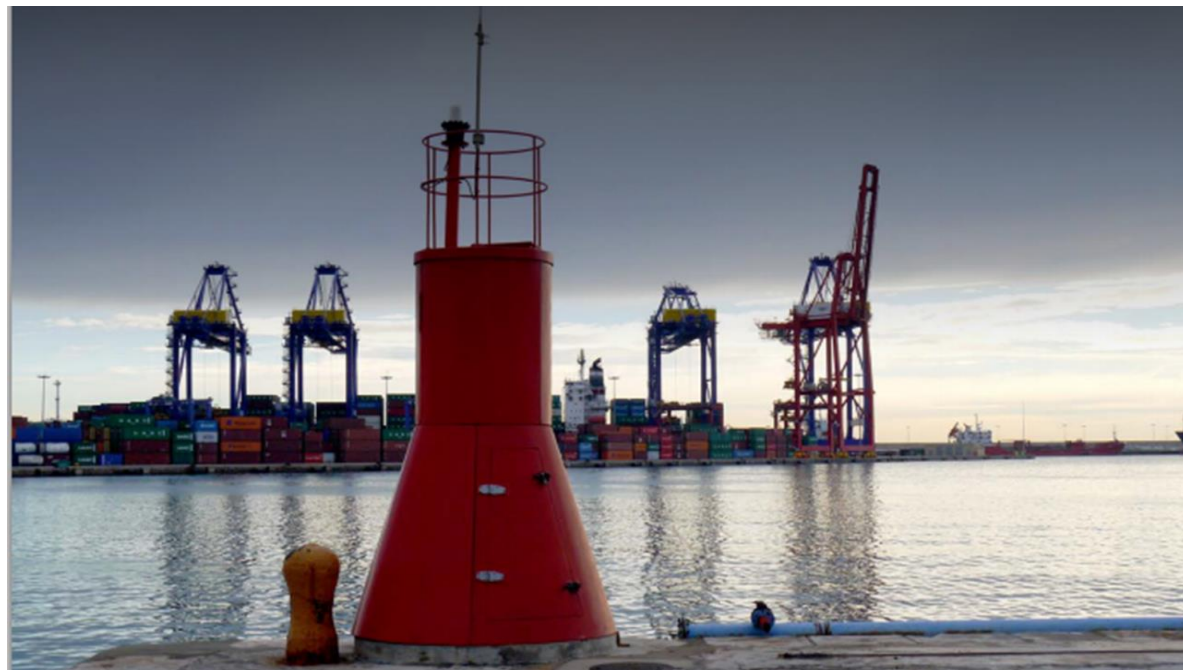


Port Authority of Valencia

Environmental Best Practices
and Sustainable Shortsea
Shipping operations at
Valenciaport

Raúl Cascajo – Head of Environmental Policies



Shortsea RO-RO Liner services – Origins / Destinations and Shipping Companies

9 SERVICIOS
REGULARES TMCD
CARGA RODADA

22 PUERTOS

13 PAÍSES



The Port Authority of Valencia - Valenciaport includes three harbours

2015 Cargo throughput



Valenciaport (2015 figures):

- 69,6 Mio Tons
- 4,61 Mio TEU

RO-RO FACILITIES PORT OF VALENCIA

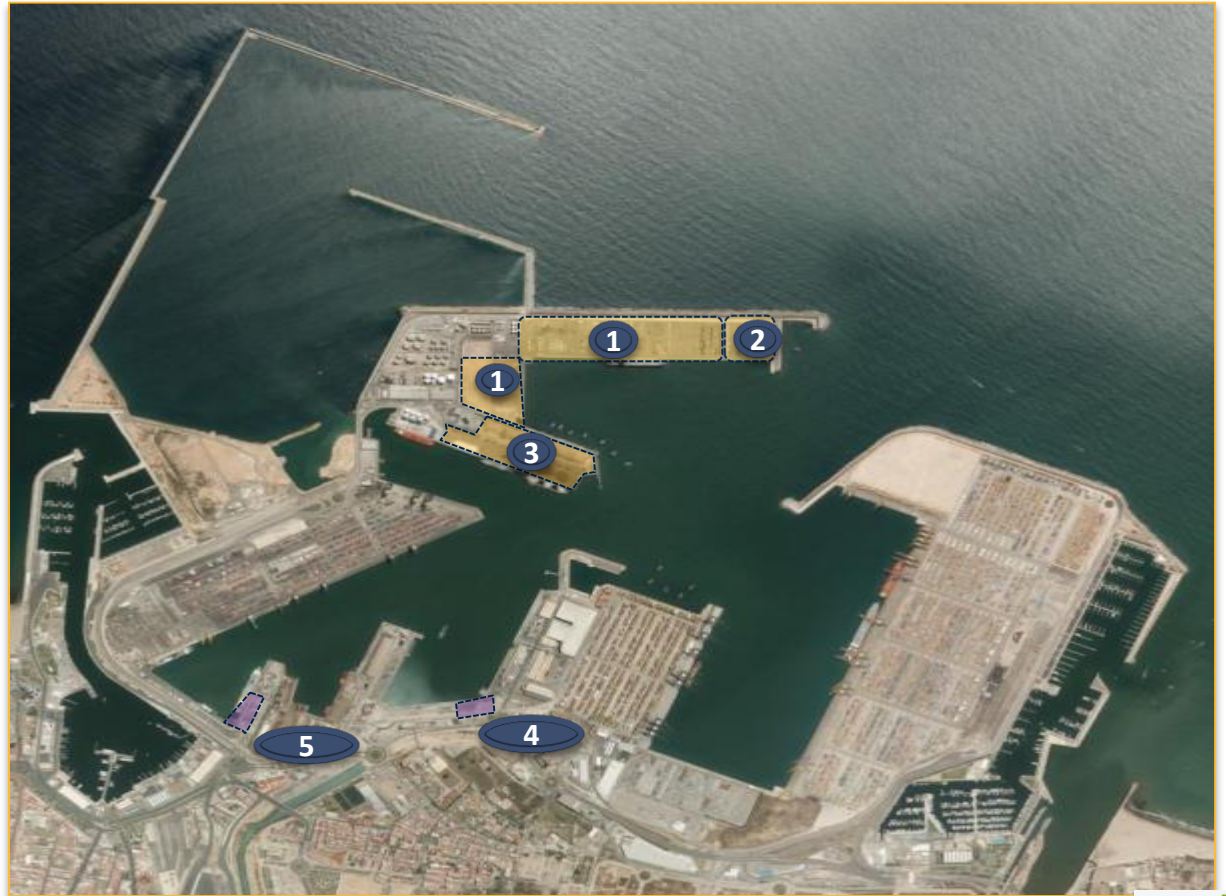
1 VTE / TMCD y AdM

2 FORD

3 FORD

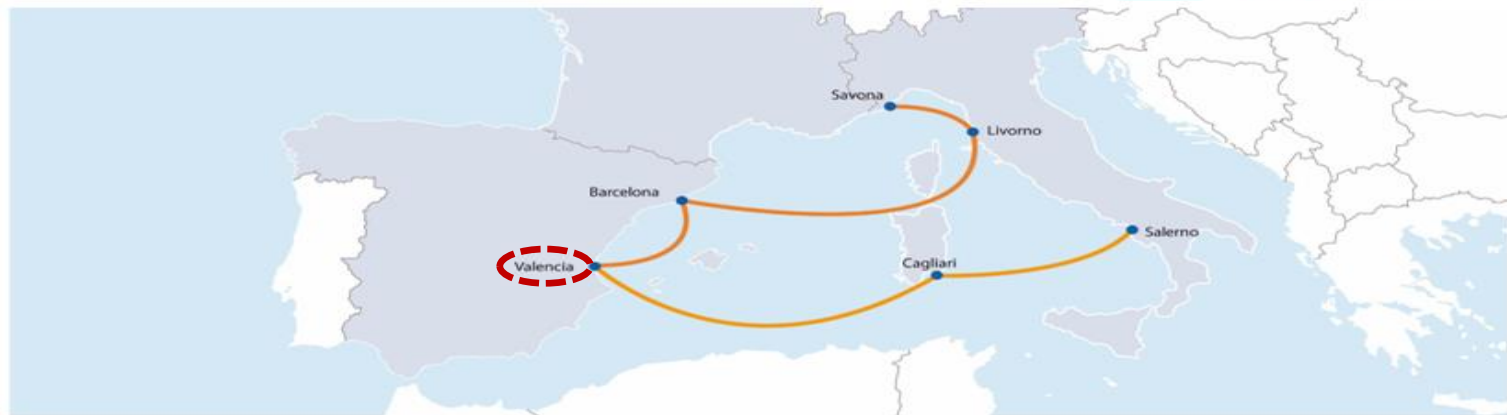
4 Balearia

5 Trasmediterránea



MoS RO-RO Liner Services – Origins / Destinations and Shipping Companies

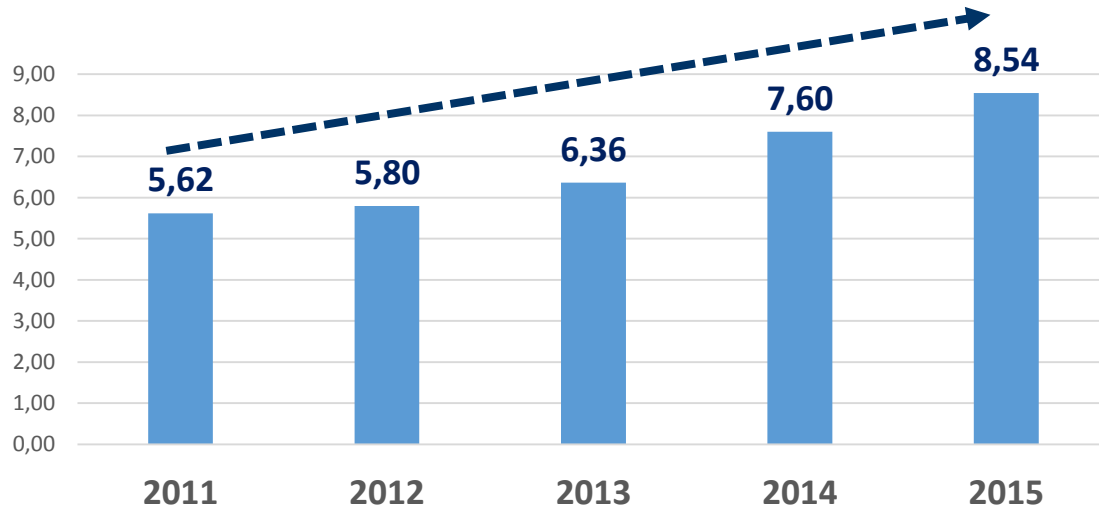
2 AUTOPISTAS DEL MAR



	NAVIERA	TRÁFICO	FRECUENCIA	TIEMPO TRÁNSITO
VALENCIA-BARCELONA-LIVORNO-SAVONA	GRIMALDI	RORO	6xsemana	36/51h
VALENCIA-CAGLIARI-SALERNO	GRIMALDI	RORO	3xsemana	22/41h

Fuente: LinePort, Fundación Valenciaport

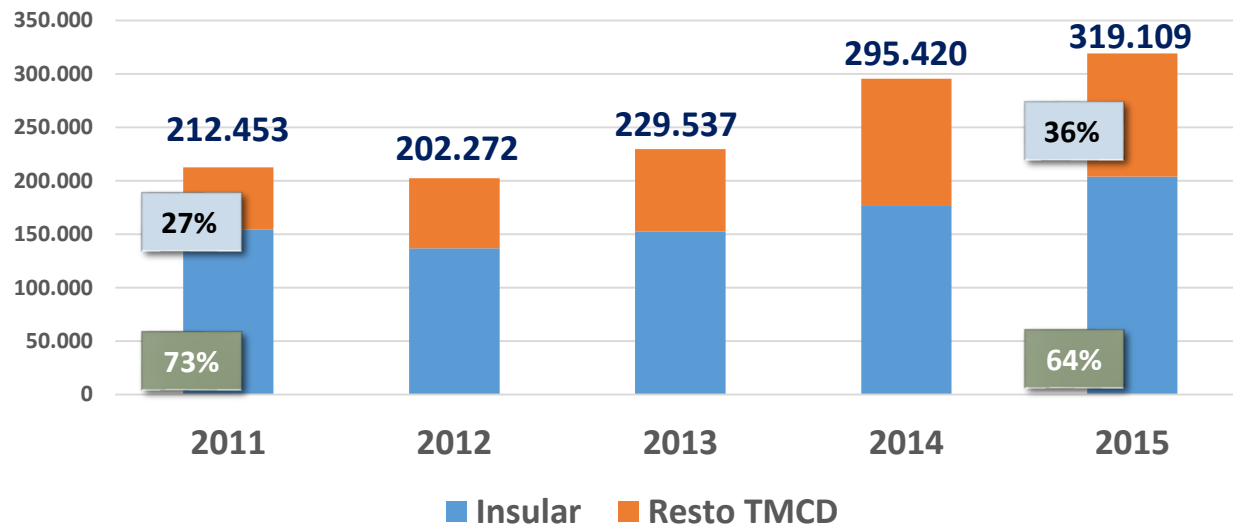
Valenciaport RO-RO cargo throughput 2011-2015 (Million tons)



- **+12,38%**, growth compared to 2014
- In 2015, **Ro Ro cargo** was **12,27%** of overall Valenciaport handled tons.



Valenciaport and Shortsea Shipping (total UTIS)

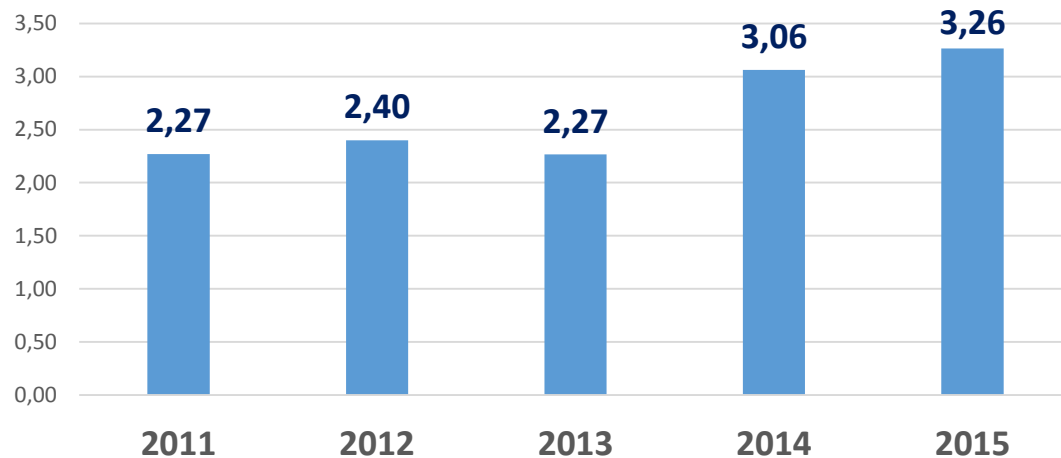


➤ +8%, growth compared to 2014.

Peso resto
TMCD

Peso
insular

Valenciaport and Motorways of the Sea (million tonnes)



➤ **+6,60%, growth compared to 2014.**



Best Environmental practices at Valenciaport



Initiatives carried out by Valenciaport to implement sustainable shortsea shipping:

- Ecoport II
- Best Practices Agreements
- Carbon footprint calculation
- Inscription of the Port of Valencia carbon footprint in the Register sponsored by the Spanish Ministry of Environment
- R+D Projects
- Ballast Water Convention Adaptation

Ecoport II



- Background: Ecoport Project (1998 – 2001), funded by LIFE EU Programme.
- Target:
 - Enhance the port community to implement an EMS based on ISO 14000 standard.
 - Definition and evaluation of environmental indicators to improve the port's performance.
 - Create a “green cluster” where all environmental issues were discussed.
- Results: 23 companies hold a EMS based on ISO 14000 standard.
- Based on 2015 figures, several targets were settled including those relating to reduction of natural resources, energy and fuel consumption, carbon footprint calculation and learning. Over 75% of the companies involved reached the targets.

Best Practices Agreements

- Background:

“Texto Refundido de la Ley de Puertos del Estado y de la Marina Mercante, aprobado por Real Decreto Legislativo 2/2011, de 5 de septiembre”. Voluntary “green agreements”

- Port tenants can apply for a rebate on the activity dues, provided:
 1. Have implemented an Environmental Management System in force based on ISO 14000 Standard or EMAS III.
 2. Have signed a Best Environmental Practices Agreement with the relevant Port Authority.
- Rebates: 15% - 20% on the “Activity dues”
- Result: Green commitments, plus a % of the rebates on environmental investment.
- 11 companies have signed the Best Practices Agreements.

Best Practices Agreements

- Background:

“Texto Refundido de la Ley de Puertos del Estado y de la Marina Mercante, aprobado por Real Decreto Legislativo 2/2011, de 5 de septiembre”. Voluntary “green agreements”

- Vessels can also get profit of this regulation by having rebates on the dock dues
 - 5% rebate only fulfilling several environmental commitments above the requested by the relevant regulation.
 - Use of alternate fuels
 - Vessel holds an EMS based on ISO 14001
 - Vessel holds a certificate of clean fuel
 - Vessel available for OPS connection when berthed
 - etc

Best Practices Agreements



Examples of implementation of green technologies from the Terminal side:

- Change of yard machinery to better efficient one in terms of fuel consumption. Less GHG emissions.
- Adaptation of yard lightning to LED technology
- Use of electric cars by terminal workers and installation of plugs for loading them.
- On-shore-Power Supply implementation

Others must be adopted by the Shipowners:

- On-shore-Power Supply implementation
- Use of scrubbers
- Use of low sulphur fuels (LNG, methanol, etc)

Carbon Footprint calculation

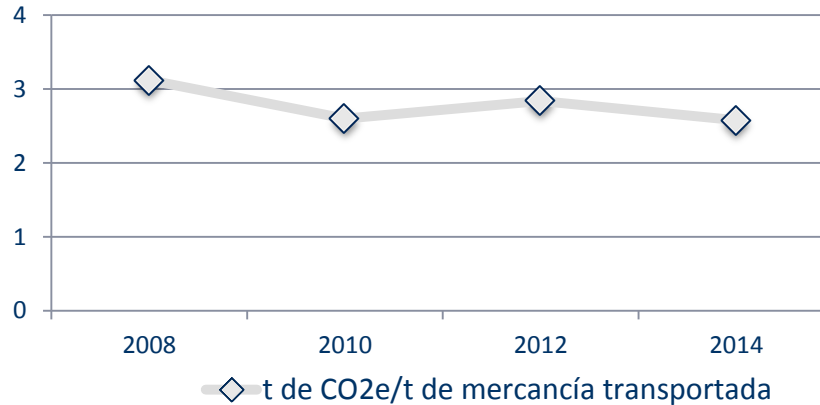


- ✓ First GHG inventory for the Port of Valencia calculated in 2008.
- ✓ “Port of Valencia carbon footprint” verification according to ISO 14064-1:2006 standard in 2013. Pioneer action!!!



Carbon Footprint calculation

Port of Valencia Carbon Footprint



Over 17% reduction of the carbon footprint for the 2008 – 2014 period while ShortSea Shipping throughput has risen 50% during same period.

Inscription of the Port of Valencia carbon footprint in the Register sponsored by the Spanish Ministry of Environment

CF 2008, 2010 & 2012 Inscribed in the CF Register sponsored by the Spanish Environment Ministry

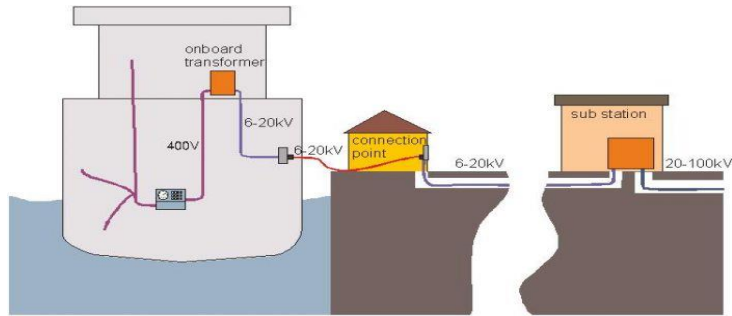


R+D Projects

- ✓ Valenciaport has participated on several initiatives led to the reduction of GHG's among the port community, such as:
 - CLIMEPORT (2009-2012) – Definition of a methodology for the calculation of the carbon footprint for ports.
 - GREENCRANES (2012-2014) – Testing of a LNG powered terminal tractor in a PCT
 - GREENBERTH(2012-2015) – Facilitating the SME to work on low carbon technologies in port facilities
 - SEA TERMINALS (2014–2015) – Issuing of a GHG Reduction Plan for ports. Case Study GHG Reduction Plan for the Port of Valencia
 - CORE LNG AS HIVE (Current) – Implementation of use of LNG for maritime transport
 - GAINN4MOS (Current) – Implementation of LNG supply within the European Transport Network
 - GAINN4SHIP INNOVATION (Current)

Reduction of GHG emissions

In parallel, the evaluation of the possibility of **electrical supply to the vessels in port** has been **considered**, and using this technology to avoid the use of fossil fuels when moored and thus reducing the GHG emissions. The implementation of this technology needs the collaboration with the shipowners..



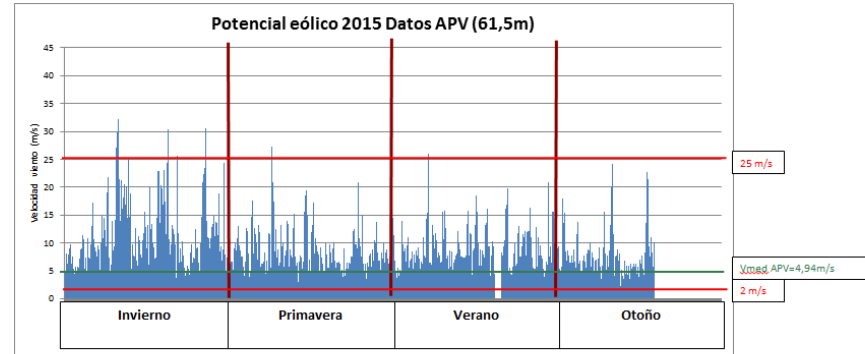
Actual Estación Pasajeros

Buque	No. Estancias	Tipo de buque	Duración total (h)	Duración media (h)	Desviación típica	Filtro SI/NO
DAMA DE VALENCIA	443	Pasajeros				
SCANDOLA	304	Pasajeros	2.425,20	7,98	8,65	SI
VISEMAR ONE	275	Pasajeros	2.117,07	7,70	8,98	SI
ZURBARAN	268	Pasajeros	1.772,15	6,61	6,41	SI
SICILIA	154	Pasajeros	834,90	5,42	6,87	SI
ABEL MATUTES	71	Pasajeros				
ESPRESSO RAVENNA	70	Pasajeros	428,07	6,12	12,19	NO
MSC PREZIOSA	64	Pasajeros	213,57	3,34	2,40	NO
ALMUDAINA DOS	62	Pasajeros	1.084,73	17,50	5,15	SI



Promotion of Renewable Energies

- Have undertaken a preliminary assessment on the implementation of the wind energy at the port of Valencia, in cooperation with the Valencia Polytechnic University. Results are promising.



Porcentaje sobre 25 m/s	Porcentaje bajo 2 m/s	Porcentaje apto para producción
0.196976833811502	17.4709887380636	82.3320344281249
Vmed (61.5m) (m/s)	4.944409712	Vmed (80m) (m/s) 5.39540777146112
Pmax recuperable(61.5m)/A (W/m2)		Pmax recuperable(80m)/A (W/m2)
151.653781129543		197.052845217482

Vmed (2m/s-25m/s) (61.5m)	5.74371280825299
Vmed (2m/s-25m/s) (80m)	6.26761828588785
Pmax recuperable/A (W/m2) (61.5m)	171.460455806252
Pmax recuperable/A (W/m2) (80m)	222.788844480227

Ballast Water Management Convention Adaptation



The BWM Convention will enter into force on 8 September 2017.

Under the Convention, all ships in international traffic are required to manage their ballast water and sediments to a certain standard, according to a ship-specific ballast water management plan.



Ballast Water Management Convention Adaptation



Specific duties for ports:

Reception facilities

Under Article 5 Sediment Reception Facilities Parties undertake to ensure that ports and terminals where cleaning or repair of ballast tanks occurs, have adequate reception facilities for the reception of sediments.

Research and monitoring

Article 6 Scientific and Technical Research and Monitoring calls for Parties individually or jointly to promote and facilitate scientific and technical research on ballast water management; and monitor the effects of ballast water management in waters under their jurisdiction.

Ballast Water Management Convention Adaptation



Regulation A-4

Exemptions

1. A Party or Parties, in waters under their jurisdiction, may grant exemptions to any requirements to apply regulations B-3 or C-1, in addition to those exemptions contained elsewhere in this Convention, but only when they are:
 1. granted to a ship or ships on a voyage or voyages between specified ports or locations; or to a ship which operates exclusively between specified ports or locations; (ShortSea Shipping?)
 2. effective for a period of no more than five years subject to intermediate review;
 3. granted to ships that do not mix Ballast Water or Sediments other than between the ports or locations specified in paragraph 1.1; and
 4. granted based on the Guidelines on risk assessment developed by the Organization.

Thank you very much for your attention!

Valencia Port Authority

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