

Neptune Lines

TRANSPORT OF AFV's
Anticipating the transformation
The Carrier's Perspective



October 19th, 2022

Contents

- *Neptune Lines At a Glance*
- *Anticipating the Transformation*
 - *Current Situation*
 - *Challenges*

Neptune Lines *At A Glance*



- Family-owned business, established in **1975**
- **19** Owned **PCTC** Vessels with a carrying capacity of more than **70.000** units
- Fleet **current capacity** ranging between **1,500 – 6,500 rt***
- **500+ employees** (shore & sea)
- Presence in **over 24 countries** – calling **40 key ports** (Med - Black Sea – North Europe – Asia)
- More than **1.3 million units** a year
 - ✓ Passenger & commercial cars
 - ✓ High & Heavy units
 - ✓ Static cargo
- **2021: 1.3 million miles**

**RT 43 = standard for car carriers measuring capacity*

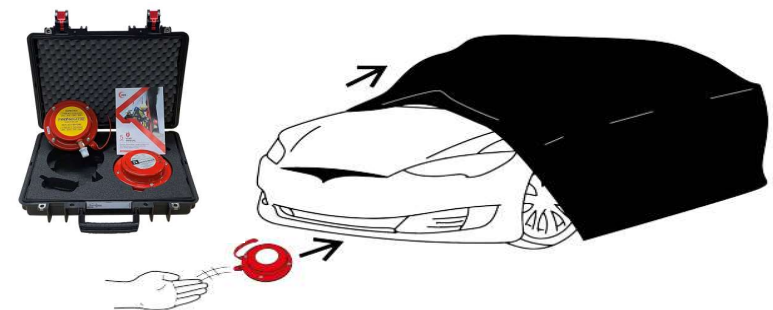
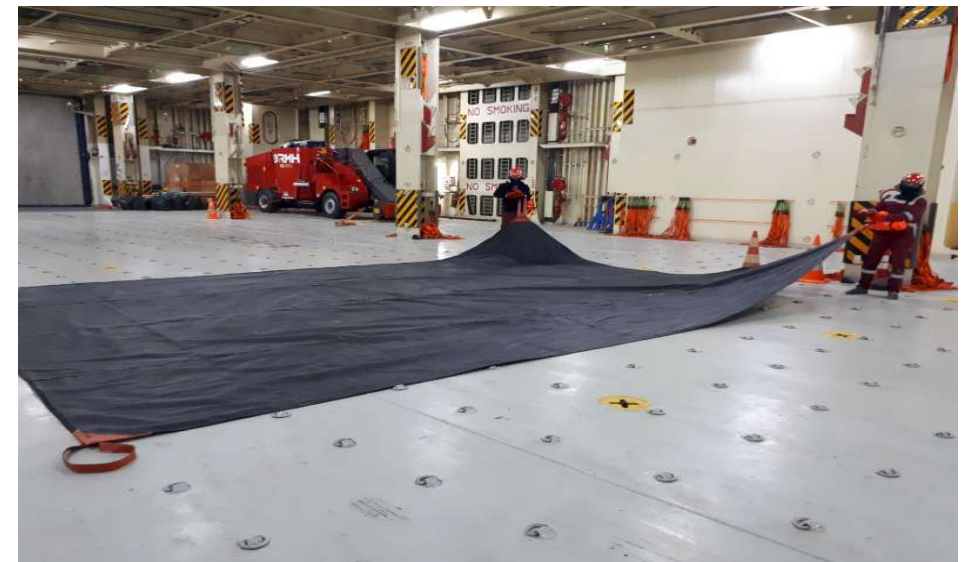
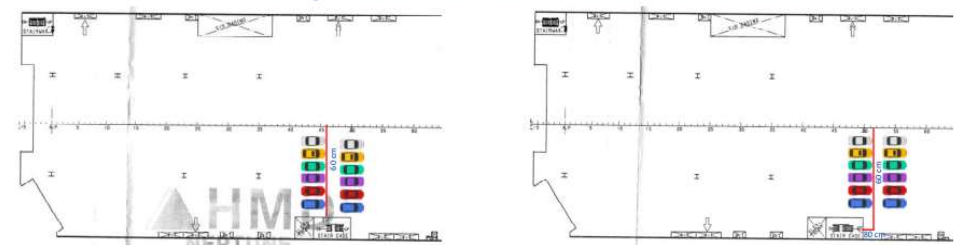


Anticipating the Transformation – Current Situation

Preventing

- *Crew Training.*
 - FF team shall be trained to deal with AFV fires. External FF specialists and/or properly qualified and trained Office personnel shall guide the onboard training.
 - Fire drills are conducted at monthly intervals.
- *Cargo Inspection*
 - Check AFV units for damages. Reject damaged AFV units.
 - Check State of Charge. Streamlining the implementation process to achieve the 50% limit on the state of charge.
 - No charging is allowed onboard. Only for flat batteries at port, to facilitate discharging under certain safety protocols.
- *Stowage*
 - Stowage distances shall be respected to allow unobstructed access to first responders. Cargo identification and labelling will assist crew to easily identify the AFV units.
- *Lashing*
 - Sufficient lashing shall be applied due to increased weight of the EV units to avoid shifting.
- *Specialized (AFV) Fire Fighting Equipment*
 - Fire blankets, condensed dry aerosol units, water lances
- *Stability*
 - Accurate cargo identification (weights, dims, fuel types) shall be provided prior loading to ensure accurate trim and stability calculations and proper fire fighting actions.

Stowage Scenarios - Transverse Safe Corridor – Access to Car Deck Center Line



Anticipating the Transformation – Current Situation

Monitoring

- *Detection*
 - Fixed systems are able to identify smoke and trigger alarms to activate the onboard emergency response
 - Portable gas detectors are used to identify gas leakages (ie carbon monoxide)
- *Fire Patrolling*
 - Frequent and adjustable patrolling routines are established taking into consideration the prevailing weather conditions
 - Patrolling personnel are trained to identify possible sources of fire ignition on AFV units and are equipped with portable gas detectors, VHF's for immediate communication with the bridge, flash-lights and whistles



Anticipating the Transformation – Current Situation

Fire Fighting

- *Onboard Trained Fire Fighting Teams*
 - Preparation is key to prevent disasters onboard so training by experts is crucial.
 - Clear instructions shall be provided to emergency response team members.
 - Accurate communication is important.
- *Fixed Fire Extinguishing System*
 - Conditions inside a burning car deck may not allow the fire fighters to enter the area, so crews shall be well familiarized with the immediate activation of the fixed ff systems onboard.
 - Fast activation is important to minimize the damage (< 10 minutes)
 - The fixed ff system is always the most efficient way to extinguish the fire.
- *Fire Blankets, Condensed Dry Aerosol Units, Water Lances*
 - Fire blankets may be utilized from the crew when time permits. (within 3-4 minutes from the identification of fire source and taking into consideration that conditions allows same).
 - Fire blankets are utilized only to contain the fire from spreading.
 - Fire blankets may also be applied at a second stage from the fire fighters if conditions permits.



Anticipating the Transformation – Current Situation

Fire Fighting

- *Post Fire Management*
 - Processes development to ensure safe entrance to the area after the fire is contained.
 - External guidance shall be sought to ensure that all parameters were taken into consideration
- *Shore Based Emergency Team Support*
 - The Office Emergency Team convenes from the first minute of the emergency response.
 - Ship to Shore tabletop exercises are conducted every six months, on a realistic scenario to test the emergency plans, improve communication process between involved parties and identify possible weak points which will have to be corrected.

DNV GL

EMERGENCY RESPONSE SERVICE
DECLARATION

DNV GL Id No:
32900
Date of Issue:
2015-02-05

Vessel and contract particulars

Name of Vessel:	"NEPTUNE GALENE"
DNV GL Id No:	32900
IMO Number:	9668491
Customer:	Neptune Lines Shipping & Managing Enterprises S.A.
ERS Agreement No.:	ERS-13-060
ERS Agreement sign. date:	2014-01-13

This is to confirm that the above mentioned vessel is enrolled in

DNV GL Emergency Response Service (ERS™)

This Service is run in accordance with the terms, conditions and scope of the Agreement between the Customer and DNV GL.

ERS™ provides 24/7 damage stability and residual strength evaluation and advice. The Service and the vessels enrolled into it comply with the relevant regulations and requirements as follows:

1. MARPOL Annex I, Ch.5, Reg.37(4) Prompt access to computerised, shore-based damage stability and residual structural strength calculation programs.

2. 33 CFR 155.240 (OPA'90) Damage stability information for oil tankers and offshore barges.

stability and strength.

ervices.

n to port, Shore-based support.

 Lloyd's Register
Marine

Working together
for a safer world

Ship Emergency Response Service Emergency manual

+code word "OPA 90")

LR 9442122

USE THE 24 HOUR TELEPHONE NUMBERS SHOWN BELOW TO
INITIATE LLOYD'S REGISTER'S SHIP EMERGENCY RESPONSE SERVICE

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If unavailable, call the backup number
+44 (0)23 807 69404

Report No: 10329-2-1

DATE: MAY, 2022

Anticipating the Transformation – Challenges

The transition from conventional to alternative fuels requires also equal attention to safety from the design phase of the vehicle.

- *Technology* shall be used as the spear force to mitigate the risks at the source (inside the vehicle), examples may include

- *Battery Packs Temperature Alert*

In case of an increased temperature in the battery pack, an alert may be generated to inform the onboard fire patrols using the external com protocols (wireless connections) embedded in their Battery Management System,. This will minimize the response time of the fire fighting team.

- *Battery Pack Fire Extinguishing System*

Studies have shown that extinguishing agents (CO2, dry powder, etc.) may be fed directly into the enclosure of the battery. This solution may serve as an effective way to suppress any fire before it spreads, therefore saving the whole vehicle from destruction and containing the fire in one vehicle



Anticipating the Transformation – Challenges

The maritime environment is even more complex to handle fire incidents on AFVs, especially when the fire fighting technology onboard the vessel has significant room for improvement.

- *Specialized Crew Training Sessions* shall be provided to the crew involving EV fires. Onboard fire fighting teams shall be trained to recognize EVs and understand the risk posed by high voltage equipment in EVs Crew shall be made aware of the risks involved from the release of toxic gas.
- *Regulations** shall be developed to identify the most appropriate method to enhance fire prevention, detection and extinction onboard RoRo ships

**(IMO Sub Committee on Ship Systems and Equipment (SSE) – Draft amendments to SOLAS and FFS code will be finalized at the next session SSE 9 – FIRESAFE studies)*

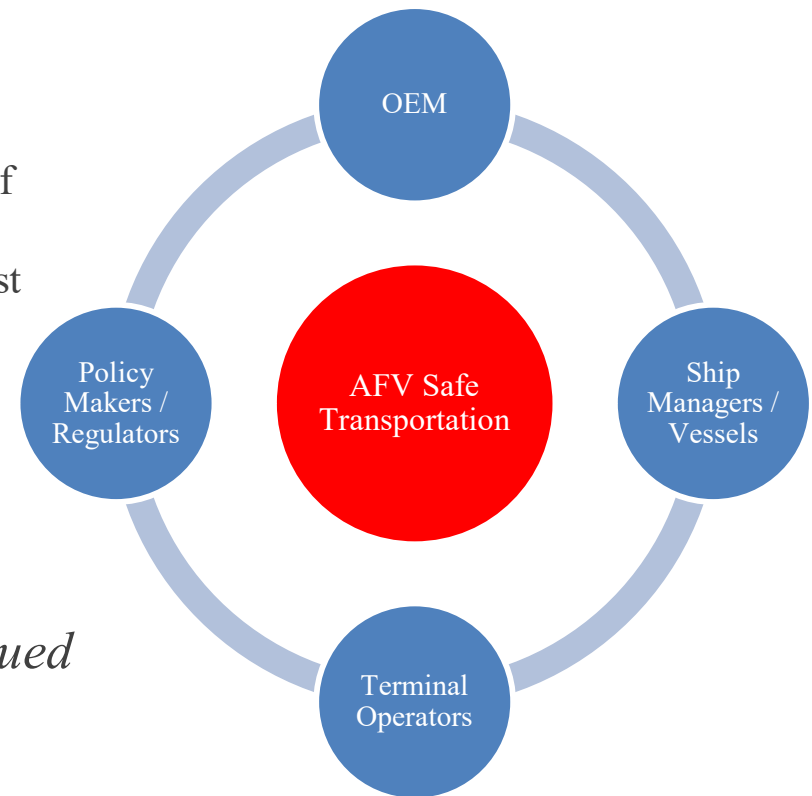


Anticipating the Transformation – Challenges

Collaboration is key between stakeholders to identify the challenges at each phase on the logistics chain and achieve the common target for the safe transportation of AFVs.

- *Working Groups.* The recent EMSA Guidance on the Carriage of AFVs in Ro-Ro Spaces was developed with the support of a group of experts from the European Commission, EU Member States and the industry. Such initiatives may form a solid base for achieving the best possible results in preventing fires during AFV transportation.

It is imperative the dialogue to be continued between stakeholders...



Thank you for your attention

