

Guidance for Autonomous Ships

(Development Review : Final)

2022. 2.



Machinery Rule Development Team

Effective Date : 1 July 2022

(The contract date for ship construction)

Present	Amendment	Remark
<p style="text-align: center;">CHAPTER 2 AUTONOMOUS SYSTEMS AND AUTONOMOUS SHIPS</p> <p style="text-align: center;">Section 1 <same as the present Rules></p> <p style="text-align: center;">Section 2 Requirements for Autonomous Systems and Autonomous Ships</p> <p>201. <same as the present Rules></p> <p>202. Basic requirements for autonomous systems</p> <p>Each autonomous system shall perform the functions described in 102., and the following basic requirements shall be satisfied when performing the functions.</p> <p>1. – 2. <same as the present Rules></p> <p>3. Communication systems</p> <p>(1) Communication lines are to be have adequate coverage, bandwidth, and reliability to safely control autonomous ships and autonomous systems, and data quality is to be adequate for autonomous levels and functions required under normal and predictable abnormal conditions.</p> <p>(A) – (D) <same as the present Rules></p> <p>(E) If a failure occurs in the external communication, a backup procedure for transmitting the important data is to be executed. In the event of a failure, automatic switchover between the main communication path and the backup path is to be made, and an alert is to be provided to the operator. Independent communication systems are to be used as the main path and backup path respectively.</p> <p>(F) <same as the present Rules></p> <p>(2) <same as the present Rules></p> <p>203. <same as the present Rules></p> <p style="text-align: center;">Section 3 <same as the present Rules></p>	<p style="text-align: center;">CHAPTER 2 AUTONOMOUS SYSTEMS AND AUTONOMOUS SHIPS</p> <p style="text-align: center;">Section 1 <same as the present Rules></p> <p style="text-align: center;">Section 2 Requirements for Autonomous Systems and Autonomous Ships</p> <p>201. <same as the present Rules></p> <p>202. Basic requirements for autonomous systems</p> <p>Each autonomous system shall perform the functions described in 102., and the following basic requirements shall be satisfied when performing the functions.</p> <p>1. – 2. <same as the present Rules></p> <p>3. Communication systems</p> <p>(1) Communication lines are to be have adequate coverage, bandwidth, and reliability to safely control autonomous ships and autonomous systems, and data quality is to be adequate for autonomous levels and functions required under normal and predictable abnormal conditions.</p> <p>(A) – (D) <same as the present Rules></p> <p>(E) If a failure occurs in the external communication, a backup procedure for transmitting the important data is to be executed. In the event of a failure, automatic switchover between the main communication path and the backup path is to be made, and an alert is to be provided to the operator. Independent communication systems are to be used as the main path and backup path respectively <u>except where autonomous ships and autonomous systems are possible to be safely operated even in the event of a single failure in the communication system(eg. AL1 or AL2 ships).</u></p> <p>(F) <same as the present Rules></p> <p>(2) <same as the present Rules></p> <p>203. <same as the present Rules></p> <p style="text-align: center;">Section 3 <same as the present Rules></p>	<p>(Amended)</p> <p>– The requirement has been amended that communication system for autonomous does not consider a single failure of the communication system for non-mandatory ships assigned AL1 or AL2.</p>