



**BUREAU
VERITAS**

Wind Farms Service Ships

December 2018

**Guidance Note
NR589 DT R02 E**



GENERAL CONDITIONS

1. INDEPENDENCE OF THE SOCIETY AND APPLICABLE TERMS

- 1.1 The Society shall remain at all times an independent contractor and neither the Society nor any of its officers, employees, servants, agents or subcontractors shall be or act as an employee, servant or agent of any other party hereto in the performance of the Services.
- 1.2 The operations of the Society in providing its Services are exclusively conducted by way of random inspections and do not, in any circumstances, involve monitoring or exhaustive verification.
- 1.3 The Society acts as a services provider. This cannot be construed as an obligation bearing on the Society to obtain a result or as a warranty. The Society is not and may not be considered as an underwriter, broker in Unit's sale or chartering, expert in Unit's valuation, consulting engineer, controller, naval architect, designer, manufacturer, shipbuilder, repair or conversion yard, charterer or shipowner; none of them above listed being relieved of any of their expressed or implied obligations as a result of the interventions of the Society.
- 1.4 The Society only is qualified to apply and interpret its Rules.
- 1.5 The Client acknowledges the latest versions of the Conditions and of the applicable Rules applying to the Services' performance.
- 1.6 Unless an express written agreement is made between the Parties on the applicable Rules, the applicable Rules shall be the Rules applicable at the time of entering into the relevant contract for the performance of the Services.
- 1.7 The Services' performance is solely based on the Conditions. No other terms shall apply whether express or implied.

2. DEFINITIONS

- 2.1 "Certificate(s)" means classification or statutory certificates, attestations and reports following the Society's intervention.
- 2.2 "Certification" means the activity of certification in application of national and international regulations or standards, in particular by delegation from different governments that can result in the issuance of a Certificate.
- 2.3 "Classification" means the classification of a Unit that can result or not in the issuance of a classification Certificate with reference to the Rules. Classification is an appraisalment given by the Society to the Client, at a certain date, following surveys by its surveyors on the level of compliance of the Unit to the Society's Rules or to the documents of reference for the Services provided. They cannot be construed as an implied or express warranty of safety, fitness for the purpose, seaworthiness of the Unit or of its value for sale, insurance or chartering.
- 2.4 "Client" means the Party and/or its representative requesting the Services.
- 2.5 "Conditions" means the terms and conditions set out in the present document.
- 2.6 "Industry Practice" means international maritime and/or offshore industry practices.
- 2.7 "Intellectual Property" means all patents, rights to inventions, utility models, copyright and related rights, trade marks, logos, service marks, trade dress, business and domain names, rights in trade dress or get-up, rights in goodwill or to sue for passing off, unfair competition rights, rights in designs, rights in computer software, database rights, topography rights, moral rights, rights in confidential information (including know-how and trade secrets), methods and protocols for Services, and any other intellectual property rights, in each case whether capable of registration, registered or unregistered and including all applications for and renewals, reversions or extensions of such rights, and all similar or equivalent rights or forms of protection in any part of the world.
- 2.8 "Parties" means the Society and Client together.
- 2.9 "Party" means the Society or the Client.
- 2.10 "Register" means the public electronic register of ships updated regularly by the Society.
- 2.11 "Rules" means the Society's classification rules and other documents. The Society's Rules take into account at the date of their preparation the state of currently available and proven technical minimum requirements but are not a standard or a code of construction neither a guide for maintenance, a safety handbook or a guide of professional practices, all of which are assumed to be known in detail and carefully followed at all times by the Client.
- 2.12 "Services" means the services set out in clauses 2.2 and 2.3 but also other services related to Classification and Certification such as, but not limited to: ship and company safety management certification, ship and port security certification, maritime labour certification, training activities, all activities and duties incidental thereto such as documentation on any supporting means, software, instrumentation, measurements, tests and trials on board. The Services are carried out by the Society according to the applicable referential and to the Bureau Veritas' Code of Ethics. The Society shall perform the Services according to the applicable national and international standards and Industry Practice and always on the assumption that the Client is aware of such standards and Industry Practice.
- 2.13 "Society" means the classification society 'Bureau Veritas Marine & Offshore SAS', a company organized and existing under the laws of France, registered in Nanterre under number 821 131 844, or any other legal entity of Bureau Veritas Group as may be specified in the relevant contract, and whose main activities are Classification and Certification of ships or offshore units.
- 2.14 "Unit" means any ship or vessel or offshore unit or structure of any type or part of it or system whether linked to shore, river bed or sea bed or not, whether operated or located at sea or in inland waters or partly on land, including submarines, hovercrafts, drilling rigs, offshore installations of any type and of any purpose, their related and ancillary equipment, subsea or not, such as well head and pipelines, mooring legs and mooring points or otherwise as decided by the Society.

3. SCOPE AND PERFORMANCE

- 3.1 Subject to the Services requested and always by reference to the Rules, the Society shall:
 - review the construction arrangements of the Unit as shown on the documents provided by the Client;
 - conduct the Unit surveys at the place of the Unit construction;
 - class the Unit and enter the Unit's class in the Society's Register;
 - survey the Unit periodically in service to note whether the requirements for the maintenance of class are met.The Client shall inform the Society without delay of any circumstances which may cause any changes on the conducted surveys or Services.
- 3.2 The Society will not:
 - declare the acceptance or commissioning of a Unit, nor its construction in conformity with its design, such activities remaining under the exclusive responsibility of the Unit's owner or builder;
 - engage in any work relating to the design, construction, production or repair checks, neither in the operation of the Unit or the Unit's trade, neither in any advisory services, and cannot be held liable on those accounts.

4. RESERVATION CLAUSE

- 4.1 The Client shall always: (i) maintain the Unit in good condition after surveys; (ii) present the Unit for surveys; and (iii) inform the Society in due time of any circumstances that may affect the given appraisalment of the Unit or cause to modify the scope of the Services.
- 4.2 Certificates are only valid if issued by the Society.
- 4.3 The Society has entire control over the Certificates issued and may at any time withdraw a Certificate at its entire discretion including, but not limited to, in the following situations: where the Client fails to comply in due time with instructions of the Society or where the Client fails to pay in accordance with clause 6.2 hereunder.
- 4.4 The Society may at times and at its sole discretion give an opinion on a design or any technical element that would 'in principle' be acceptable to the Society. This opinion shall not presume on the final issuance of any Certificate or on its content in the event of the actual issuance of a Certificate. This opinion shall only be an appraisal made by the Society which shall not be held liable for it.

5. ACCESS AND SAFETY

- 5.1 The Client shall give to the Society all access and information necessary for the efficient performance of the requested Services. The Client shall be the sole responsible for the conditions of presentation of the Unit for tests, trials and surveys and the conditions under which tests and trials are carried out. Any information, drawing, etc. required for the performance of the Services must be made available in due time.
- 5.2 The Client shall notify the Society of any relevant safety issue and shall take all necessary safety-related measures to ensure a safe work environment for the Society or any of its officers, employees, servants, agents or subcontractors and shall comply with all applicable safety regulations.

6. PAYMENT OF INVOICES

- 6.1 The provision of the Services by the Society, whether complete or not, involve, for the part carried out, the payment of fees thirty (30) days upon issuance of the invoice.

6.2 Without prejudice to any other rights hereunder, in case of Client's payment default, the Society shall be entitled to charge, in addition to the amount not properly paid, interests equal to twelve (12) months LIBOR plus two (2) per cent as of due date calculated on the number of days such payment is delinquent. The Society shall also have the right to withhold Certificates and other documents and/or to suspend or revoke the validity of Certificates.

- 6.3 In case of dispute on the invoice amount, the undisputed portion of the invoice shall be paid and an explanation on the dispute shall accompany payment so that action can be taken to solve the dispute.

7. LIABILITY

- 7.1 The Society bears no liability for consequential loss. For the purpose of this clause consequential loss shall include, without limitation:
 - Indirect or consequential loss;
 - Any loss and/or deferral of production, loss of product, loss of use, loss of bargain, loss of revenue, loss of profit or anticipated profit, loss of business and business interruption, in each case whether direct or indirect.The Client shall defend, release, save, indemnify, defend and hold harmless the Society from the Client's own consequential loss regardless of cause.
- 7.2 Except in case of wilful misconduct of the Society, death or bodily injury caused by the Society's negligence and any other liability that could not be, by law, limited, the Society's maximum liability towards the Client is limited to one hundred and fifty per-cents (150%) of the price paid by the Client to the Society for the Services having caused the damage. This limit applies to any liability of whatsoever nature and howsoever arising, including fault by the Society, breach of contract, breach of warranty, tort, strict liability, breach of statute.
- 7.3 All claims shall be presented to the Society in writing within three (3) months of the completion of Services' performance or (if later) the date when the events which are relied on were first discovered by the Client. Any claim not so presented as defined above shall be deemed waived and absolutely time barred.

8. INDEMNITY CLAUSE

- 8.1 The Client shall defend, release, save, indemnify and hold harmless the Society from and against any and all claims, demands, lawsuits or actions for damages, including legal fees, for harm or loss to persons and/or property tangible, intangible or otherwise which may be brought against the Society, incidental to, arising out of or in connection with the performance of the Services (including for damages arising out of or in connection with opinions delivered according to clause 4.4 above) except for those claims caused solely and completely by the gross negligence of the Society, its officers, employees, servants, agents or subcontractors.

9. TERMINATION

- 9.1 The Parties shall have the right to terminate the Services (and the relevant contract) for convenience after giving the other Party thirty (30) days' written notice, and without prejudice to clause 6 above.
- 9.2 In such a case, the Classification granted to the concerned Unit and the previously issued Certificates shall remain valid until the date of effect of the termination notice issued, subject to compliance with clause 4.1 and 6 above.
- 9.3 In the event where, in the reasonable opinion of the Society, the Client is in breach, or is suspected to be in breach of clause 16 of the Conditions, the Society shall have the right to terminate the Services (and the relevant contracts associated) with immediate effect.

10. FORCE MAJEURE

- 10.1 Neither Party shall be responsible or liable for any failure to fulfil any term or provision of the Conditions if and to the extent that fulfilment has been delayed or temporarily prevented by a force majeure occurrence without the fault or negligence of the Party affected and which, by the exercise of reasonable diligence, the said Party is unable to provide against.
- 10.2 For the purpose of this clause, force majeure shall mean any circumstance not being within a Party's reasonable control including, but not limited to: acts of God, natural disasters, epidemics or pandemics, wars, terrorist attacks, riots, sabotages, impositions of sanctions, embargoes, nuclear, chemical or biological contaminations, laws or action taken by a government or public authority, quotas or prohibition, expropriations, destructions of the worksite, explosions, fires, accidents, any labour or trade disputes, strikes or lockouts.

11. CONFIDENTIALITY

- 11.1 The documents and data provided to or prepared by the Society in performing the Services, and the information made available to the Society, are treated as confidential except where the information:
 - is properly and lawfully in the possession of the Society;
 - is already in possession of the public or has entered the public domain, otherwise than through a breach of this obligation;
 - is acquired or received independently from a third party that has the right to disseminate such information;
 - is required to be disclosed under applicable law or by a governmental order, decree, regulation or rule or by a stock exchange authority (provided that the receiving Party shall make all reasonable efforts to give prompt written notice to the disclosing Party prior to such disclosure).
- 11.2 The Parties shall use the confidential information exclusively within the framework of their activity underlying these Conditions.
- 11.3 Confidential information shall only be provided to third parties with the prior written consent of the other Party. However, such prior consent shall not be required when the Society provides the confidential information to a subsidiary.
- 11.4 Without prejudice to sub-clause 11.1, the Society shall have the right to disclose the confidential information if required to do so under regulations of the International Association of Classifications Societies (IACS) or any statutory obligations.

12. INTELLECTUAL PROPERTY

- 12.1 Each Party exclusively owns all rights to its Intellectual Property created before or after the commencement date of the Conditions and whether or not associated with any contract between the Parties.
- 12.2 The Intellectual Property developed by the Society for the performance of the Services including, but not limited to drawings, calculations, and reports shall remain the exclusive property of the Society.

13. ASSIGNMENT

- 13.1 The contract resulting from to these Conditions cannot be assigned or transferred by any means by a Party to any third party without the prior written consent of the other Party.
- 13.2 The Society shall however have the right to assign or transfer by any means the said contract to a subsidiary of the Bureau Veritas Group.

14. SEVERABILITY

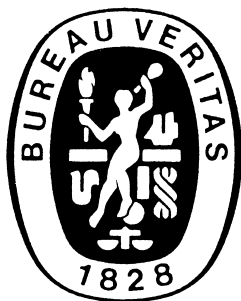
- 14.1 Invalidity of one or more provisions does not affect the remaining provisions.
- 14.2 Definitions herein take precedence over other definitions which may appear in other documents issued by the Society.
- 14.3 In case of doubt as to the interpretation of the Conditions, the English text shall prevail.

15. GOVERNING LAW AND DISPUTE RESOLUTION

- 15.1 These Conditions shall be construed and governed by the laws of England and Wales.
- 15.2 The Parties shall make every effort to settle any dispute amicably and in good faith by way of negotiation within thirty (30) days from the date of receipt by either one of the Parties of a written notice of such a dispute.
- 15.3 Failing that, the dispute shall finally be settled under the Rules of Arbitration of the Maritime Arbitration Chamber of Paris ("CAMP"), which rules are deemed to be incorporated by reference into this clause. The number of arbitrators shall be three (3). The place of arbitration shall be Paris (France). The Parties agree to keep the arbitration proceedings confidential.

16. PROFESSIONAL ETHICS

- 16.1 Each Party shall conduct all activities in compliance with all laws, statutes, rules, economic and trade sanctions (including but not limited to UN sanctions and EU sanctions) and regulations applicable to such Party including but not limited to: child labour, forced labour, collective bargaining, discrimination, abuse, working hours and minimum wages, anti-bribery, anti-corruption, copyright and trademark protection, personal data protection (<https://personal.dataprotection.bureauveritas.com/privacypolicy>).
- Each of the Parties warrants that neither it, nor its affiliates, has made or will make, with respect to the matters provided for hereunder, any offer, payment, gift or authorization of the payment of any money directly or indirectly, to or for the use or benefit of any official or employee of the government, political party, official, or candidate.
- 16.2 In addition, the Client shall act consistently with the Bureau Veritas' Code of Ethics.
<https://group.bureauveritas.com/group/corporate-social-responsibility>



RULE NOTE NR 589

NR 589 Wind Farms Service Ships

SECTION 1	GENERAL
SECTION 2	LIGHT WIND FARMS SERVICE SHIP
SECTION 3	BI-MODE WIND FARMS SERVICE SHIP
SECTION 4	CONVENTIONAL WIND FARMS SERVICE SHIP
SECTION 5	EQUIPMENT

Section 1 **General**

1	General	5
1.1	Application	
1.2	Limitations	
1.3	Statutory matters	
1.4	Main features	
2	Notations	6
2.1	Additional class notations	
3	Definitions	6
3.1	Wind farms service ship	
3.2	Cargo ship	
3.3	Non-Cargo ship	
3.4	Passenger	
3.5	Special Personnel (SP)	
3.6	Industrial personnel (IP)	
3.7	Adapted sea state	

Section 2 **Light Wind Farms Service Ship**

1	General	8
1.1	Application	
1.2	Limitations	
1.3	Navigation notations	
1.4	Applicable rules	
2	Stability	8
2.1	Application	
2.2	Damage stability when the additional class notation SDS is assigned	
3	Structure	8
3.1	Vertical acceleration	
4	Machinery	9
4.1	Bilge pumps	
5	Fire and safety	9
5.1	Cargo spaces	

Section 3 **Bi-Mode Wind Farms Service Ship**

1	General	10
1.1	Application	
1.2	Limitations	
1.3	Navigation notations	
1.4	Applicable requirements	
2	Stability	10
2.1	Application	
2.2	Damage stability when the additional class notation SDS is assigned	

3	Structure	11
	3.1 Vertical acceleration	
4	Machinery	11
	4.1 Bilge	

Section 4 Conventional Wind Farms Service Ship

1	General	12
	1.1 Application	
	1.2 Limitations	
2	Notations	12
	2.1 Navigation notations	
	2.2 Applicable requirements	
3	Stability	13
	3.1 Required subdivision index R	
4	Machinery	13
	4.1 Bilge pumps	
5	Electricity	13
	5.1 Emergency source of electrical power	

Section 5 Equipment

1	General	14
	1.1 Application	
2	Transfer of personnel	14
	2.1 General	
	2.2 Contact area	
	2.3 Platform	
	2.4 Access system	
3	Noise and vibration	14
	3.1 Noise level	
	3.2 Vibration level	
4	Cargo	14
	4.1 Lifting	
	4.2 Fuel oil bunkering	

SECTION 1

GENERAL

1 General

1.1 Application

1.1.1 Ships complying with the requirements of this Rule Note are eligible for the assignment of the service notation **wind farms service ship**, as defined in NR467 Rules for steel ships Pt A, Ch 1, Sec 2.

1.1.2 This Rule Note covers ships able to sail:

- in planing mode in adapted sea state at high speed (light ship), or
- in planing mode in adapted sea state and speed, and in displacement mode otherwise (bi-mode ship), or
- in displacement mode only (conventional ship).

1.1.3 The service notation **wind farms service ship** is to be completed by one of the additional service feature **S0, S1, S2, M0, M1, M2** or **L0, L1, L2** corresponding to the capacity (small, medium or large) and the type (light: 0, bi-mode: 1 or conventional: 2, of the ship.

Limits of application of these additional service features are defined in Tab 1.

Table 1 : Application of additional service feature

Capacity	Small	Medium	Large
Gross tonnage, in GT	< 500		≥ 500
Length, in m	L < 24	L ≥ 24	-
Type 0 Light ship	S0	M0	L0
Type 1 Bi-mode ship	S1	M1	L1
Type 2 Conventional ship	S2	M2	L2
Note 1: Definitions of type 0 (light), 1 (bi-mode) or 2 (conventional) ships and category S (small size), M (medium size) or L (large size) ships are given in Article [3].			

1.1.4 The service notation **wind farms service ship** is intended to cover ships specifically designed to operate in offshore wind farms for the typical following duties:

- transfer of personnel from shore to offshore wind farms or from mother ships or accommodation units at site to offshore wind farms
- lifting operations required for wind turbines' assistance (transfer of materials on wind turbines' platforms).

1.1.5 This Rule Note covers ships carrying onboard the following type of person:

- the master and the crew
- industrial personnel, see definition in [3.6]
- special personnel, see definition in [3.5]
- passenger, see definition in [3.4].

1.1.6 This Rule Note does not cover ships intended and/or designed for:

- installation and assembling of wind turbines and/or main components
- heavy maintenance and repair for which transportation of wind turbine's main parts is needed
- jacking systems.

1.1.7 Ships dealt with in this Rule Note are to comply with:

- Sec 2 for light ship, as defined in Sec 2, [1.1.1]
- Sec 3 for bi-mode ship, as defined in Sec 3, [1.1.1]
- Sec 4 for conventional ship, as defined in Sec 4, [1.1.1].

In addition, Sec 5 on wind farm equipment is applicable for all type of ships.

1.2 Limitations

1.2.1 Capacity limitation

- the capacity of the ship is limited to 60 persons (crew, industrial personnel, special personnel and passenger). Large conventional wind farms service ships (i.e. ships with additional service feature L2) may carry more than 60 persons provided conditions given in Sec 4, [1.2.1]
- the number of passengers is not to be greater than 12, otherwise ship is to be considered as passenger ship (Special personnel or industrial personnel are not considered as passenger)
- when indicated, the number of industrial personnel includes the number of passenger. Attention is to be paid that national regulations can have lower capacity limitation.

1.3 Statutory matters

1.3.1 Statutory matters, as for instance load lines convention or safety aspects, are to be taken into account according to:

- national regulations of the flag flyed by the ship, and
- possible regulations of the state (territorial waters) on which offshore wind farm is located.

The present Rule Note does not cover such statutory matters and each case will be considered separately.

1.4 Main features

1.4.1 The typical main features of wind farms service ships may be:

- deck area for cargo
- seating and/or living accommodation for personnel
- connection and access device to the turbine tower
- lifting devices
- motion damping system
- dynamic positioning system (DP)
- high service speed
- static bollard pull
- propellers propulsion
- maneuvering capability.

2 Notations

2.1 Additional class notations

2.1.1 The below additional class notations may be granted upon request to ships having the service notation **wind farms service ship**.

In addition, additional class notations as given by NR467 Rules for steel ships may be granted.

2.1.2 Lifting appliances (ALP or ALM)

NR526 Rules for the certification of lifting appliances onboard ships and offshore units is to be used for certification of cranes installed on board wind farms service ships and possible additional class notations **ALP** or **ALM**.

2.1.3 Dynamic positioning (DYNAPOS)

The additional class notation **DYNAPOS** covers the classification of the station keeping system.

2.1.4 Duplicated propulsion system (AVM-DPS or AVM-IPS)

The additional class notation **AVM-DPS** covers the classification of ships arranged with redundant propulsion and steering installation.

The additional class notation **AVM-IPS** covers the classification of ships arranged with independent propulsion and steering installations.

2.1.5 Ship subdivision and damage stability (SDS)

The additional class notation **SDS** covers the classification of ships for which a damage buoyancy, subdivision, and stability file has been examined.

2.1.6 Comfort on board ships (COMF)

Additional class notations **COMF** cover the classification of ships satisfying levels of noise and/or vibration.

The Society is to take into consideration realistic criteria upon the final evaluation of the ship and based on owner's requirements.

The parameters that are taken into consideration for the evaluation of the comfort, such as the level of noise, and the level of vibration, are to be indicated in the relevant annex to the certificate of classification.

2.1.7 Pollution prevention (CLEANSHIP)

The additional class notation **CLEANSHIP** covers the classification of ships fitted with equipment and arrangements enabling them to control and limit the emission of polluting substances in the sea and in the air.

3 Definitions

3.1 Wind farms service ship

3.1.1 Wind farms service ship means a ship designed to carry personnel from shore, mother ship or accommodations platform to offshore wind turbine, and to carry little cargo.

A wind farm service ship is identified by a type and a capacity category.

Three types of wind farms service ships are identified:

- type 0: light ship (see [3.1.2])
- type 1: bi-mode ship (see [3.1.3])
- type 2: conventional ship (see [3.1.4]).

Three capacity categories of wind farms service ship are identified:

- category S: small ship (see [3.1.5])
- category M: medium ship (see [3.1.6])
- category L: large ship (see [3.1.7]).

3.1.2 Light wind farms service ship (type 0)

Light wind farms service ships are light ships or high speed crafts, able to sail in planing mode, in adapted sea state at high speed, i.e.:

$$V \geq 7,16 \Delta^{1/6}$$

with:

- Δ : moulded full load displacement, in tonnes
- V : maximum service speed, in knots.

3.1.3 Bi-mode wind farms service ship (type 1)

Bi-mode wind farms service ships are ships able to sail both in:

- planing mode in adapted sea state to reach its maximum speed, resulting in slamming phenomenon on bottom, and
- displacement mode otherwise.

3.1.4 Conventional wind farms service ship (type 2)

Conventional wind farms service ships are ships sailing in displacement mode at conventional relatively slow speed.

3.1.5 Small wind farms service ship (category S)

Small wind farms service ship means a ship having a gross tonnage less than 500 tonnes and a rule length L less than 24 meters.

3.1.6 Medium wind farm service ship (category M)

Medium wind farms service ship means a ship having a gross tonnage less than 500 tonnes and a rule length L not less than 24 meters.

3.1.7 Large wind farms service ship (category L)

Large wind farms service ship means a ship having a gross tonnage equal or greater than 500 tonnes.

3.2 Cargo ship

3.2.1 Cargo ship means a ship liable to carry cargoes and having a deadweight greater than 30% of the total displacement. As a general rule, these ships are fitted with cargo holds, tanks and ballast tanks and the value of the block coefficient is greater than 0,75.

3.3 Non-Cargo ship

3.3.1 Non-cargo ship means ship other than cargo ship defined here above.

3.4 Passenger

3.4.1 A passenger is every person other than:

- the master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship
- a child under one year of age
- the special personnel
- the industrial personnel.

3.5 Special Personnel (SP)

3.5.1 Special personnel (SP), means all persons who are not passengers or members of the crew or children of under one year of age and who are carried on board in connection with the special purpose of that ship or because of special work being carried out aboard that ship. Special Personnel shall have received special training course before being allowed to be carried on board.

3.6 Industrial personnel (IP)

3.6.1 Industrial personnel (IP), means all persons who are not passenger nor members of the crew or children of under one year of age, and who are transported or accommodated onboard for the purpose of offshore industrial activities. Industrial personnel are:

- not less than 16 years of age, and
- physically fit, and
- properly equipped and familiarized with ship safety (layout of the ship, handling of safety equipment) and specific procedures (transfer on and off the ship while at sea), and
- prior to boarding the ship, given appropriate safety training as detailed in IMO Resolution MSC.418(97).

3.7 Adapted sea state

3.7.1 Adapted sea state means sea state compatible with structural design parameters of the ship, i.e. the sea state in which the ship may operate depending on its actual speed.

SECTION 2 LIGHT WIND FARMS SERVICE SHIP

1 General

1.1 Application

1.1.1 The present Section applies to ships able to sail in planing mode, in adapted sea state at high speed, i.e.:

$$V \geq 7,16 \Delta^{1/6}$$

with:

- Δ : moulded full load displacement, in tonnes
- V : maximum service speed, in knots.

1.1.2 Ships complying with the requirements of this section are eligible for the assignment of one of the following service notations as per Sec 1, [1.1.3]:

- **wind farms service ships - S0** for small ships
- **wind farms service ships - M0** for medium ships
- **wind farms service ships - L0** for large ships.

1.2 Limitations

1.2.1 Operating condition limitations

It is assumed that, on the basis of weather forecast, the ship does not encounter, within the time interval required for the voyage, sea states with significant heights greater than the maximum allowed significant wave height, H_{smv} , defined in NR396, Ch 3, [C3.3.3.1], consistent with the structural strength.

It is the designer's responsibility to specify the format and the values of the limit operating conditions.

Note 1: e.g. relationship between speed and significant wave height which ascertains actual loads less than the one used for structural design.

1.2.2 Operating area limitations

When operating area notation are assigned, the ship are to operate at sea within the specific restriction, see [1.3.2].

1.3 Navigation notations

1.3.1 Navigation notation

One of the following navigation notations, as per NR467, Rules for steel ships Pt A, Ch 1, Sec 2, is to be assigned:

- **sea area 1:** 0,5 m
- **sea area 2:** 2,5 m
- **sea area 3:** 4,0 m
- **sea area 4:** no limitation.

Sea area are based on significant wave height H_s which are not to exceed for more than 10 percent of the year the given values.

Note 1: Significant wave height limit H_s used for sea area is different of the limit sea state in which the ship may operate, H_{sm} .

1.3.2 Operating area notation

The **assisted operating area** notation as defined in NR467, Rules for steel ships Pt A, Ch 1, Sec 2 may be assigned to ships operating within an area where all passengers, special personnel, industrial personnel and crew can be rescued safely within 4 hours.

1.4 Applicable rules

1.4.1 Ships dealt with in this Section are to comply with:

- Sec 1 and Sec 5, and
- applicable requirements according to Tab 1.

2 Stability

2.1 Application

2.1.1 Intact stability is to be assessed and damage stability is to be considered when **SDS** notation is requested.

2.2 Damage stability when the additional class notation SDS is assigned

2.2.1 Extent of damage

For ship with length $L < 45m$, location of the damage is to be assumed anywhere within the first third of the ship measured from the forward perpendicular. For the remaining length of the ship, damage is assumed at any position between two transverse watertight bulkhead.

Note 1: see NR396 Rules for the classification of high-speed craft, Ch 2, Pt A, [2.6.7] and [2.6.9].

2.2.2 Bottom damage in areas vulnerable to raking

Bottom damage in areas vulnerable to raking damage is not require.

Note 1: see NR396 Rules for the classification of high-speed craft, Ch 2, Pt A, [2.6.8].

3 Structure

3.1 Vertical acceleration

3.1.1 For the calculation of minimum design vertical acceleration, the factor of operating condition f_{oc} is to be taken equal to 0,85.

4 Machinery

4.1 Bilge pumps

4.1.1 At least two power bilge pumps are to be provided, one of these pumps may be driven by a main propulsive engine. For multi hull ship, pumps are able to pump bilge in all hulls.

Note 1: It is not allowed that one of bilge pump be a fixed hand pump.

5 Fire and safety

5.1 Cargo spaces

5.1.1 For large ships, cargo spaces, except open deck or refrigerated holds, are to be provided with an approved automatic-smoke-detection system to indicate at the control station the location of outbreak of a fire in all normal operating conditions of the installations and are to be protected by an approved fixed quick acting fire extinguishing system able to operate from the control station.

Table 1 : Applicable requirements for light wind farm service ships (S0, M0, or L0)

		Small and medium light ships S0, M0	Large light ships L0
General arrangement		NR396 (1)	NR396 (1)
Stability	Intact	NR396, Chapter 2 (2) NR396, Annex 7 or 8 considering the ship as a cargo craft	
	Damage when SDS notation is granted	NR396, Chapter 2 (2) considering the ship as a cargo craft	
Structure	General scantlings	NR396, Chapter 3	
	Loads	NR396, Chapter 3 (3)	
	Equipment	NR396, Chapter 6	NR396, Chapter 6
Machinery		NR566, Chapter 2 (4)	NR396, Chapter 9 NR396 Chapter 10 considering the ship as a category B passenger craft (5)
Electricity and automation		NR566, Chapter 3	NR396, Chapter 11 NR396, Chapter 12 considering the ship as a cargo craft (6) NR396, Chapter 13 NR396, Chapter 14
Fire and safety		NR566, Chapter 4 considering the ship as a crew boat carrying less than 60 persons onboard	NR396, Chapter 4 NR396, Chapter 7 considering the ship as a category B passenger craft (6)
Wind farm equipment		Sec 5	
(1) Industrial personnel considered as passenger for accommodation and as crew for bulwarks and guard rails requirements (2) Considering relaxation given in Article [2] (3) Considering alterations given in Article [3] (4) Considering alteration given in Article [4] (5) When assisted operated area notation is granted, ship is considered as a cargo craft (6) When assisted operated area notation is granted, ship is considered as a category A passenger craft.			

SECTION 3

BI-MODE WIND FARMS SERVICE SHIP

1 General

1.1 Application

1.1.1 The present Section applies to ships able to sail both:

- in planing mode in adapted sea state to reach its maximum speed, resulting in slamming phenomenon on bottom, and
- in displacement mode otherwise.

1.1.2 Ships complying with the requirements of this section are eligible for the assignment of one of the following service notations, as per Sec 1, [1.1.3]:

- **wind farms service ships - S1** for small ships
- **wind farms service ships - M1** for medium ships
- **wind farms service ships - L1** for large ships.

1.2 Limitations

1.2.1 Operating condition limitations

Bi-mode wind farm service ships (service notations **S1**, **M1** or **L1**) are able to operate in planing mode only when the actual sea state is adapted to reach planing speeds without exceeding the expected design vertical acceleration resulting from hydrodynamic lift and slamming phenomenon on bottom. Otherwise, they are to operate in displacement mode.

The design vertical acceleration, to be defined by the designer, is to correspond to the highest accelerations obtained from a relationship between the actual ship speed and the sea state conditions expected by the designer.

1.3 Navigation notations

1.3.1 Bi-mode ships - X1

One of the following navigation notations, as per NR467 Rule for steel ships Pt A, Ch 1, Sec 2, [5.2], is to be assigned to bi-mode ships:

- **unrestricted navigation**
- **summer zone**
- **tropical zone**
- **coastal area**
- **sheltered area.**

1.4 Applicable requirements

1.4.1 Ships dealt with in this Section are to comply with:

- Sec 1 and Sec 5
- applicable requirements according to Tab 1.

2 Stability

2.1 Application

2.1.1 Intact stability is to be assessed and damage stability is to be considered when **SDS** notation is requested.

2.1.2 Stability requirements from NR396 Rules for the classification of high-speed craft are to consider the worst weather conditions intended for planing mode operation.

When the worst weather conditions intended for planing mode operation consider wind speed less than 26m/s, stability requirements from NR566 hull arrangement, stability and systems for ship less than 500GT and NR467 Rules for the classification of steel ships are to be applied to small/medium and large ships, respectively.

2.2 Damage stability when the additional class notation SDS is assigned

2.2.1 Extent of damage

For ship with length $L < 45\text{m}$, location of the damage is to be assumed anywhere within the first third of the ship measured from the forward perpendicular. For the remaining length of the ship, damage is assumed at any position between two transverse watertight bulkhead.

Note 1: see NR396 Rules for the classification of high-speed craft, Ch 2, Pt A, [2.6.7] and [2.6.9].

2.2.2 Bottom damage in areas vulnerable to raking

Bottom damage in areas vulnerable to raking damage is not required.

Note 1: see NR396 Rules for the classification of high-speed craft, Ch 2, Pt A, [2.6.8].

2.2.3 Required subdivision index R

For large ships, the required subdivision index R value as given in NR467, is assigned as 0,8R.

3 Structure

3.1 Vertical acceleration

3.1.1 For the calculation of minimum design vertical acceleration, the factor of operating condition *foc* is to be taken equal to 0,85.

4 Machinery

4.1 Bilge

4.1.1 At least two power bilge pumps are to be provided, one of these pumps may be driven by a main propulsive engine. For multi hull ship, pumps are able to pump bilge in all hulls.

Note 1: It is not allowed that one of bilge pump be a fixed hand pump.

Table 1 : Applicable requirements for bi-mode wind farm service ships (S1, M1, or L1)

		Small and medium bi-mode ships S1, M1	Large bi-mode ships L1
General arrangement		NR566, Chapter 1 considering the ship as a crew boat	NR600, Chapter 2 (1)
Stability	Intact	NR396, Chapter 2 NR396, Annex 7 or 8 considering the ship as a cargo craft	NR396, Chapter 2 NR396, Annex 7 or 8 considering the ship as a cargo craft
		NR467, Part B, Chapter 3 (3)	NR467, Part B, Chapter 3 (3)
	Damage when SDS notation is granted	NR396, Chapter 2 (2) considering the ship as a cargo craft	NR396, Chapter 2 (2) considering the ship as a cargo craft
		NR566, Chapter 1, Section 3 (3) considering industrial personnel as passenger	NR467, Part B, Chapter 3 and Part D, Chapter 11 (2) (3) considering industrial personnel as passenger
Structure	General scantlings	NR600, Chapter 4	NR600, Chapter 4 (1)
	Loads	NR600, Chapter 3 (4)	NR600, Chapter 3 (1) (4)
	Equipment	NR600, Chapter 5, Section 5	NR600, Chapter 5 (1)
Machinery		NR566, Chapter 2 (5)	NR 467, Part C, Chapter 1
Electricity and automation		NR566, Chapter 3	NR467, Part C, Chapter 2 and Chapter 3
Fire and safety		NR566, Chapter 4 considering the ship as a crew boat carrying less than 60 persons onboard	NR467, Part C, Chapter 4 considering the ship as a passenger ships carrying not more than 36 passengers
Wind farm equipment		Sec 5	
(1) For cargo ship of L ≥ 65m or non-cargo ship of L > 90m, special consideration may be given.			
(2) Considering alterations given in [2.2]			
(3) Considering application given in [2.1]			
(4) Considering alterations given in Article [3]			
(5) Considering alterations given in Article [4].			

SECTION 4

CONVENTIONAL WIND FARMS SERVICE SHIP

1 General

1.1 Application

1.1.1 The present Section applies to ships sailing in displacement mode at conventional relatively slow speed.

1.1.2 Ships complying with the requirements of this Section are eligible for the assignment of one of the following service notations, as per Sec 1, [1.1.3]:

- **wind farms service ships - S2** for small ships
- **wind farms service ships - M2** for medium ships
- **wind farms service ships - L2** for large ships.

1.2 Limitations

1.2.1 Capacity limitation

Ships may carry more than 60 persons provided the ship is in compliance with the requirements for the assignment of the additional service feature **SPxxx**, as defined in NR467 Rules for steel ships Pt A, Ch 1, Sec 2, considering industrial personnel as special personnel.

2 Notations

2.1 Navigation notations

2.1.1 One of the following navigation notations, as per NR467, Rules for steel ships Pt A, Ch 1, Sec 2, [5.2], is to be assigned:

- **unrestricted navigation**
- **summer zone**
- **tropical zone**
- **coastal area**
- **sheltered area.**

2.2 Applicable requirements

2.2.1 Ships dealt with in this Section are to comply with:

- Sec 1 and Sec 5 and
- applicable requirements according to Tab 1.

Table 1 : Applicable requirements for conventional wind farm service ships (S2, M2, or L2)

		Small and medium conventional ships S2, M2	Large conventional ships L2 (3)	
			L < 90m (1)	L ≥ 90m (2)
General arrangement		NR566 considering the ship as a crew boat	NR600, Chapter 2	NR467, Part B
Stability	Intact	NR467, Part B, Chapter 3	NR467, Part B, Chapter 3	
	Damage when SDS notation is granted	NR566, Chapter 1, Section 3	NR467, Part B, Chapter 3 and Part D, Chapter 11 considering industrial personnel as passenger (5)	
Structure	General scantlings	NR600, Chapter 4	NR600, Chapter 4	NR467, Part B, Chapter 7 NR467, Part B, Chapter 8
	Loads	NR600, Chapter 3	NR600, Chapter 3	NR467, Part B, Chapter 5
	Equipment	NR600, Chapter 5, Section 5	NR600, Chapter 5	NR467, Part B, Chapter 9
Machinery		NR566, Chapter 2 (4)	NR467, Part C, Chapter 1	
Electricity and automation		NR566, Chapter 3	NR467, Part C, Chapter 2 and Chapter 3	
Fire and safety		NR566, Chapter 4 considering the ship as a crew boat carrying less than 60 persons onboard	NR467, Part C, Chapter 4 considering the ship as a passenger ship carrying not more than 36 passengers	
Wind farm equipment		Sec 5		
(1) or L < 65m for cargo ship				
(2) or L ≥ 65m for cargo ship				
(3) Requirements for the assignment of the additional service feature SPxxx are to be considered for ships carrying more than 60 persons				
(4) Considering alterations given in Article [4]				
(5) Considering alterations given in Article [3].				

3 Stability

3.1 Required subdivision index R

3.1.1 The required subdivision index R value is assigned as 0,8R. When **SPxxx** notation is granted, R values assigned by this notation prevail.

4 Machinery

4.1 Bilge pumps

4.1.1 At least two power bilge pumps are to be provided, one of these pumps may be driven by a main propulsive engine. For multi hull ship, pumps are able to pump bilge in all hulls.

Note 1: It is not allowed that one of bilge pump be a fixed hand pump.

5 Electricity

5.1 Emergency source of electrical power

5.1.1 On ships with length greater than or equal to 50m, the emergency source of electrical power is to be capable of supplying for a period of half an hour, any watertight door to be power-operated together with their indicators and warning signals.

SECTION 5 EQUIPMENT

1 General

1.1 Application

1.1.1 This Section contains requirement specific to wind farms service ships, including:

- personnel transfer requirements
- lifting requirements.

2 Transfer of personnel

2.1 General

2.1.1 Clear definition of operating limit conditions to be respected during transfer of personnel from/to wind turbine platform is to be stated in operational manual.

2.1.2 Specific access system, such as motion compensated platform may be accepted on case by case basis.

2.2 Contact area

2.2.1 Definition

Contact area means the area that may be in direct contact with the wind turbine structure when IP are board or leave the wind turbine.

2.2.2 Fendering arrangement

A robust and efficient fendering system is to be fitted in areas intended for pushing. The fendering system purpose is to distribute the pushing force and limit its dynamic component on the structure of both the wind turbine and the ship.

2.2.3 Contact area strength

The contact area is to comply with structure requirements taking into account the additional loads the area may be subject to. These additional loads are considered as sea loads.

2.2.4 The design pushing load against the wind turbine is to be defined by the designer with its application points.

2.3 Platform

2.3.1 Field of vision

Navigation bridge is to have a clear view of the transfer area.

2.3.2 Sheathing of transfer area

Within the transfer area, a non-skid deck covering is recommended.

2.3.3 Location

Transfer area should not be placed near the propeller of the ship, otherwise special equipment shall be provided to protect human from overboard.

2.3.4 Handrails and guard rails

Handrails or guard rails are to be fitted in the transfer area.

2.4 Access system

2.4.1 Lifting appliances system

Systems for transfer of personnel using lifting appliances are to be reviewed according to applicable requirements given in NR526 Rules for the classification of lifting appliances onboard ships and offshore units.

3 Noise and vibration

3.1 Noise level

3.1.1 Light ship (S0, M0 or L0)

NR396 Rules for the classification of high-speed craft, Ch 4, [4.10] is to be applied.

3.2 Vibration level

3.2.1 Vibration induced by propeller

For ship intended to be pushed against structure (e.g. for personnel transfer), propeller considered for push condition is recommended. In case of fixed pitch propeller, pitch determination should be considered for the push condition, and not cause overloading of the engines.

4 Cargo

4.1 Lifting

4.1.1 Lifting appliances such as cranes, may to be considered accordingly NR526 Rules for the classification of lifting appliances onboard ships and offshore units.

4.1.2 Additional notation **ALM** may be assigned for lifting in offshore condition.

4.1.3 Additional notation **ALP** may be assigned for lifting at harbour.

4.2 Fuel oil bunkering

4.2.1 Ships covered by this present Rule Note are assumed to have a fuel oil quantity on board limited to the need of the service of diesel generators fitted on offshore installations (wind turbines).

4.2.2 Fuel oil is considered to have a flashpoint (determined using the closed cup test) not less than 60°C.



Move Forward with Confidence

Marine & Offshore
8 Cours du Triangle - CS 50101
92937 Paris La Defense Cedex - France
Tel: + 33 (0)1 55 24 70 00
<https://marine-offshore.bureauveritas.com/bv-rules>
© 2018 Bureau Veritas – All rights reserved