
**CHINA CLASSIFICATION SOCIETY**

# RULES FOR CLASSIFICATION OF SEA-GOING STEEL SHIPS

CCS RULE CHANGE NOTICE

## Version: 2023. RCN No.2

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**Beijing**

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# Brief Introduction

## Part One

1. Incorporation of UR Z17(Rev.18/2023.02), revised ISO 17025 edition number, deleting the requirement that Service Suppliers of BWMS are to be accredited to ISO/IEC 17025, revised reporting contents of Service Suppliers of BWMS.
2. Adding or revising relevant class notations in accordance with newly developed CCS rules and guidelines.

## Part Eight

1. In order to meet the needs for ready classification services from customers, relevant ready requirements are specified for existing CCS class notations for system and equipment, defining technical requirements to be satisfied and plans and information to be submitted in case of ready design and arrangement, the form of identification of ready class notation etc., thereby adding a new Chapter 35 to this PART.
2. In order to actively respond to the market needs and further enhance the market service quality, CCS has organized the research of application of carbon capture system on ships, and developed relevant functional goals and requirements, including the class notation to be assigned, plan and information corresponding to the technical requirements, thereby adding a new Chapter 36 to this PART.

**CCS Rule Change Notice For:**

# RULES FOR CLASSIFICATION OF SEA-GOING STEEL SHIPS

**PART ONE**

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# CHAPTER 2 SCOPE AND CONDITIONS OF CLASSIFICATION

## Appendix 1 LIST OF CLASS NOTATIONS FOR SEA-GOING SHIPS

**Special Features Notations** **Table E**

| Class notation | Description | | Technical requirements |
|---|---|---|---|
| i-Ship（Dx） | Intelligent dredging | For dredgers engaged in dredging operations which are, upon request, in compliance with the provisions of 10.2, Chapter 10 of the Rules for Intelligent Ships subject to CCS plan approval and survey, this notation may be assigned:<br>D – the dredger has the basic function of intelligent dredging specified in 10.2.1.3, Chapter 10 of the Rules for Intelligent Ships;<br>x – additional notation for optional function, expressed by the following small letters as appropriate:<br>a – one-key dredging function as specified in 10.2.1.4(1), Chapter 10 of the Rules for Intelligent Ships can be achieved;<br>m – condition-based maintenance is implemented for dredging equipment;<br>o – dredging operation parameter optimization function as specified in 10.2.1.4(3), Chapter 10 of the Rules for Intelligent Ships can be achieved | Rules for Intelligent Ships |
| i-Ship（SRx） | Intelligent scientific research | For scientific research ships engaged in scientific research tasks which are, upon request, in compliance with the provisions of 10.3, Chapter 10 of the Rules for Intelligent Ships subject to CCS plan approval and survey, this notation may be assigned:<br>SR – basic functional notation of intelligent scientific research, meaning that the scientific research ship has the basic function of scientific research operation management specified in 10.3.4.1, Chapter 10 of the Rules for Intelligent Ships;<br>x – additional notation for optional function, expressed by the following small letter:<br>c – the scientific research ship has the monitoring function of scientific research operation specified in 10.3.4.2, Chapter 10 of the Rules for Intelligent Ships | Rules for Intelligent Ships |
| ~~Cyber Security(P,S)~~ | ~~Cyber security of ships~~ | ~~This notation may be assigned to ships with satisfactory results of the assessment of cyber security of ships~~ | ~~Guidelines for Network System Requirements and Security Assessment of Ships~~ |
| Cyber Security (M, P[SL0]/S[$SL_X$]) | Cyber security of ships | This notation may be assigned to ships with satisfactory results of the assessment of cyber security of ships, where:<br>M represents compliance with the requirements of ship cyber risk management;<br>P[SL0] represents compliance with minimum ship cyber resilience requirements;<br>S[$SL_X$] represents compliance with related cyber security requirements corresponding to [SL1/SL2/SL3/SL4], where SL4 is the highest level | Guidelines for Ship Cyber Security |

**Special Equipment and System Notations** **Table G**

| Class notation | Description | | Technical requirements |
|---|---|---|---|
| ~~Battery(Power)~~ | ~~Pure~~ | ~~For ships using pure battery-powered propulsion, this notation~~ | ~~1. Guidelines for~~ |

| | | | |
|---|---|---|---|
| | ~~Battery-Powered Propulsion~~ | ~~may be assigned~~ | ~~Surveys of Pure Battery Powered Ships for ship length ≥20 m~~<br>~~2. Rules for Classification of Sea-going Boats for ship length <20 m~~ |
| Battery（Power） | Pure Battery-Powered Propulsion | For ships only using pure battery-powered propulsion, this notation may be assigned | 1.Rules for Classification of Sea-going Boats for ship length <20 m<br>2.Rules for Ships Using Battery Power for other ships |
| Battery（Power-h） | Battery hybrid powered propulsion | For batteries used as partial propulsion power or energy storage source, the notation may be assigned | Rules for Ships Using Battery Power |
| Power-R | Remote monitoring of battery powered system | For ships capable of sending the parameters of its battery power system, distribution system and electrical propulsion system to the CCS survey and verification platform of battery powered ships, this notation may be assigned | Rules for Ships Using Battery Power |
| Ready（X-i） | System and equipment ready | For system and equipment ready with regard to existing class notations, this notation may be assigned, where “X” indicates class notation for existing system and equipment, and “i” indicates different ready levels | Ch. 35, Pt. 8 of the Rules |
| OCCS | Onboard carbon capture system | For ships fitted with the system to reduce $CO_2$ emission, this notation may be assigned | Ch. 36, Pt. 8 of the Rules |

# CHAPTER 5 SURVEYS AFTER CONSTRUCTION

## Appendix 8 PROCEDURAL REQUIREMENTS FOR SERVICE SUPPLIERS

### Annex 1
### Special Requirements for Various Categories of Service Suppliers

**14. Firms engaged in measurements of noise level onboard ships**

14.4 Equipment

14.4.4 Calibration

Sound Calibrator and sound level meter are to be verified at least every two years by a national Standard laboratory or a competent laboratory accredited according to ~~ISO 17025(2005)~~ISO/IEC 17025:2017, as amended. A record with a complete description of the equipment used is to be kept, including a calibration log.

**18. Firms engaged in Commissioning Testing of Ballast Water Management Systems (BWMS)**

18.2 Procedure

~~18.2.3 Service Suppliers are to be accredited to relevant standards such as ISO/IEC 17025 or equivalent, as applicable.~~

18.2.~~3~~4 Service Suppliers are to be independent of the BWMS manufacturer or supplier including shipyards.

18.4 Equipment and facilities

Equipment, procedures and methods for detailed analysis, where applicable, are to be in accordance with relevant International standard and/or accepted Industry standards. ~~Laboratories conducting sample enumeration are to be certified to ISO/IEC 17025 standard, or equivalent.~~

18.6 Reporting

Service Suppliers are to provide reports detailing the results of sampling and analysis of ballast water and assessment of self-monitoring parameters during commissioning testing. The format is to be acceptable to CCS. The report, as a minimum, will contain the following:

• Manufacturer's name
• Model name
• BWMS Technology limiting operating conditions and system design limitations
• BWMS treatment mode of operation, e.g., high power, low power, single pass, IMO mode, USCG Mode, etc.
~~• Operation required, e.g., ballasting, de-ballast, circulation, one pass, in tank, etc~~
• Treatment rated capacity (TRC) in m3/h
• Relevant performance parameters (e.g. TRO, UV dose, UVI, flow rate or other relevant performance parameter).
• Alarms developed during operation.
~~• Installation location.~~
• Type Approval issued by and Certificate No
~~• Date installed~~
• Results of Sample analysis
• Pump and ballast tanks used for the commissioning test, including the flow rates and volumes of the ballasting and deballasting operations ~~Pump flow rate, ballast tanks and volume~~
• Comments/Options: Filter and other major components, Process measurements.

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**PART EIGHT**

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# CHAPTER 35 SYSTEM AND EQUIPMENT READY

## Section 1 GENERAL PROVISIONS

### 35.1.1 General requirements

35.1.1.1 This Chapter applies to system and/or equipment ready for which technical requirements are specified for existing class notations[①].

35.1.1.2 For ships assigned relevant ready class notations in accordance with the requirements of this Chapter, corresponding class notations may be assigned upon completion of onboard installation/modification of system and/or equipment and subject to satisfactory survey by CCS, and ready class notations are withdrawn.

## Section 2 READY CLASS NOTATIONS

### 35.2.1 Form of identification

35.2.1.1 Ready (X-i) is used as the form of identification of ready class notations, where "X" indicates class notation for system and/or equipment corresponding to the ready class notation; "i" indicates different ready levels corresponding to X. i=1 for completion of principled design, i=2 for completion of detailed design.

35.2.1.2 With regard to multiple systems and/or equipment ready, they may be filled in the parentheses after Ready. Different class notations are separated by commas (,), e.g. "video monitoring system ready level 1" and "shore connection system ready level 2" may be expressed as Ready (VDMS-1, AMPS-2).

## Section 3 TECHNICAL REQUIREMENTS AND PLANS AND INFORMATION

### 35.3.1 Principled design ready

35.3.1.1 Technical requirements

(1) Comprehensive consideration is to be given to the space for the installation, arrangement and repair of the systems and/or equipment required on the ship, as well as the possible impact on the ship's arrangement, equipment, power load, structural strength, stability, tonnage and deadweight etc.

35.3.1.2 Plans and information

(1) The following plans and information are to be submitted for review as a minimum:

① instructions of the ready plan;

② ready-related principled design plans and information.

### 35.3.2 Detailed design ready

35.3.2.1 Technical requirements

(1) Based on 35.3.1.1 above, the ship also needs to satisfy applicable provisions of class notations corresponding to the system and/or equipment.

35.3.2.2 Plans and information

(1) The following plans and information are to be submitted for review as a minimum:

① instructions of the ready plan;

② instructions of the ready system and/or equipment;

③ ready-related detailed design plans and information;

④ applicable plans and information of the class notation corresponding to the system and/or equipment.

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① "Existing class notations" mean those class notations in Table G etc. of Appendix 1 List of Class Notations, Chapter 2, PART ONE of the Rules, excluding existing ready class notations (e.g. EGC Ready (X)).

# CHAPTER 36 ONBOARD CARBON CAPTURE SYSTEM

## Section 1 GENERAL PROVISIONS

### 36.1.1 General requirements

36.1.1.1 This Chapter applies to ships applying for the onboard carbon capture system notation.

36.1.1.2 Ships provided with the onboard carbon capture system are, in addition to the provisions of this Chapter, to satisfy applicable requirements of others parts and chapters of the rules.

### 36.1.2 Class notation

36.1.2.1 Ships complying with the provisions of this Chapter may be assigned the onboard carbon capture system notation:

OCCS (Onboard Carbon Capture System)

### 36.1.3 Plans and information

36.1.3.1 The following plans and information are to be submitted for approval as a minimum:

(1) schematic diagram of onboard carbon capture system;

(2) energy consumption calculations of onboard carbon capture system.

36.1.3.2 The following plans and information are to be submitted for information as a minimum:

(1) technical description and installation plan of onboard carbon capture system, including:

① system design parameters;

② system carbon dioxide capture capacity calculation;

③ list of system equipment;

④ system arrangement plan.

(2) operation and maintenance manual of onboard carbon capture system;

(3) carbon dioxide absorber safety data sheet;

(4) risk assessment report of onboard carbon capture system.

36.1.3.3 The scope of plans and information submitted for approval may be expanded when deemed necessary by CCS.

## Section 2 DESIGN AND ARRANGEMENT

### 36.2.1 System design

36.2.1.1 The onboard carbon capture system is to be able to adapt to the environmental and working conditions of the ship's operation.

36.2.1.2 The carbon dioxide capture capacity of the onboard carbon capture system is to meet the expected design objectives, and the capacity of carbon dioxide storage tank is to meet the expected design volume.

36.2.1.3 The strength and tightness design of the onboard carbon capture system is to meet the set conditions and the possible low temperature condition in case of leakage of carbon dioxide.

36.2.1.4 The onboard carbon capture system is to be provided with necessary redundant safety protection measures and capable of preventing and dealing with accidents.

36.2.1.5 The onboard carbon capture system is to be provided with monitoring, alarm and control systems.

36.2.1.6 The design of onboard carbon capture system is to facilitate shipboard operation and maintenance.

36.2.1.7 The energy supply (e.g. electricity, steam etc.) on board is to satisfy the expected operating requirements of the onboard carbon capture system.

36.2.1.8 The onboard carbon capture system is to minimize the potential risk to ships, essential equipment, personnel and the environment. Chemical substances in storage and use are to ensure that they will not cause harm to personnel and the environment.

### 36.2.2 Arrangement and safety requirements

36.2.2.1 Shipboard installation, arrangement and operation of onboard carbon capture system are to meet the following requirements:
(1) mechanical and high temperature protection is to be considered;
(2) life-saving appliances, muster station and means of escape are not to be affected;
(3) the impact of the change of ship tonnage on the applicable standards after the addition of the system;
(4) navigation bridge visibility is to comply with SOLAS regulation V/22 and the relevant provisions of the flag State;
(5) the normal operation of the ship's essential equipment (e.g. as main engines, generators and boilers, etc.) is not affected.
36.2.2.2 After the onboard carbon capture system is installed, the ship's structural strength is to satisfy the requirements for longitudinal and local strength of the rules.
36.2.2.3 The effect of windage area, lightship center of gravity, heel and trim on ship stability is to be considered for ships provided with onboard carbon capture system.
36.2.2.4 The mechanical properties, chemical composition, manufacturing and testing of materials used in the equipment and pipelines of onboard carbon capture system are to comply with the relevant provisions of CCS Rules for Materials and Welding, and corrosion prevention measures are be considered (if necessary). Materials (including coatings) used in equipment, pipelines and components in contact with seawater is not to cause any harm to marine organisms.
36.2.2.5 Detectors are to be fitted where carbon dioxide leakage or accumulation is likely to occur. When the detector operates, audible and visual alarm signals are to be given on the bridge and in the central control station (if any).
36.2.2.6 The installation and operation of the onboard carbon capture system is to minimize the impact on the fuel combustion device.
36.2.2.7 During the operation and maintenance of the onboard carbon capture system, all operations that may pose risks to personnel are to be provided with appropriate protective equipment on board.

## Section 3 SURVEYS

### 36.3.1 General requirements
36.3.1.1 Equipment and components of the onboard carbon capture system are to be furnished with CCS certificates in accordance with the requirements of Chapter 3, PART ONE of the rules.
36.3.1.2 Equipment constituting the onboard carbon capture system is to be subject to surveys and tests in accordance with approved plans and relevant standards.

### 36.3.2 Initial surveys
36.3.2.1 Surveys and functional testing are to be carried out to devices, equipment, systems, components and installation of relevant pipelines of the onboard carbon capture system.
36.3.2.2 Sea trials are to be carried out to the system in accordance with the requirements of the sea trial programme

### 36.3.3 Surveys after construction
36.3.3.1 Ships provided with the onboard carbon capture system are to be subject to annual surveys. For ships subject to continuous surveys, all required survey items are generally to be completed every year.