Directive 2009/45/EC - Safety Standards Domestic Passenger Ships

Safety Standards

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Lisbon / 7th June 2016

Classes – EU Domestic Sea Areas

- **Class A – no restriction**
- **Class B – 20 miles from coast**
- **Class C – 5 miles from coast, 15 miles from place of refuge and maximum 2.5m Significant Wave Height**
- **Class D – 3 miles from coast, 6 miles from place of refuge and maximum 1.5m Significant Wave Height**

Rules for each class adapted to be proportionate to the sea area

SAFETY STANDARDS COVERED

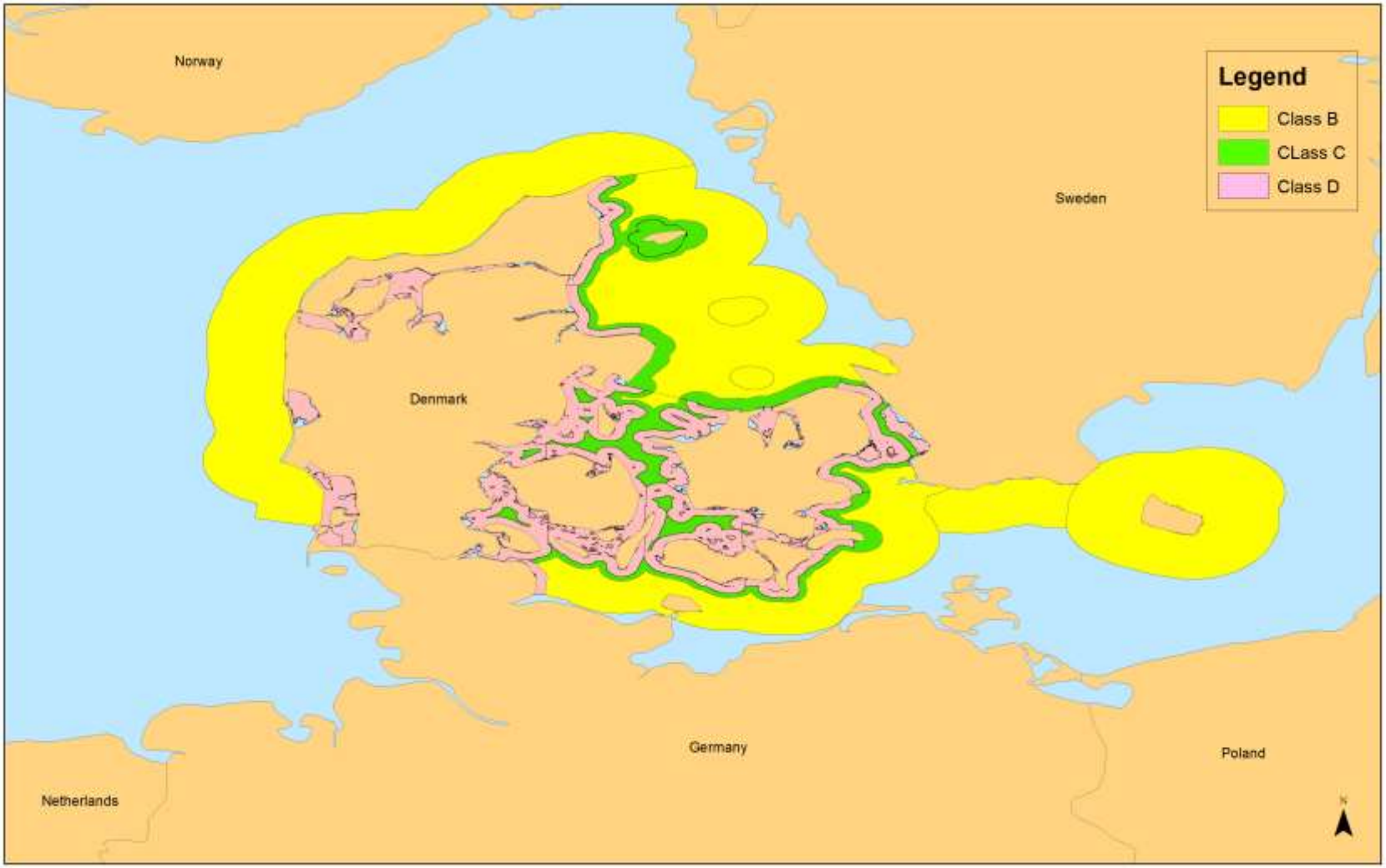
CLASS A – no limitation. SOLAS fully applies.

CLASS B, C and D – Technical Annex

1. **Hull Construction – Recognised Organisation or Administration**
2. **Construction, Sub-division and Stability – based on SOLAS but:**
   - **Stockholm Agreement (2003/25) mandatory**
   - **SOLAS 2009 optional for B, C &D ships built after 1st January 2009**
3. **Fire protection, detection and extinction – based on SOLAS**
4. **Life-Saving Appliances – based on SOLAS**
5. **Radio-Communication – SOLAS (except Class D)**
6. **All other standards according to SOLAS**

DOMESTIC SEA AREAS

Classes – Sea Areas



Sea Areas and Size

Sea Areas and Size

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Significant Wave Height

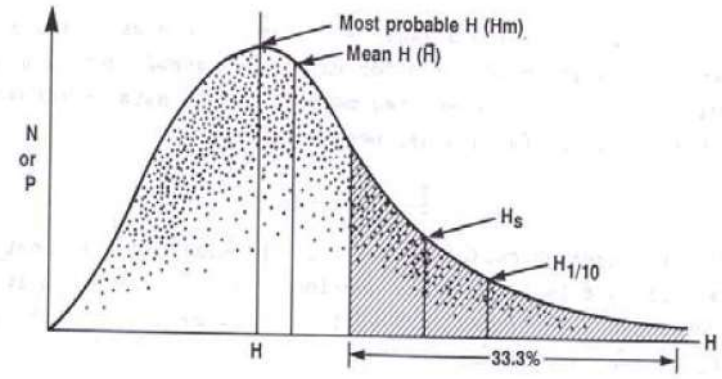
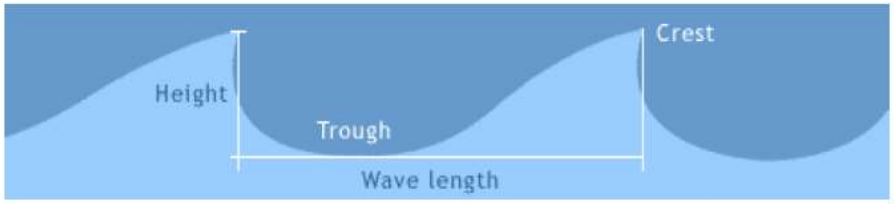


Figure 4.9: The statistical distribution of wave heights showing various parameters (from Bretschneider, 1964)

- **Class C: Hs=2.5m but Hmax = 4.2m (1%) (Hm ≈1.6m)**
- **Class D: Hs=1.5m but Hmax= 2.5m (1%) (Hm ≈ 0.95m)**

- **Height**
- **Period**
- **Length**
- **Steepness**



Graphic courtesy of Tammy Pelletier, WA State Dept of Ecology

Sea Areas – Significant Wave Height

WHICH STANDARDS SHOULD BE AFFECTED DUE TO A LOWER SIGNIFICANT WAVE HEIGHT?

Damage stability

Ro-ro passenger ships: reference to Directive 2003/25

Conventional passenger ships: 11 MS experts

- Moments due to wind pressure: A&B 120N/m2 vs 80N/m2 C&D
  - Implications: ships with large projected areas
- Final condition after damage (1-comp): 7^{o} for B and 12^{o} for C&D
  - Same safety margin in GZ-curve - 15^{o}
  - Evacuation
  - Similar approach to wind pressure

Significant Wave Height

LSA Deployment

- increase difficulty to deploy LSA but no relaxation

Functioning of Machinery

- B&C – Machinery to work up to 15º – No requirement Class D

Bow Height

- No requirement Class D – to be in line with ICLL (flexibility Reg.39-3)

Significant Wave Height - Structure

Classification Societies which are issuing certificates for domestic passenger ships (BV, LR, DNV&GL, RINA, RMRS, PR)

RINA - ships in Aluminium or Composite would have influence – only 4 cases

RMRS – considers wave height, but not SWH – wave height with 3% probability of exceeding level (different concept)

Distance to Place of Refuge

Not used by 4 MS

7 MS use distance to PoR but not found relevant

6 MS use it and find it relevant but:

- 1 MS does not have Class C & D areas defined
- 1 MS decides on a case by case basis
- 1 MS only 1 C ship and no D ship
- 1 MS indicates that the whole coastline is considered PoR
- Weather considerations – design (size, freeboard, seakeeping) rather than safety standards?

Case Study: Implications of distance to coast limitations

13 MS – insignificant change of risks from 3 to 5 nm (C&D)

12 MS –significant change of risks from 5 to 20 nm (B&C)

Next to Coast – more probabilities to “beach” the ship in emergency BUT more probabilities of stranding or collision (even communication problems may appear depending on the shape of the coast).

EXERCISE