

**BUREAU
VERITAS**

Classification of Drilling Equipment

April 2013

**Rule Note
NR 570 DT R00 E**

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MARINE DIVISION

GENERAL CONDITIONS

ARTICLE 1

1.1. - BUREAU VERITAS is a Society the purpose of whose Marine Division (the "Society") is the classification ("Classification") of any ship or vessel or structure of any type or part of it or system therein collectively hereinafter referred to as a "Unit" 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.

The Society:

- prepares and publishes Rules for classification, Guidance Notes and other documents ("Rules");
- issues Certificates, Attestations and Reports following its interventions ("Certificates");
- publishes Registers.

1.2. - The Society also participates in the application of National and International Regulations or Standards, in particular by delegation from different Governments. Those activities are hereafter collectively referred to as "Certification".

1.3. - The Society can also provide services related to Classification and Certification such as ship and company safety management certification; ship and port security certification, training activities; all activities and duties incidental thereto such as documentation on any supporting means, software, instrumentation, measurements, tests and trials on board.

1.4. - The interventions mentioned in 1.1., 1.2. and 1.3. are referred to as "Services". The party and/or its representative requesting the services is hereinafter referred to as the "Client". **The Services are prepared and carried out on the assumption that the Clients are aware of the International Maritime and/or Offshore Industry (the "Industry") practices.**

1.5. - The Society is neither and may not be considered as an Underwriter, Broker in ship's sale or chartering, Expert in Unit's valuation, Consulting Engineer, Controller, Naval Architect, Manufacturer, Shipbuilder, Repair yard, Charterer or Shipowner who are not relieved of any of their expressed or implied obligations by the interventions of the Society.

ARTICLE 2

2.1. - Classification is the appraisal given by the Society for its Client, at a certain date, following surveys by its Surveyors along the lines specified in Articles 3 and 4 hereafter on the level of compliance of a Unit to its Rules or part of them. This appraisal is represented by a class entered on the Certificates and periodically transcribed in the Society's Register.

2.2. - Certification is carried out by the Society along the same lines as set out in Articles 3 and 4 hereafter and with reference to the applicable National and International Regulations or Standards.

2.3. - It is incumbent upon the Client to maintain the condition of the Unit after surveys, to present the Unit for surveys and to inform the Society without delay of circumstances which may affect the given appraisal or cause to modify its scope.

2.4. - The Client is to give to the Society all access and information necessary for the safe and efficient performance of the requested Services. The Client is 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.

ARTICLE 3

3.1. - The Rules, procedures and instructions of the Society take into account at the date of their preparation the state of currently available and proven technical knowledge of the Industry. They 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.

Committees consisting of personalities from the Industry contribute to the development of those documents.

3.2. - The Society only is qualified to apply its Rules and to interpret them. Any reference to them has no effect unless it involves the Society's intervention.

3.3. - The Services of the Society are carried out by professional Surveyors according to the applicable Rules and to the Code of Ethics of the Society. Surveyors have authority to decide locally on matters related to classification and certification of the Units, unless the Rules provide otherwise.

3.4. - 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.

ARTICLE 4

4.1. - The Society, acting by reference to its Rules:

- reviews the construction arrangements of the Units as shown on the documents presented by the Client;
- conducts surveys at the place of their construction;
- classes Units and enters their class in its Register;
- surveys periodically the Units in service to note that the requirements for the maintenance of class are met.

The Client is to inform the Society without delay of circumstances which may cause the date or the extent of the surveys to be changed.

ARTICLE 5

5.1. - The Society acts as a provider of services. This cannot be construed as an obligation bearing on the Society to obtain a result or as a warranty.

5.2. - The certificates issued by the Society pursuant to 5.1. here above are a statement on the level of compliance of the Unit to its Rules or to the documents of reference for the Services provided for.

In particular, the Society does not engage in any work relating to the design, building, production or repair checks, neither in the operation of the Units or in their trade, neither in any advisory services, and cannot be held liable on those accounts. Its certificates 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.

5.3. - The Society does not declare the acceptance or commissioning of a Unit, nor of its construction in conformity with its design, that being the exclusive responsibility of its owner or builder, respectively.

5.4. - The Services of the Society cannot create any obligation bearing on the Society or constitute any warranty of proper operation, beyond any representation set forth in the Rules, of any Unit, equipment or machinery, computer software of any sort or other comparable concepts that has been subject to any survey by the Society.

ARTICLE 6

6.1. - The Society accepts no responsibility for the use of information related to its Services which was not provided for the purpose by the Society or with its assistance.

6.2. - If the Services of the Society cause to the Client a damage which is proved to be the direct and reasonably foreseeable consequence of an error or omission of the Society, its liability towards the Client is limited to ten times the amount of fee paid for the Service having caused the damage, provided however that this limit shall be subject to a minimum of eight thousand (8,000) Euro, and to a maximum which is the greater of eight hundred thousand (800,000) Euro and one and a half times the above mentioned fee.

The Society bears no liability for indirect or consequential loss such as e.g. loss of revenue, loss of profit, loss of production, loss relative to other contracts and indemnities for termination of other agreements.

6.3. - All claims are to be presented to the Society in writing within three months of the date when the Services were supplied or (if later) the date when the events which are relied on were first known to the Client, and any claim which is not so presented shall be deemed waived and absolutely barred. Time is to be interrupted thereafter with the same periodicity.

ARTICLE 7

7.1. - Requests for Services are to be in writing.

7.2. - Either the Client or the Society can terminate as of right the requested Services after giving the other party thirty days' written notice, for convenience, and without prejudice to the provisions in Article 8 hereunder.

7.3. - The class granted to the concerned Units and the previously issued certificates remain valid until the date of effect of the notice issued according to 7.2. here above subject to compliance with 2.3. here above and Article 8 hereunder.

7.4. - The contract for classification and/or certification of a Unit cannot be transferred neither assigned.

ARTICLE 8

8.1. - The Services of the Society, whether completed or not, involve, for the part carried out, the payment of fee upon receipt of the invoice and the reimbursement of the expenses incurred.

8.2. Overdue amounts are increased as of right by interest in accordance with the applicable legislation.

8.3. - The class of a Unit may be suspended in the event of non-payment of fee after a first unfruitful notification to pay.

ARTICLE 9

9.1. - The documents and data provided to or prepared by the Society for its Services, and the information available to the Society, are treated as confidential. However:

- clients have access to the data they have provided to the Society and, during the period of classification of the Unit for them, to the **classification file** consisting of survey reports and certificates which have been prepared at any time by the Society for the classification of the Unit;
- copy of the documents made available for the classification of the Unit and of available survey reports can be handed over to another Classification Society, where appropriate, in case of the Unit's transfer of class;
- the data relative to the evolution of the Register, to the class suspension and to the survey status of the Units, as well as general technical information related to hull and equipment damages, are passed on to IACS (International Association of Classification Societies) according to the association working rules;
- the certificates, documents and information relative to the Units classed with the Society may be reviewed during certifying bodies audits and are disclosed upon order of the concerned governmental or inter-governmental authorities or of a Court having jurisdiction.

The documents and data are subject to a file management plan.

ARTICLE 10

10.1. - Any delay or shortcoming in the performance of its Services by the Society arising from an event not reasonably foreseeable by or beyond the control of the Society shall be deemed not to be a breach of contract.

ARTICLE 11

11.1. - In case of diverging opinions during surveys between the Client and the Society's surveyor, the Society may designate another of its surveyors at the request of the Client.

11.2. - Disagreements of a technical nature between the Client and the Society can be submitted by the Society to the advice of its Marine Advisory Committee.

ARTICLE 12

12.1. - Disputes over the Services carried out by delegation of Governments are assessed within the framework of the applicable agreements with the States, international Conventions and national rules.

12.2. - Disputes arising out of the payment of the Society's invoices by the Client are submitted to the Court of Nanterre, France.

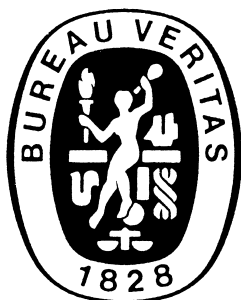
12.3. - Other disputes over the present General Conditions or over the Services of the Society are exclusively submitted to arbitration, by three arbitrators, in London according to the Arbitration Act 1996 or any statutory modification or re-enactment thereof. The contract between the Society and the Client shall be governed by English law.

ARTICLE 13

13.1. - These General Conditions constitute the sole contractual obligations binding together the Society and the Client, to the exclusion of all other representation, statements, terms, conditions whether express or implied. They may be varied in writing by mutual agreement.

13.2. - The invalidity of one or more stipulations of the present General Conditions does not affect the validity of the remaining provisions.

13.3. - The definitions herein take precedence over any definitions serving the same purpose which may appear in other documents issued by the Society.



RULE NOTE NR 570

NR 570 Classification of Drilling Equipment

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SECTION 1 GENERAL

1 General

1.1 Application

1.1.1 The present Note provides requirements for the classification and certification of drilling systems and associated equipment.

1.1.2 The present note is primarily intended to apply to drilling systems installed onboard floating offshore units covered by the Offshore Rules, and having the service notation **drilling**, as defined in Pt A, Ch 1, Sec 2 of the Offshore Rules.

Most requirements may however be applied to fixed offshore installations.

Note 1: The requirements of the present Note are applicable for all structural type notations defined in Pt A, Ch 1, Sec 2 of the Offshore Rules. These notations cover all types of offshore rigs, such as drillships, drilling barges, semi-submersible units, jack-up, TLP, SPAR or other special types of floater.

1.1.3 Offshore units that the equipment complies with the provisions of the present Note may be granted the additional class notation **DRILL**, as defined in [1.2].

1.1.4 The requirements of the present Note are complementary to the relevant provisions of the Offshore Rules, which remains applicable except when otherwise specified in the present Note.

1.2 Class notations

1.2.1 The additional class notation **DRILL** may be assigned to floating offshore units fitted with drilling systems and associated equipment meeting the requirements of the present Rule Note.

Note 1: The additional class notation **DRILL** is optional, but strongly recommended for all types of offshore rig, so as to allow a global approach of unit's safety.

1.2.2 The involvement of the Society and the scope of the classification relating to the additional class notation **DRILL**, are defined in [2].

2 Involvement of the Society – Limits of Classification

2.1 Scope

2.1.1 The present Rule Note covers the safety aspects of equipment and systems used in connection with drilling and temporary well testing activities. The scope of classification under the additional class notation **DRILL**, includes but is not limited to systems and equipments given as example in Tab 1.

The detailed list of equipment covered by classification will be defined for each project on a case-by-case basis, taking into account the specificities of the rig and drilling plant.

2.1.2 Classification of the drilling systems covered by the present Note requires the following activities:

- design verification,
- survey during fabrication,
- survey during installation and commissioning
- in-service survey.

3 Statutory requirements

3.1 General

3.1.1 Project specifications

Prior to commencement of the review of drawings, the complete list of Rules, Codes and Statutory Requirements to be complied with must be submitted for information. This list is to detail the requirements to be complied with:

- International Rules
- Flag state requirements
- Coastal state requirements
- Owner standards and procedures
- Industry standards
- Classification notations.

3.1.2 Conflict of Rules

In case of conflict between the Classification Rules and any Statutory Requirements as given by Flag state or Coastal State, the latter ones are to take precedence over the requirements of the present Rules.

3.1.3 IMO MODU Code

Compliance with relevant requirements of IMO MODU Code may be required by Owner, Flag and/or Coastal State.

The Society reserves the right to refer to the requirements in IMO MODU Code, when deemed necessary.

4 Recognized standards

4.1 General

4.1.1 The requirements of the present note include selected references to technical standards recognized by the Society, as well as references to other rules or guidance notes of the Society.

4.1.2 When a recognized standard is referenced for covering an equipment, system or arrangement, all applicable assumptions, requirements and criteria from the concerned standard are to be applied for the purpose of classification.

4.1.3 The requirements of [4.1.2] may be waived, provided that:

- the references of the present note concern only specific parts of recognized standards
- the Society agrees partial application of referenced standards.

4.1.4 Combination of requirements from different standards or rules may be used only after consideration of the

compatibility between submitted documentations, and where it is considered safe and feasible from the engineering point of view, at the satisfaction of the Society.

4.1.5 For any conflict between referenced requirements from recognized standards, or between standards and other rules of the Society, the Society is to be consulted for clarification.

Table 1 : Examples of equipment covered by the additional notation DRILL

System	Equipment
Drilling structures	• derricks • masts • drilling towers • pipe racks or equivalent structures • other supporting structures (such as the drill floor)
Hoisting equipment	• crown block • travelling block • drawworks • drilling hook
Rotary equipment	• rotary table • master bushing • topdrive • rotary hose
BOP and pipe handling equipment	• horizontal to vertical pipe handling systems • BOP crane • winches
Dry bulk storage and transfer system	• pressurized tanks • piping for pressurized bulk transport • air compressor • air dryer • control valves • emergency compressor • purge air system • engines
Mud mixing and circulating facilities	• pumps • standpipe manifold • pulsation dampeners • mud hoses • safety valves • mud agitators • mud mixing equipment • degasser • desander • desilter • shale shakers • drill string

System	Equipment
Cementing system	• cement pump • cement unit • piping and transfer lines • pulsation dampeners • cement hoses • additives system • control valves
Drill string heave compensation system (active or passive)	• accumulators • hydraulic cylinders • piping (including flexibles) • pressure vessels
Tensioning system	• accumulators • hydraulic cylinders • piping system • pressure vessels • tensioning arms
Marine riser system	• riser joints • telescopic joints and tensioner ring • ball and flexjoints • choke, kill and auxiliary lines • connectors
Well control system	• Blow-Out Preventer (BOP) • rams preventers • annular preventers • test stumps • wellhead connector • accumulators • control pods • acoustic BOP control • Koomey unit • Choke and kill system • Diverter system, including piping and valves
Well test system	• burners • flare booms • piping • pressure vessels • pumps
Other systems	• pressure containing equipment • pipings • electrical systems • control systems

4.2 List of recognized standards

4.2.1 The following standards will be considered for the purpose of the present note:

- a) Drilling structures, derrick:
 - API Spec 4F "Drilling and Well Servicing Structures"
 - API RP 4G "Maintenance and Use of Drilling and Well Servicing Structures"
 - AISC Manual of Steel Construction - Allowable Stress Design
- b) Well control systems, BOP
 - API Spec 16A / ISO 13533 "Drill Through Equipment"
 - API Spec 16C "Choke and Kill Systems"
 - API Spec 16D "Control Systems for Drilling Well Control Equipment"
 - API Spec 16E "Design of Control Systems for Drilling Well Control Equipment"
 - API Spec 6A "Wellhead and Christmas Tree Equipment"
 - API RP 53 "Blowout Prevention Equipment Systems for Drilling Operations"
 - ISO 10423 "Petroleum and Natural Gas Industry - Drilling and Production Equipment - Specification for valves, wellhead and Christmas tree equipment"
- c) Diverter systems
 - API RP 64 "Diverter Systems Equipment and Operations"
 - API Spec 6D "Specification of Pipelines Valves"
- d) Drilling equipment
 - API RP 7-1 "Specification for Rotary Drilling Stem Elements"
 - API Spec 5DP "Specifications for Drill Pipe"
 - API Spec 7K "Drilling and Well Servicing Equipment"
 - API RP 7L "Procedures for Inspection, Maintenance, Repair and Remanufacture of Drilling Equipment"
 - API RP 7G / ISO 10407 "Petroleum and Natural Gas Industries - Drilling and Production Equipment - Drill stem design and operating limits"
- e) Hoisting equipment
 - API Spec 8A "Drilling and Production Hoisting Equipment"
 - API Spec 8B / ISO 13534 "Inspection, Maintenance, Repair and Remanufacture of Hoisting Equipment"
 - API Spec 8C / ISO 13535 "Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)"
 - API Spec 9A / ISO 10425 "Wire Rope"
 - API Spec 9B "Application, Care and Use of Wire Rope for Oil Field Service"
 - API Spec 2C "Offshore Cranes"
 - API RP 2D "Operation and Maintenance of Offshore Cranes"
- f) Marine riser
 - API Spec 16F "Specification for Marine Drilling Riser Equipment"
 - API Spec 16R "Marine Drilling Riser Coupling"
 - API RP 16Q "Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems"
 - API Bul 16J "Comparison of Marine Drilling Riser Analyses"
- g) Piping
 - API RP 14E "Design and Installation of Offshore Production Piping Systems"
 - ANSI/ASME B31.3 "Chemical Plant and Petroleum Refinery Piping"
 - API RP 17B "Flexible Pipe"
- h) Pressure vessels, heat exchangers
 - ASME Boiler and Pressure Vessels Code
 - BS 2790 "Specification for Design and Manufacture of Shell Boiler of Welded Construction"
 - API Std 530 / ISO 13704 "Calculation of Heater Tube Thickness in Petroleum Refineries"
 - API Std 661 "Air Cooled Heat Exchangers for General Refinery Service"
 - BS 2790 "Specification for Design and Manufacture of Shell Boilers of Welded Construction"
 - Tubular Exchangers Manufacturers Association Standards (TEMA)
- i) Risk assessment, hazard analysis
 - API RP 14J "Recommended Practice for Design and Hazard Analysis for Offshore Production facilities"
 - EN ISO 17776 "Guidelines on Tools and Techniques for Hazard Identification and Risk Assessment"
- j) Electrical and electronic equipment, automation
 - IEC 60092-504 "Electrical Installations in Ships"
 - IEC 60529 "Degrees of Protection Provided by Enclosures"
 - IEC 60533 "Electrical and Electronic Installations in Ships - Electromagnetic Compatibility"
 - IEC 60945 "Maritime Navigation and Radio Communication Equipment and Systems"
 - API RP 500 "Classification of Location for Electrical Installations at Petroleum Facilities"
- k) Other features
 - NACE MR0175 / ISO 15156 "Material for Use in H₂S Containing Environment in Oil and Gas Production"
 - API RP 520 "Sizing, Selection and Installation of Pressure-Relieving Systems in Refineries"
 - API RP 521 "Guide for Pressure Relieving and Depressuring Systems"
 - ANSI B2.1 "Pipe Threads"
 - EN 10204 "Metallic Products - Type of Inspection Documents"
 - ISO 898-1 "Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs"

- ISO 898-2 “Mechanical properties of fasteners made of carbon steel and alloy steel - Part 2: Nuts with specified proof load values - Coarse thread”
- ASTM 193 “Alloy Steel and Stainless Steel Bolting Materials for High Temperature Service”
- IP 15 “Area Classification Code of Petroleum Installations”
- API RP 14C / ISO 10418 “Petroleum and Natural Gas Industries - Offshore Production Platforms - Analysis, Design, Installation and Testing of Basic Surface Safety Systems”
- ISO 15156 / NACE MR0175 “Sulphite Stress Cracking Resistant Metallic Material”
- ISO 13628-7 “Design and Operation of Subsea Production Systems - Completion/Workover Riser Systems”.

5 New technology

5.1 General

5.1.1 Drilling equipment and systems are to be considered as new technology when based on a novel technology or an existing technology used in a new environment, for which no track record is available.

5.1.2 Prior to the design approval, the qualification of new technology is to be performed. Following the criticality levels identified by the qualification process for various equipments, the Society reserves the right to apply specific requirements for classification, based on engineering judgement and references to recognized codes and standards.

5.1.3 The qualification process is to be carried out in accordance with the methodology and principles of the guidance note NI 525 “Risk Based Qualification of New Technology - Methodological Guidelines”.

6 Symbols and definitions

6.1 General

6.1.1 Unless otherwise specified, the units, symbols, definitions and reference co-ordinates system given in Pt B, Ch 1, Sec 2 of the Ship Rules remain applicable.

6.1.2 In addition, specific definitions are given in [6.2].

6.2 Definitions

6.2.1 Ship Rules

Ship Rules means Bureau Veritas Rules for the Classification of Steel Ships (NR467). The applicable requirements are those for ships greater than 65 m in length. When reference is made to Ship Rules, the latest version of these ones is applicable.

6.2.2 Offshore Rules

Offshore Rules means Bureau Veritas Rules for the Classification of Offshore Units (NR445). When reference is made to the Offshore Rules, the latest version of these ones is applicable.

6.2.3 IMO MODU Code

MODU Code means the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 (2009 MODU Code) adopted by Resolution A.1023(26), and subsequent revisions.

6.2.4 BOP

BOP is the acronym of Blow-Out Preventer, which is a well control equipment used for sealing the well around a pipe (drill pipe, casing or other types of pipe, depending on the related operational phase). The sealing of the well is based on two types of equipment, which are parts of the BOP:

- annular devices
- sealing rams.