Dynamic Positioning: Understanding of System Operation and Maintenance

Background and previous experience of the course provider and the involved trainer(s)

Romanian Maritime Training Centre - CERONAV is a self-financed public institution established in 1976 and subordinated to the Ministry of Transport and Infrastructure. CERONAV is the national body nominated for the training of sea-going, river, port and offshore rig personnel, under standards of STCW Convention, Nautical Institute, Global Wind Organisation and according to Directive (EU) 2017/2397 and beyond.

CERONAV is recognized as a leading training centre in Eastern Europe for its expertise, firm commitment to competence and remarkable dedication of its professionals and for representing the important position that Romania has within IMO as Member State since March 1965.

Involvement in CESNI working groups and functions held within EDINNA since its establishment are additional recognition of CERONAV's endeavours in the inland navigation training at European level.

CERONAV operates in multiple premises, in Constanta and Galati and offers more than 200 types of courses for approximately 25,000 trainees annually using various learning methods, including cutting-edge training facilities and simulators. CERONAV's logistics and infrastructure are in line with the latest technologies matching highest standards in maritime and inland navigation education. The centres are equipped with state-of-the-art simulators and modern training facilities including Full Mission Bridge Simulator, Engine Room Simulator, Helicopter Underwater Escape Simulator, Liquid Cargo Handling Simulator, DP Simulator Bridge equipped with a K-Sim® Offshore, GMDSS and Maritime English laboratories, training pool, fire-fighting and confined spaces facilities and rescue boats.

CERONAV's 45+ year-experience in waterborne transport as national training centre, its integrated quality management system meeting international standard ISO 9001:2008 as well as its experienced employees with extensive knowledge in maritime and inland navigation represent important assets in achieving the ambitious goals of the institution.

CERONAV is an active member of various national and international professional organisations and associations, constantly expanding its network.

PhD. Eng. Dragoș Filimon - professional trainer with more than 15-year experience at sea holding two Certificates of Competency as electrical engineer and mechanical engineer, working partly onboard and on land as maritime expert and trainer within CERONAV. The extensive knowledge of technical field and hands on experience regarding ship`s installations and systems including up to date informational technology equipment highly recommend him as a valuable expert, essential in supporting the participants to achieve the learning outcomes.

Target group:

- Trainers
- Teachers
- Maritime professionals
- Dynamic Positioning enthusiasts

Size and composition of the course group: min. 3 participants / max. 8 participants

Language: English (B1 level preferred)

Duration: 3 days (8 hours / day)

Location: Romanian Maritime Training Centre – CERONAV

Address: Str. Baba Novac nr. 101A, 900366 Constanta, Romania

Location on google Maps:
https://www.google.com/maps/place/Ceronav+Sediul+vechi/@44.1850577,28.6172178,17z/data=!3m1!4b1!4m6!3m5!1s0x40bae55712c72d77:0x4e55b4b209f3c9b5!8m2!3d44.1850539!4d28.6197927!16s%2Fg%2F1tdl01n5?entry=ttu

Objectives:
• Define the principles of DP
• Recognize the component parts of a DP system
• Understand the relationship between vessel movement, position reference systems, sensors, computers, propulsion units and feedback
• Understand the concept of redundancy
• Understand the DP modes of control
• Describe the operation of sensors and common position reference systems
• Describe the operation of computers
• Describe propulsion units, types and configurations
• Understand power supply, redundancy and management
• Communicate voice VHF, use checklists and exercise watch handover procedures

Teaching methods:

- PowerPoint presentations
- Dynamic Positioning simulator
- Brainstorming
- Case study

Learning outcomes

- Understand DP System necessity and history of development
- Familiarisation with system components and functions
- Practical hands-on simulator experience
- Define DP classes, redundancy concepts and Worst-Case Failures
- Understand the operation of position reference systems and environmental sensors
- Describe power generation, propulsion and control
- Understand Power Management System, failure and corrective actions

Daily schedule

Monday / Day 1 – Introduction to DP System

- Principles of DP
- Brief history of DP System Development
- Types of DP Vessels
- Typical elements of a generic DP System
- Elements of the DP system operation (classroom consoles simulator)
- Practical operation of the DP system (classroom consoles simulator)
- Questions / Discussion

Tuesday / Day 2 – Understanding DP System Operation

- DP equipment classes as defined by IMO and classification societies
- Redundancy concept, Worst Case Failure (WCF)
- Position Reference Systems (PRS), role and limitations
- Environment sensors and ancillary equipment
- Understand the relationship between vessel movement, PRS, propulsion units and feedback
- DP modes of control
- Practical operation of the DP system (main simulator)
- Questions / Discussion

Wednesday / Day 3 – Engineering aspects

- Power generation and distribution
- Propulsion units, types and configurations
- Power Management System (PMS) role and functions
- Engineering requirements of IMO / CLASS, FMEA
- Effects of DP system failures (main simulator)
- Planned maintenance system (engineering simulator)
- Common causes of DP incidents, IMCA reports
- Pollution / sustainability concept
- Wrap up of *Dynamic Positioning: Understanding of System Operation and Maintenance* course
- Certificate of Attendance

Application process:

Participants interested in registering are invited to:

Option 1:

- visit CERONAV website and follow the necessary steps. In 24 – 48 hours, a confirmation message regarding the registration to the course will be sent to the participant's e-mail.

Option 2:

- send email to info-dp@ceronav.ro

Important note: Please do not book or pay for accommodation, flights etc. before you receive the confirmation message.

Costs: 345 euro (training materials, simulator fee, lunch, coffee break)

Cancellation policy:

Cancellations must be notified by e-mail.

If the Participant is forced to cancel the course attendance due to unforeseen issues, he / she may consider the following options:
• re-scheduling to any other courses organised by the Hosting Organisation within the next months and without any additional costs;
• letting any other colleague take the place and use the already paid fee without any additional costs.
If the above options are not suitable, the refund policies are the following:

• for cancellations communicated more than 4 weeks before the start of the course, CERONAV will retain 30% of the course cost;
• for cancellations communicated less than 4 weeks before the start of the course, the full amount will be retained.

Follow-up:

- At the end of the course, after returning home, participants are invited to share their feedback (opinion, recommendations etc.) through a satisfaction questionnaire sent by CERONAV
- Participants are encouraged to reach out to the trainer with any specific questions related to the field for up to six months after the course completion. This extended support period aims to help them further consolidate their knowledge, address any challenges they may encounter, and ensure a continuous learning experience even after the formal training has ended.

Additional information

- CERONAV provides educational services in an inclusive way.
- Participants will receive a Certificate of Attendance on the last day of the course.
- If needed, CERONAV will support the sending organisation with the necessary information in order to fill in the Europass Mobility Document of the participants.
- No personal protective equipment is needed.
- Participants are not required to bring their own laptop.
- The opportunities to visit the city will be introduced to the participants before the beginning of the course.