



STEERSAFE Project

CESMA 2025

Department 2: Safety, Security & Surveillance /

Unit 2.1 Safety and Security

16th May 2025

- SOLAS requirements for steering and manoeuvrability were developed decades ago.
- Prescriptive approach, based on the general standard at that time: single propeller, mechanically moved by an engine, and a rudder.
- Today's modern propulsion/steering systems & configurations are completely different – UI needed: MSC.1/Circ.1416/Rev.1.
- SSE 6 expressed the need of a new output to address holistically this issue.
- To address this concern of EU interest (passenger ships, manufacturers, safety) – EMSA launched the **STEERSAFE study**.

- **OBJECTIVE:** to provide sound technical knowledge and proposals to accomplish an update of related SOLAS requirements, as well as the associated IMO Resolutions & Circulars:

SOLAS regulations

SOLAS Reg.II-1/28 : Means of going astern

SOLAS Reg.II-1/29: Steering gear

SOLAS Reg.II-1/30: Additional requirements for electric and electrohydraulic steering gear

SOLAS Reg.V/25: Operation of steering gear

SOLAS Reg.V/26: Steering gear: testing and drills

Circulars for manoeuvrability and manoeuvring information

Resolution MSC.137(76) - Standards for ship manoeuvrability

MSC/Circ.1053 - Explanatory notes to the standards for ship manoeuvrability

Resolution A.601(15) - Recommendation on the provision and the display of manoeuvring information on board ships

Unified interpretations

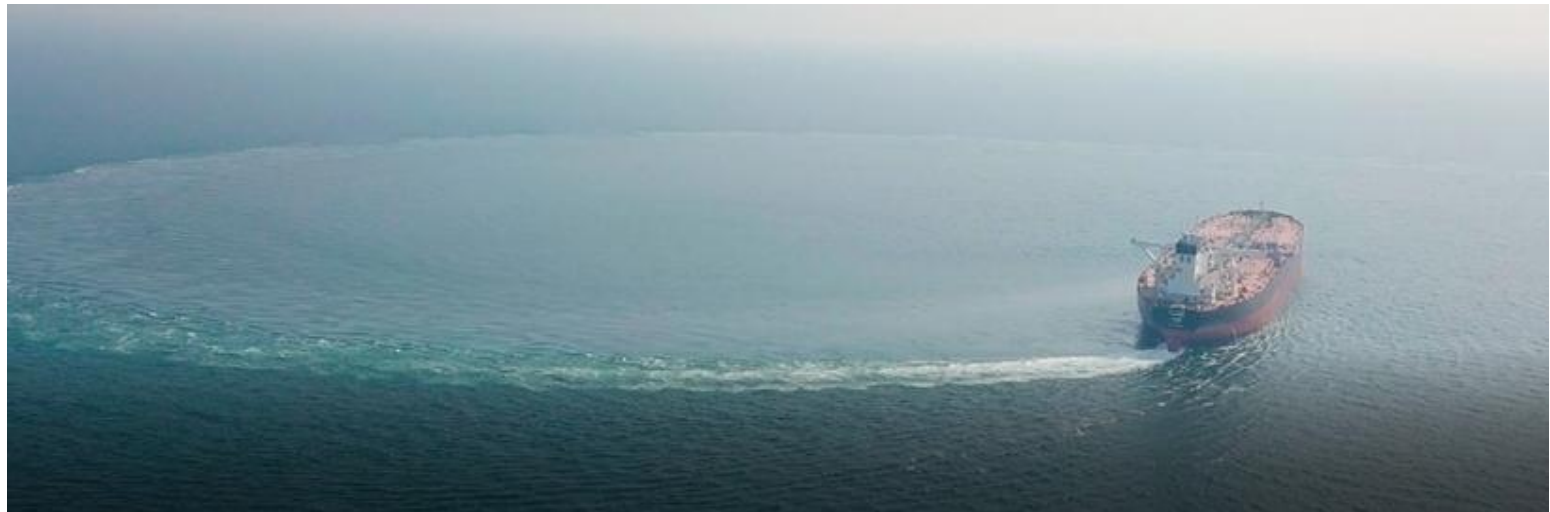
MSC.1/Circ.1398 - Unified Interpretation of SOLAS regulation II-1/29.

MSC.1/Circ.1416/Rev.1 - Unified Interpretation of SOLAS regulations II-1/28 and 29.

MSC.1/Circ.1536 - Unified Interpretation of SOLAS regulations II-1/29.3 and 29.4.

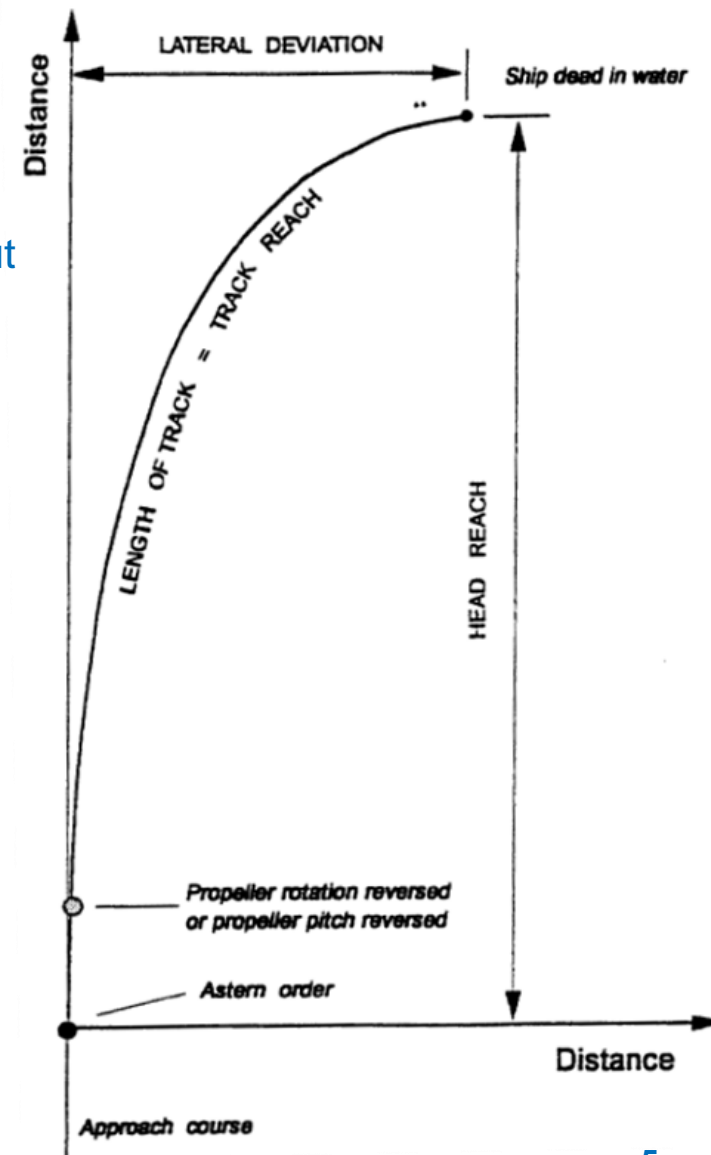
- Commissioned by EMSA.
- Contractor: DNV.
- Contract signature: December 2019.
- Final Consolidated Report delivery: June 2021.

<http://emsa.europa.eu/publications/reports/item/4398-steersafe.html>



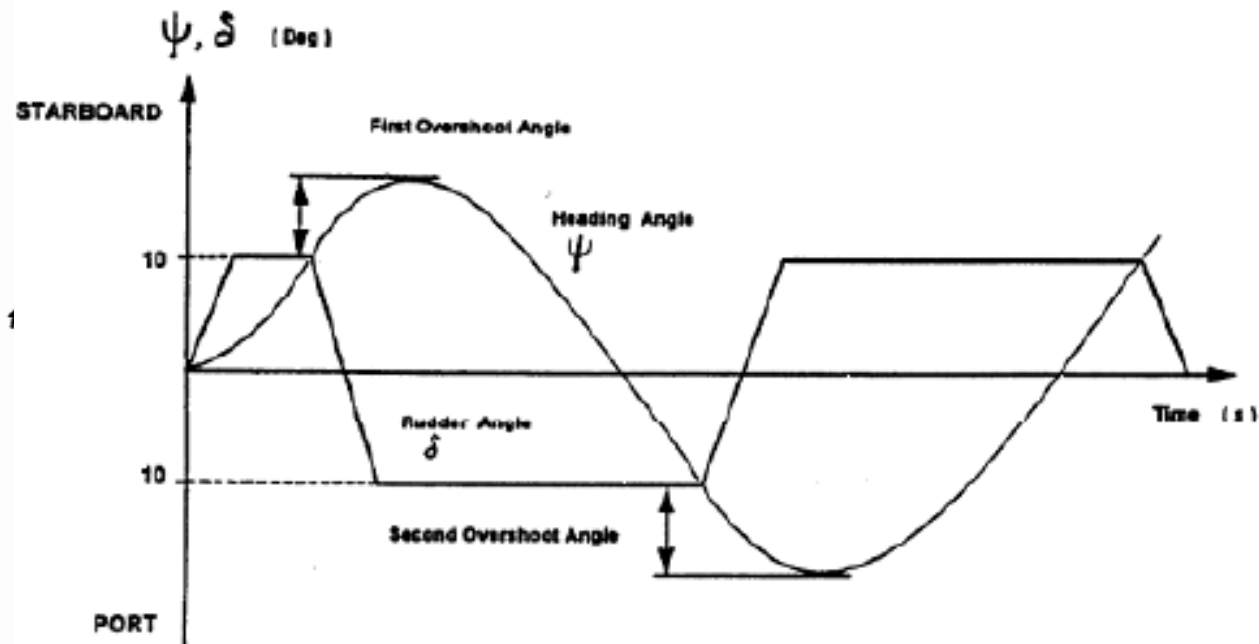
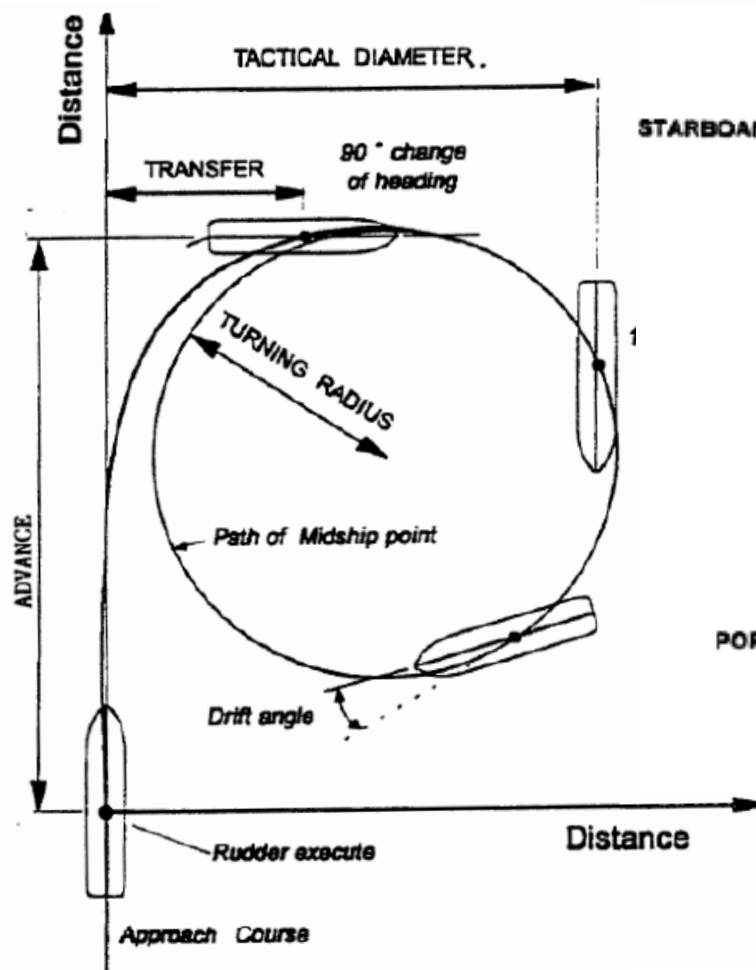
SHIP STOPPING ABILITY

- The current regulations (II-1/28) require stopping ability but do not provide criteria.
- Resolution MSC.137(76) “Standards for ship manoeuvrability” is available, on a voluntary basis (Full astern stopping test).
- STEERSAFE proposal:
 - To enforce full astern stopping test criteria (15L).
 - Reduced criteria (20L) applicable to ships provided with multiple propulsion lines while any one of the propulsion systems and its corresponding steering system is out of operation.



SHIP STEERING PERFORMANCE

- The current regulations do not consider ship steering performance: Resolution MSC.137(76) “Standards for ship manoeuvrability” is available, on a voluntary basis.



Zig-zag 10° / 10° test

SHIP STEERING PERFORMANCE

- Present ship steering tests and performance criteria in Resolution MSC 137(76):
 - Turning circle test criteria. “Universally” complied.
 - Zig-zag test criteria. Vessels with $C_b > 0.7$ and $L/B < 6$ (poor directional stability) might have problems.

- STEERSAFE proposal:
 - To enforce Turning circle test criteria.
 - To set and enforce a new Heading keeping test criteria (ship ability to keep a straight course at a pre-set heading): the maximum yaw deviation should not exceed 2 degrees for 30 minutes.
 - To keep present steering gear performance criteria.

- EU submission MSC 104/15/8 (new output). Postponed to MSC 105.
- EU submission MSC 105/18/1 (including the amendment proposal).
- MSC 105 agreed to include the output in the post-biennial agenda:
 - The amendments to be developed should enter into force on 1 January 2028, provided that they are adopted before 1 July 2026.
- SDC 10. Start of work in a WG. Further CG reporting to SDC 11.
- SDC 11. Several submissions commenting the CG report:
 - Japan, Korea, ICS and ASEF joint submission SDC 11/8/3, opposing to the development of mandatory provisions on ship manoeuvrability performance.
 - EU submission SDC 11/8/5, supporting the need to set mandatory requirements on ship manoeuvrability performance as per resolution MSC.137(76).
 - Norway submission SDC 11/8/4, in line with EU (Zig-zag test instead of Heading Keeping test).

- Just before SDC 11, Japan established contact with the other submitters (EU & NO): they would be ready to implement mandatory manoeuvring performance standards, after a minimum reviewing (2032)
- The EU and Norway agreed with that approach provided that the Sub-Committee approved the corresponding extension. The latter was unanimously agreed in Plenary.
- Consequently, SDC 11 decided on a new roadmap to extend this agenda item until SDC 14, with a view to adoption at MSC 116 (2029). The new SOLAS requirements would enter into force on 1 Jan 2032.
- Agreed work collaboration between Japan, EC (technical work by EMSA) and Norway to accomplish the roadmap and to prepare the submissions indicated therein.

ROAD MAP FOR ESTABLISHING MANDATORY STANDARDS FOR SHIP MANOEUVRABILITY (EXTRACT)

| Meetings | Workplan |
|-----------------------|--|
| SDC 12 (2026) | <ul style="list-style-type: none"> - <u>Collect the relevant trial data</u>, in particular, Zig-Zag test and draught collection/inspection scheme for further review of SOLAS and related instruments - <u>Consider the mandatory manoeuvrability standards</u>, in particular, <u>criteria for reduced condition and stopping test</u> which will be used to select and gather the trial data to be submitted to SDC 13 and SDC 14 for further review of SOLAS amendments and mandatory manoeuvrability standards |
| SDC 13 (2027) | <ul style="list-style-type: none"> - <u>Collect the relevant trial data</u>, in particular, criteria for reduced condition and stopping test for further review of SOLAS and related instruments - <u>Consider the mandatory manoeuvrability standards</u>, in particular, <u>Zig-Zag test based on trial data collected and methodology for draught correction/inspection schemes based on results of examination</u> |
| SDC 14 (2028) | <ul style="list-style-type: none"> - <u>Collect the relevant trial data</u> for further review of SOLAS and related instruments - <u>Finalize the set of SOLAS amendments and mandatory manoeuvrability standards for submission to MSC 114 (2028) for approval</u> - Finalize the associated instruments |
| MSC 116 (2029) | <ul style="list-style-type: none"> - <u>Adopt the set of SOLAS amendments and mandatory manoeuvrability standards</u> - Adopt/Approve the associated instruments |
| 1 January 2032 | <ul style="list-style-type: none"> - <u>Entry into force</u> the SOLAS amendments and mandatory manoeuvrability standards |



Questions?

 twitter.com/emsa_lisbon
 facebook.com/emsa.lisbon

