

Insurability of remotely operated navigation: risks, liability, and future outlook

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Insurability of remotely operated navigation : risks, liability and future outlook

Agenda

1. CCNR : Central Commission for the Navigation of the Rhine
2. BIMCO Autoshipman
3. Current Practice
4. Case Studies
5. Any Other Business

1.

Central Commission for the Navigation of the Rhine

Mission and vision

- CCNR (Central Commission for the Navigation of the Rhine) is the competent authority for the Rhine, established in 1815
- The CCNR first published a summary of its vision for the harmonised development of automated navigation on 17 November 2021, outlining :
 - strategic direction
 - governance structure
 - pilot-project framework, and
 - regulatory approach and permit procedure for pilot projects
- List of competent authorities and minimum requirements for permitting
- Detailed vision document and automation work programme 2022-2028 was issued in March 2022

CCNR

international definition of 5 levels of automation

- 0 **no automation**
- 1 **steering assistance** : system assists with steering, boatmaster responsible for all other navigation tasks
- 2 **partial automation** : automated system controls steering and propulsion, boatmaster in charge of navigation tasks and supervision
- 3 **conditional automation** : system performs all dynamic navigation within specific operational context, boatmaster intervenes when necessary
- 4 **high automation** : system performs all navigation and fallback actions within a defined context without boatmaster intervention
- 5 **autonomous/full automation** : system performs all navigation

Remote Operations Centre ROC

- Practice evolved whereby a certified remote shore operator navigates the vessel in real time through secured data connection
- Resulting in reduced crew on board, or even no nautical crew on board
- ROC therefore enables inland navigation with reduced crewing needs
- Navigational duty shifts from the wheelhouse to the ROC, located onshore
- no European permit available : permits are granted on individual basis, by relevant national authorities
- Currently commercial ROC applications in the inland waters of Belgium, the Netherlands and Germany

CCNR

Difference between autonomous navigation and ROC

- ROC :
 - control shifts from the wheelhouse to the ROC
 - control and liability remains with the person who navigates
- autonomous navigation : liability remains unclear, no clarity on guiding principles according to the CCNR classification
- ROC navigation is not classified as a degree of automated shipping !

Is ROC inland navigation legally allowed in Europe ?

- There is no general EU license or a general permit to do so
- However, individual exemptions for specific routes can be granted by specific national authorities for a specific vessel, for specific operations, generally in deviation of general, applicable rules
- Currently happening in Belgium, the Netherlands and Germany (pilot projects), developing fast

CCNR

Conclusion

- Two widely recognized liability (and therefore insurance related) issues :
 - working time regulations for inland navigation were drafted for crew on board, question whether they apply to shore-based ROC staff remains unresolved
 - allocation of liability between the shipowner, technology provider, and the shore-based ROC operator has not been clarified in inland navigation law

2.

BIMCO Autoshipman

BIMCO Autoshipman

History

- Developed by BIMCO to provide standard contractual framework for remotely controlled and/or autonomous vessels
- First standard ship management agreement specifically for remotely controlled and fully autonomous ships
- Formally adopted by BIMCO on 9 october 2024

BIMCO Autoshipman

Principles

- Traditional crew risk becomes ROC Risk : parties need to specify who provides and operates the ROC
- Navigation risk is shared with autonomy systems
- Vessel may operate either (as per IMO MASS classification) :
 - (1) fully manned, or
 - (2) remotely controlled with seafarers on board ready to take control, or
 - (3) partially autonomous and remotely controlled by the ROC without seafarers on board
 - (4) fully autonomous
- System failure becomes a critical risk (damages can arise through satellite failure, loss of connectivity, software malfunction...)

BIMCO Autoshipman

Principles

- Cybersecurity is critical : vessel control may be accessed remotely, any cyber incident can directly create liability (collision, pollution, injury, cargo claims...)
- Regulatory compliance : responsibility must be clearly allocated for obtaining approvals, compliance with autonomous vessel regulations, mode switching procedures and ROC certification & operation
- Insurance implications : Owners and managers need to consider
 - Cyber cover
 - ROC liability / software failure cover
 - Professional indemnity for ROC operators
 - Allocation of liability from autonomous/remote decision making

3.

Current Practice



Current practice

Liability allocation

- Owner remains responsible for navigation of the vessel
- ROC operator is not liable for damages to the vessel or third parties due to navigational mistakes, unless caused by wilful misconduct or gross negligence
- ROC operator remains liable for damages due to improper installation of the hardware on board
- ROC operator remains liable for third party liability arising as a direct result of failure of the Control System

Current practice

Insurance set-up

- Owners to take out :
 - Hull & machinery cover for the vessel including crew negligence
 - P&I cover (third party liability cover)
 - War risks
 - Cyber risks insurance (as far as excluded from previous covers)
 - ROC operator as co-insured, with a waiver of subrogation towards the ROC operator

Current practice

Insurance set-up

- ROC operator to take out :
 - P&I cover insofar as risks have arisen as a direct result of any control system failure
 - Including war and cyber risks

Thank You !

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