

Reporting the Un-limiting of Shaft/Engine Power Limitation Systems for EEXI Purposes

Object of Amendment

Rules for Marine Pollution Prevention Systems
Guidance for Marine Pollution Prevention Systems

Reason for Amendment

Regulation 25 of MARPOL Annex VI specifies requirements related to the required Energy Efficiency Existing Ship Index (EEXI) values that ships subject to Chapter 4 of MARPOL Annex VI are required to achieve. These requirements also state that, in cases where a ship needs to limit its propulsion power in order to achieve its required EEXI value, the installation of shaft/engine power limitation (ShaPoLi/EPL) systems is permitted, and that reports need to be submitted to Administrations when such limitation systems are “un-limited” to allow the use of power reserves for the purpose of ensuring ship safety during adverse weather, rescue operations, etc. These matters are clearly stated in resolution MEPC.335(76), and relevant requirements related to them have already been incorporated into the NK Rules.

Some parts of MEPC.335(76) related to the handling of the aforementioned reports from Administrations to the IMO, however, were unclear. These parts were clarified at the 80th Session of the IMO Marine Environment Protection Committee (MEPC80) held in July 2023 and adopted as resolution MEPC.375(80).

Therefore, relevant requirements are amended based on MEPC.375(80).

Outline of the Amendment

Amends the guidelines to be followed in the preparation of Onboard Management Manuals for SHaPoLi/EPL to specify that they include subsequent amendments to resolution MEPC.335(76). In addition, addresses the problem of duplicate provisions in the aforementioned Guidance.

Effective Date and Application

Effective date of this amendment is 27 June 2024.

ID: DD23-20

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

Amended-Original Requirements Comparison Table
(Reporting the Un-limiting of Shaft/Engine Power Limitation Systems for EEXI Purposes)

Amended	Original	Remarks
<p style="text-align: center;">RULES FOR MARINE POLLUTION PREVENTION SYSTEMS</p> <p style="text-align: center;">Part 2 SURVEYS</p> <p style="text-align: center;">Chapter 2 REGISTRATION SURVEYS</p> <p>2.1 Registration Surveys during Construction</p> <p>2.1.2 Submission of Plans and Documents for Approval*</p> <p>4 For ships subject to Chapter 3, Part 8, the Energy Efficiency Existing Ship Index (EEXI) Technical File is to be submitted to the Society for verification prior to the tests specified in 2.1.3-7 (except in cases where the attained EEDI of the ship is equal to or less than the required EEXI.). Furthermore, in cases where the ship is provided with a Shaft/Engine Power limitation (SHaPoLi/EPL) system to satisfy 3.5, Part 8, an Onboard Management Manual (OMM) for SHaPoLi/EPL <u>which meets guidelines</u> deemed appropriate by the Society, <u>as specified in 3.3-4, Part 8</u>, is to be submitted to the Society for approval.</p> <p>2.1.3 Inspections of Construction and Equipment*</p> <p>7 For ships subject to Chapter 3, Part 8, the Energy Efficiency Existing Ship Index (EEXI) is to be verified. In cases where the ship is provided with a Shaft/Engine Power</p>	<p style="text-align: center;">RULES FOR MARINE POLLUTION PREVENTION SYSTEMS</p> <p style="text-align: center;">Part 2 SURVEYS</p> <p style="text-align: center;">Chapter 2 REGISTRATION SURVEYS</p> <p>2.1 Registration Surveys during Construction</p> <p>2.1.2 Submission of Plans and Documents for Approval*</p> <p>4 For ships subject to Chapter 3, Part 8, the Energy Efficiency Existing Ship Index (EEXI) Technical File is to be submitted to the Society for verification prior to the tests specified in 2.1.3-7 (except in cases where the attained EEDI of the ship is equal to or less than the required EEXI.). Furthermore, in cases where the ship is provided with a Shaft/Engine Power limitation (SHaPoLi/EPL) system to satisfy 3.5, Part 8, an Onboard Management Manual (OMM) for SHaPoLi/EPL deemed appropriate by the Society, is to be submitted to the Society for approval.</p> <p>2.1.3 Inspections of Construction and Equipment*</p> <p>7 For ships subject to Chapter 3, Part 8, the Energy Efficiency Existing Ship Index (EEXI) is to be verified. In cases where the ship is provided with a Shaft/Engine Power</p>	<p>Refer to Part 8</p>

Amended-Original Requirements Comparison Table
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Amended	Original	Remarks
<p>Limitation (SHaPoLi/EPL) system to satisfy 3.5, Part 8, the Surveyor is to confirm that the system is appropriately installed and sealed in accordance with guidelines deemed appropriate by the Society, <u>as specified in 3.3-4, Part 8</u>, and a verified Onboard Management Manual (OMM) for SHaPoLi/EPL is maintained on board.</p> <p style="text-align: center;">EFFECTIVE DATE AND APPLICATION</p> <p>1. The effective date of the amendments is 27 June 2024.</p>	<p>Limitation (SHaPoLi/EPL) system to satisfy 3.5, Part 8, the Surveyor is to confirm that the system is appropriately installed and sealed in accordance with guidelines deemed appropriate by the Society, and a verified Onboard Management Manual (OMM) for SHaPoLi/EPL is maintained on board.</p>	<p>Refer to Part 8</p>

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Amended	Original	Remarks
<p style="text-align: center;">GUIDANCE FOR MARINE POLLUTION PREVENTION SYSTEMS</p> <p style="text-align: center;">Part 2 SURVEYS</p> <p style="text-align: center;">Chapter 2 REGISTRATION SURVEYS</p> <p>2.1 Registration Surveys during Construction</p> <p>2.1.2 Submission of Plans and Documents for Approval</p> <p>5 <u>The Energy Efficiency Existing Ship Index (EEXI) Technical File referred to in 2.1.2-4, Part 2 of the Rules is a document which contains the following basic information related to EEXI calculation conditions.</u></p> <p>(Deleted)</p> <p>(1) Basic data such as the information in any of the following (a) to (c), the maximum continuous rating (MCR) of main and auxiliary engines, estimated ship speed and the specific fuel consumption of main and auxiliary engines (data for each is to be provided, and copies which indicate the specific fuel consumption of main and auxiliary engines are to be attached).</p> <p>(a) <i>Gross tonnage</i> and deadweight (DWT) for ro-ro</p>	<p style="text-align: center;">GUIDANCE FOR MARINE POLLUTION PREVENTION SYSTEMS</p> <p style="text-align: center;">Part 2 SURVEYS</p> <p style="text-align: center;">Chapter 2 REGISTRATION SURVEYS</p> <p>2.1 Registration Surveys during Construction</p> <p>2.1.2 Submission of Plans and Documents for Approval</p> <p>5 <u>Details of the documents related to existing ship energy efficiency referred to in 2.1.2-4, Part 2 of the Rules are as follows.</u></p> <p>(1) <u>The Energy Efficiency Existing Ship Index (EEXI) Technical File is a document which contains basic information related to the EEXI calculation conditions, and it is to contain the following information:</u></p> <p>(a) Basic data such as the information in any of the following i) to iii), the maximum continuous rating (MCR) of main and auxiliary engines, estimated ship speed and the specific fuel consumption of main and auxiliary engines (data for each is to be provided, and copies which indicate the specific fuel consumption of main and auxiliary engines are to be attached).</p> <p>i) <i>Gross tonnage</i> and deadweight (DWT) for ro-</p>	<p>(Deleted)</p>

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Amended	Original	Remarks
<p>cargo ships (vehicle carriers);</p> <p>(b) <i>Gross tonnage</i> for passenger ships and cruise passenger ships that have non-conventional propulsion; or</p> <p>(c) Deadweight (<i>DWT</i>) for ships other than those mentioned in the preceding (a) and (b).</p> <p>(2) Limited installed power (MCR_{lim}) (in cases where the SHaPoLi/EPL system is installed).</p> <p>(3) Approved power curves ($kW - knot$) estimated at the design stage under the conditions for EEDI calculation as well as power curves, if available, estimated from tank test or numerical calculations (each power curve is to be represented graphically).</p> <p>(4) Power curve estimation process (explanation using process diagrams of the methodology followed from tank tests to power curve estimation at the design stage).</p> <p>(5) Approximate ship speed obtained by a simplified formula and the calculation process (in cases where the speed-power curve is not available).</p> <p>(6) Principal particulars as well as overviews of propulsion systems and electricity supply systems (e.g. schematic diagrams) are to be provided.</p> <p>(7) Overview of energy saving equipment.</p> <p>(8) Attained EEXI calculated values (including the relevant calculation outline).</p> <p>(9) For LNG carriers, the information specified in the following (a) to (g) is to be included:</p> <p>(a) Type and outline of propulsion systems (such as direct drive diesel, diesel electric, steam turbine);</p>	<p>ro cargo ships (vehicle carriers);</p> <p>ii) <i>Gross tonnage</i> for passenger ships and cruise passenger ships that have non-conventional propulsion; or</p> <p>iii) Deadweight (<i>DWT</i>) for ships other than those mentioned in the preceding i) and ii).</p> <p>(b) Limited installed power (MCR_{lim}) (in cases where the SHaPoLi/EPL system is installed).</p> <p>(c) Approved power curves ($kW - knot$) estimated at the design stage under the conditions for EEDI calculation as well as power curves, if available, estimated from tank test or numerical calculations (each power curve is to be represented graphically).</p> <p>(d) Power curve estimation process (explanation using process diagrams of the methodology followed from tank tests to power curve estimation at the design stage).</p> <p>(e) Approximate ship speed obtained by a simplified formula and the calculation process (in cases where the speed-power curve is not available).</p> <p>(f) Principal particulars as well as overviews of propulsion systems and electricity supply systems (e.g. schematic diagrams) are to be provided.</p> <p>(g) Overview of energy saving equipment.</p> <p>(h) Attained EEXI calculated values (including the relevant calculation outline).</p> <p>(i) For LNG carriers, the information specified in the following i) to vii) is to be included:</p> <p>i) Type and outline of propulsion systems (such as direct drive diesel, diesel electric, steam turbine);</p>	

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Amended	Original	Remarks
<p>(b) LNG cargo tank capacity (m^3) and the design rate of boil-off gas of entire ship per <i>day</i>, which is specified in the specification of the building contract;</p> <p>(c) Shaft power of the propeller shaft after transmission gear at 100 % of the rated output of motor and the electrical efficiency for diesel electric;</p> <p>(d) Shaft power of the propeller shaft after transmission gear at the de-rated output of motor (in cases where the SHaPoLi/EPL system is installed);</p> <p>(e) For steam turbines, maximum continuous rated power;</p> <p>(f) For steam turbines, limited maximum continuous rated power (in cases where the SHaPoLi/EPL system is installed); and</p> <p>(g) For steam turbines, certified specific fuel consumption of the steam turbines measured in <i>g/kWh</i>.</p> <p>(10) An in-service performance measurement report specified in <i>IMO resolution MEPC.350(78)</i> as amended (if applicable).</p> <p>(11) Other documents deemed necessary by the Society.</p> <p>(Deleted)</p>	<p>ii) LNG cargo tank capacity (m^3) and the design rate of boil-off gas of entire ship per <i>day</i>, which is specified in the specification of the building contract;</p> <p>iii) Shaft power of the propeller shaft after transmission gear at 100 % of the rated output of motor and the electrical efficiency for diesel electric;</p> <p>iv) Shaft power of the propeller shaft after transmission gear at the de-rated output of motor (in cases where the SHaPoLi/EPL system is installed);</p> <p>v) For steam turbines, maximum continuous rated power;</p> <p>vi) For steam turbines, limited maximum continuous rated power (in cases where the SHaPoLi/EPL system is installed); and</p> <p>vii) For steam turbines, certified specific fuel consumption of the steam turbines measured in <i>g/kWh</i>.</p> <p>(j) An in-service performance measurement report specified in <i>IMO resolution MEPC.350(78)</i> as amended (if applicable).</p> <p>(k) Other documents deemed necessary by the Society.</p> <p>(2) <u>The “Onboard Management Manual (OMM) for SHaPoLi/EPL deemed appropriate by the Society” means the one that satisfies the 2021 Guidelines on the Shaft/Engine Power Limitation System to Comply with the EEXI Requirements and Use of a Power Reserve(IMO Res.MEPC.335(76)).</u></p>	<p>(Deleted)</p>

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Amended	Original	Remarks
<p>2.1.3 Inspections of Construction and Equipment (Deleted)</p>	<p>2.1.3 Inspections of Construction and Equipment 14 The “guidelines deemed appropriate by the Society” specified in 2.1.3-7, Part 2 of the Rules refers to the <i>2021 Guidelines on the Shaft/Engine Power Limitation System to Comply with the EEXI Requirements and Use of a Power Reserve (IMO Res.MEPC.335(76))</i>.</p>	(Deleted)
<p>Part 8 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS</p> <p>Chapter 3 ENERGY EFFICIENCY FOR SHIPS</p> <p>3.3 Attained Energy Efficiency Existing Ship Index (Attained EEXI) (Regulation 23 of Annex VI)</p> <p>1 The “guidelines deemed appropriate by the Society” specified in 3.3-1, Part 8 of the Rules refers to the <i>2022 Guidelines on Survey and Certification of the attained Energy Efficiency Existing Ship Index (EEXI) (IMO resolution MEPC.351(78))</i> as amended.</p> <p>2 The “guidelines deemed appropriate by the Society” specified in 3.3-3, Part 8 of the Rules refers to the <i>2022 Guidelines on the Method of Calculation of the Attained Energy Efficiency Existing Ship Index (EEXI)(IMO resolution MEPC.350(78))</i> as amended, and <i>Guidance on Methods, Procedures and Verification of in-service Performance Measurements(IMO MEPC.1/Circ.901)</i> as amended.</p> <p>3 The “guidelines deemed appropriate by the Society”</p>	<p>Part 8 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS</p> <p>Chapter 3 ENERGY EFFICIENCY FOR SHIPS</p> <p>3.3 Attained Energy Efficiency Existing Ship Index (Attained EEXI) (Regulation 23 of Annex VI)</p> <p>1 The “guidelines deemed appropriate by the Society” specified in 3.3-1, Part 8 of the Rules refers to the <i>2022 Guidelines on Survey and Certification of the attained Energy Efficiency Existing Ship Index (EEXI) (IMO resolution MEPC.351(78))</i> as amended.</p> <p>2 The “guidelines deemed appropriate by the Society” specified in 3.3-3, Part 8 of the Rules refers to the <i>2022 Guidelines on the Method of Calculation of the Attained Energy Efficiency Existing Ship Index (EEXI)(IMO resolution MEPC.350(78))</i> as amended, and <i>Guidance on Methods, Procedures and Verification of in-service Performance Measurements(IMO MEPC.1/Circ.901)</i> as amended.</p> <p>3 The “guidelines deemed appropriate by the Society”</p>	

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<p>specified in 3.3-4, Part 8 of the Rules refers to the <i>2021 Guidelines on the Shaft/Engine Power Limitation System to Comply with the EEXI Requirements and Use of a Power Reserve (IMO Res.MEPC.335(76))</i> <u>as amended</u>.</p> <p style="text-align: center;">EFFECTIVE DATE AND APPLICATION</p> <p>1. The effective date of the amendments is 27 June 2024.</p>	<p>specified in 3.3-4, Part 8 of the Rules refers to the <i>2021 Guidelines on the Shaft/Engine Power Limitation System to Comply with the EEXI Requirements and Use of a Power Reserve (IMO Res.MEPC.335(76))</i>.</p>	