



**GUIDANCE NOTES ON**

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# **CERTIFICATION OF EXISTING BLOWOUT PREVENTERS AND ASSOCIATED SYSTEMS**

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**American Bureau of Shipping  
Incorporated by Act of Legislature of  
the State of New York 1862**

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## **Updates**

### **February 2011 consolidation includes:**

- December 2010 version plus Corrigenda/Editorials



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## 1 Purpose

The purpose of these Guidance Notes is to identify the required inspections, documentation and testing procedures for obtaining and maintaining ABS certification of existing blowout prevention systems (BOPs) on Mobile Offshore Drilling Units.

## 2 Scope

These requirements are intended to cover the following equipment:

- Ram-type BOPs
- Annular BOPs
- Connectors, ram blocks, and BOP choke and kill valves
- Control systems
- Riser/stack choke and kill and service lines
- ROV intervention panels

*Note:* All terms used in this publication are based on common terminology used throughout the industry and API RP 53.

## 3 Design Review

Design documentation is to be submitted by the manufacturer or owner/operator and is to include the reports, calculations, plans, manuals and other documentation necessary to verify the design is in compliance with the *ABS Guide for the Classification of Drilling Systems* and in accordance with any Coastal State Regulations for the area of intended operation.

## 4 Required Documentation

### 4.1

The original equipment manufacturer's data book is to be submitted for review and is to include the following information:

- Name of equipment
- Part number
- Name of manufacturer and supplier
- Serial number of main assemblies and/or components
- Description of design and manufacture, indicating safety factors used
- Statement of manufacture and inspection signed by the manufacturer
- Material certificates and indications where the various materials have been used for primary pressure retaining or controlling components
- Welding procedure specifications
- Report on nondestructive testing (including pressure and function testing), including where tests were performed

## 4.2

In cases where material certificates are not available, sample coupons are to be taken from major components for material testing and verification.

## 4.3

A record of all repairs and modifications to any of the covered equipment is to be submitted for review.

## 5 Survey

Survey of all equipment to the equivalent of a Special Periodical Survey will be required. This survey is to be carried out by an ABS surveyor and is to include the following tests and inspections:

- i)* Full dismantling of the BOP stack to each individual component to the extent associated with a major overhaul.
- ii)* Internal examinations, including dimensional examination of the bore, ram pockets, hydraulic cylinders, locking mechanisms, and all ports and fittings.
- iii)* Volumetric nondestructive testing of full penetration welds.
- iv)* Hardness readings are to be taken at each weld in accordance with NACE MR 01-75.
- v)* All sealing surfaces and ring grooves are to be dimensionally examined and non-destructively tested by a suitable crack detection method.
- vi)* A full-body test at 1.25 times the maximum allowable working pressure is to be carried out provided that there is verification that a 1.5 times the maximum allowable working pressure test was done at manufacture or the last major repair. If this verification cannot be made, then a test at 1.5 times maximum allowable working pressure will be required.
- vii)* Function testing and pressure testing at rated working pressure of all controls and actuators (including umbilicals, hoses, jumpers and flexible lines) is to be carried out in accordance with the manufacturer's testing plan and API RP 53. This plan is to be submitted to ABS for review prior to the test.
- viii)* All blowout prevention components that may be subject to well pressure are to be tested, first to a low pressure of 200 to 300 psi (1.38 to 2.1 MPa), and then to the maximum allowable working pressure of the equipment. The low pressure testing is to be carried out first and a stable low pressure test is to be maintained for at least 5 minutes. All testing is to be carried out in accordance with API RP 53 Section 18.3.2, including Table 3.
- ix)* Shear rams and casing shear rams are to be tested in accordance with item *viii)* above and are to undergo operational testing with the maximum diameter and highest grade of pipe or casing that the design allows for. This test is to be witnessed by an ABS surveyor.

## 6 Maintenance of Certification

Annual and Special Periodical Surveys are to be carried out in accordance with the requirements of the ABS *Guide for the Classification of Drilling Systems*.