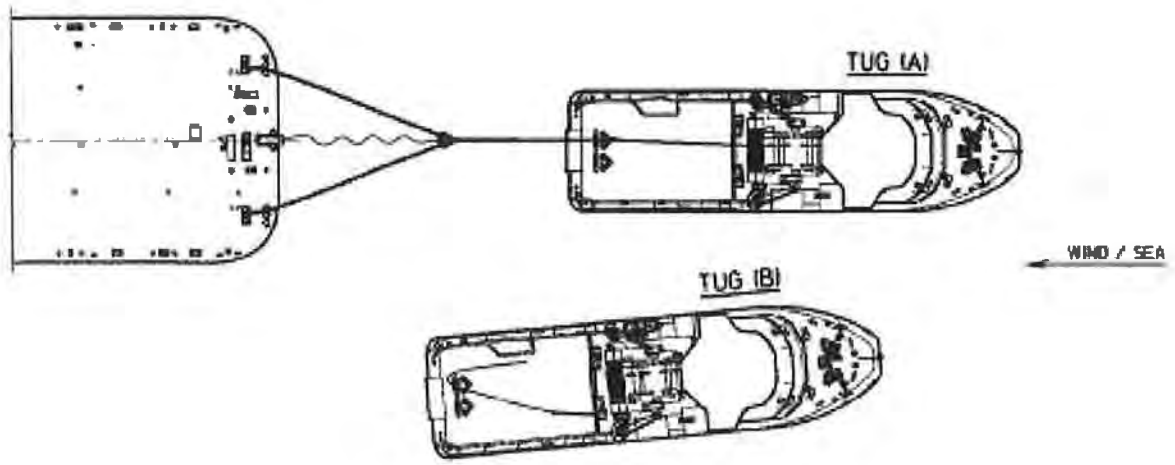
- Toolbox Meeting held with all crew involved.
- Ensure all crew involved understand the sequence of activities.
- Ensure all crew involved wear the required PPE.
- Ensure all communication has been agreed upon and tested.
- Ensure all equipment to be used is certified and ready for use.
- Confirm weather conditions will not deteriorate during operation (weather forecasts).

The maneuver shall be carried out in good weather conditions and in day light.

- Ensure MOB is ready for launch.
- Apply "Stop the Work" and perform new risk assessment in case the maneuver has to be abandoned and performed in another way then initially agreed.
- Discussed and confirmed understood by the crew involved on board both tugs.

Initial phase

- Tug (A) heads into wind/sea and maintain a dead slow speed, or let the convoy drift.
- Tug (B) prepare tow wire



Phase - 1

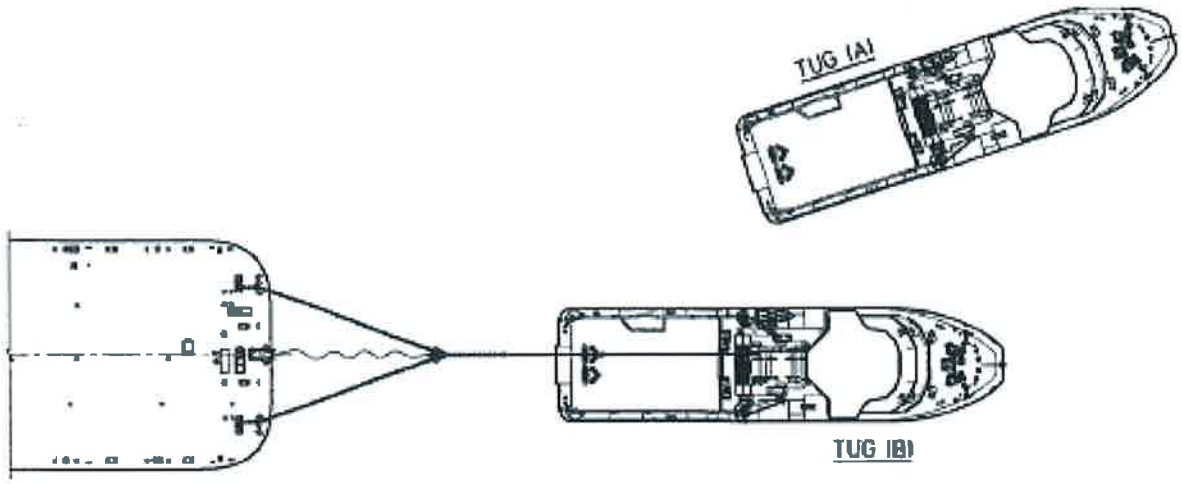
- Both tugs (A) and (B) maneuver close near each other
- Tug (A) sends messenger/tugger wire to Tug (B)
- Tug (B) connects messenger to his tow wire.
- Tug A retrieves messenger and Tug B tow wire.
- Watch for excessive slack in messenger arrangement (entanglement in propellers).

Phase – 2

- Tug A connects Tug B tow wire to fore runner.
- Tug A releases shark jaws and fore runner to Tug B.

Phase – 3

- Hand-over completed.



AHT FORT
MADEIRA - PORTUGAL
GT: 855
NT: 256
IMO No.: 9388467

Alessandro Balzarotti

From: Alessandro Balzarotti
Sent: 31 July 2025 14:13
To: Hamish Forsythe; Jan Duinhoven
Cc: Penserino Aurelio (Rosetti); Brunelli Massimiliano (Rosetti)
Subject: FW: 123A90 – RFQ for Shipagnecy and Logistic services for Load-in of BLPH at Eemshaven
Attachments: HANDOVER.png

Hamish, Jan
Below is what we received from the agent in Eemshaven.

Regards
Alessandro

From: Vijko Postma <V.Postma@broekmanlogistics.com>
Sent: 31 July 2025 13:59
To: Alessandro Balzarotti <alessandro.balzarotti@teconsrl.it>; Penserino Aurelio (Rosetti) <Aurelio.Penserino@rosetti.it>
Cc: Brunelli Massimiliano (Rosetti) <Massimiliano.Brunelli@rosetti.it>; Logistic <Logistic@rosetti.it>; BES Agency <BESagency@broekmanlogistics.com>; Vijko Postma <V.Postma@broekmanlogistics.com>; André van der Kevie <A.vanderKevie@broekmanlogistics.com>
Subject: RE: 123A90 – RFQ for Shipagnecy and Logistic services for Load-in of BLPH at Eemshaven

Dear All,

Regarding arrival of tug FORT and barge VERVECE.
River permit has been requested and will be send once received (expect to receive permit early next week).

Regarding the handover of barge to harbourtugs, port authorities and pilots advise following. (See attached drawing for your reference)

Step 1: Tug FORT to sail with barge VERVECE on river Ems towards port of Eemshaven including steering tug (compulsory by river permit).
Step 2: Handover of barge VERVECE in ''Doekegatkanaal'' to porttugs GRUNO IV & GRUNO V
Step 3: GRUNO IV & GRUNO V to moor barge VERVECE to final DISCHARGING location BEATRIXHAVEN

Step 4: GRUNO IV & GRUNO V to turn barge in Beatrixhaven close to DISCHARGING location or TURN barge at handover location this to be decided by port authorities' subject traffic in port.

Met vriendelijke groet,
Kind regards,

Vijko Postma
Supervisor Marine Department

+31 (0)596 519 305 (24/7)
besagency@broekmanlogistics.com