



POST PANAMAX VESSELS:

NEW CHALLENGES FOR PILOTS

(PP-670-014-ENG-HP)

Objectives:	Analyzing the challenges of Post-Panamax vessels on pilotage: transit in confined waterways, ship handling, traffic management, tug requirements, infrastructures and seaways limitations.
Duration:	14 hours (2 days)
Schedule:	Begins at 08:30 This schedule may be tailored for specific requirements.
Participants:	Three (3)
Prerequisite:	Holding a pilot's licence or being in the process of acquiring such a licence.
Teaching strategies used:	Theoretical explanations with PPT presentations. Case studies, demonstration by the Instructor/Pilot and exercises on the Navigation Simulator.
Training activities:	Theory followed by simulation exercises.
Certification:	Issuance of a training certificate.

Course outline

1. **Evolution of the container ship** – What is new?
 - a. Size
 - b. New Panamax vs Panamax
 - c. Evolution
2. **Introduction** – Ship models presentation
 - a. Perseus
 - b. Hydrus
3. **New Panamax ships** – Challenges
 - a. For the vessels
 - b. For the ports & seaways
 - c. For the pilots
4. **Effects of Wind**
 - a. Description of wind forces
 - i. On the beam
 - ii. On the bow
 - iii. On the stern
 - b. Drift
 - c. Leeway
 - d. Increase in draft due to heel
5. **Transit**
 - a. Speed
 - b. Meeting
 - i. Room available vs. vessel size
 - ii. Critical locations
 - c. Traffic density
 - d. Traffic management
 - e. Effect of wind during transit
6. **Manoeuvring**
 - a. Bollard pull required
 - i. Basic bollard pull required
 - ii. Aerodynamic resistance
 - iii. Hydrodynamic resistance
 - b. Effects of under-keel clearance on current force
7. **Swept Path** – Crab angle
8. **Surge**
 - a. Effects of passing ships
 - b. Mooring loads
9. **Turning Basins** – Dimensions vs ship size
10. **Summary**
 - a. Evaluations
 - b. Conclusion