

ACCEPTANCE INTO CLASS



WHEN COMPLETED, A VESSEL UNDERGOES SEA
TRIALS ATTENDED BY AN ABS FIELD SURVEYOR.

The vessel is then presented to the ABS Classification Committee which assesses the vessel's compliance with the Rules based on the collective experience of the Committee members and recommendations from the ABS staff.

The Classification Committee is comprised of ABS Members drawn from the maritime industry, United States Coast Guard and ABS officers. When accepted by the Committee, formal certification is issued to the vessel.

The vessel's classification information, characteristics and other particulars are then entered into the *ABS Record* – the electronic register of vessels classed by ABS maintained and updated on the ABS web site. ■



SURVEYS

AFTER CONSTRUCTION

ABS RULES REQUIRE THAT EVERY CLASSED VESSEL BE SUBJECT TO PERIODIC SURVEYS TO DETERMINE WHETHER IT IS MAINTAINED IN ACCORDANCE WITH CLASSIFICATION STANDARDS.

Surveys are based on a five-year cycle of Annual Surveys, an Intermediate Survey to be completed between the second and third years of the five-year period, and a comprehensive Special Survey including dry docking at each fifth anniversary from the time of the vessel's delivery. ■



SURVEY OF DAMAGE, REPAIRS & MODIFICATIONS

SHOULD AN ABS CLASSED VESSEL SUSTAIN DAMAGE
THAT MAY AFFECT ITS CLASSIFICATION STATUS,
THE OWNER IS REQUIRED TO INFORM THE SOCIETY.

Upon request, ABS surveyors then survey the vessel to determine whether the structure and machinery continue to meet the ABS Rules and, if not, verify that repairs made are in accordance with class requirements.

Similarly, any structural modification of the vessel must be carried out in accordance with ABS requirements for the vessel to remain in class. ■



REASONS TO CLASS

ENHANCED SAFETY

The ultimate goal of classification is to promote the safety of the passengers, the crew, the cargo, the vessel and the environment in which it operates.

PROTECTION OF CAPITAL INVESTMENT

As a measure of protection of their capital investment, financiers usually require that a vessel has been designed, built and maintained to appropriate classification standards.

CONFORMANCE WITH UNDERWRITING REQUIREMENTS

Classification signifies that a vessel complies with industry-developed standards. This is usually mandated by insurance underwriters.

INDICATION OF DUE DILIGENCE

Classification is one indication that the shipowner has exercised due diligence during the construction and service life of the vessel.

INDICATION OF PROPER MAINTENANCE

To remain in class, a vessel must undergo periodic surveys to verify that it is maintained to class standards and in conformance with the Rules.

CONFORMANCE WITH STATUTORY REQUIREMENTS

In most nations the governing authorities have mandated that certain vessels entering into their registry be classed. ■



REASONS TO CLASS WITH ABS



MORE THAN A CENTURY OF EXPERIENCE

ABS has been in existence since 1862. It has a proven ability to meet the needs of the shipping industry. The ABS Rules incorporate the knowledge gathered from more than 140 years of operating experience and from the most advanced technological research.

ADVANCED TECHNOLOGICAL CAPABILITIES

ABS has some of the most respected research and development resources in the marine industry, and is dedicated to providing greater understanding of marine design and construction.

A NETWORK OF REGIONAL TECHNICAL OFFICES

ABS technical staff are located in Busan, Genoa, Hamburg, Houston, London, Istanbul, New Orleans, New York, Piraeus, Rio de Janeiro, Shanghai, Singapore, Taipei and Yokohama, providing fast, local response to client needs.

A NETWORK OF FIELD SURVEYORS

ABS is able to offer quick, professional, 24 hours a day – seven days a week, multilingual survey services to clients around the world from an impressive network of more than 170 offices in 70 countries.



STATUTORY RECOGNITION OF ABS STANDARDS

Many flag States require vessels on their register to be classed with one of a selected number of approved classification societies. ABS is recognized by every major flag State. The ABS Classification Rules address many of the standards relating to overall strength, stability, machinery, safety equipment and pollution prevention contained in the statutory regulations of those flag States. By classing with ABS, these particular areas of the overall design could also meet national authority requirements.

PRACTICAL SOLUTIONS

ABS has an intimate understanding of the commercial pressures that confront clients and has developed an unparalleled reputation for developing rapid, practical solutions to help clients avoid costly delays. ■



CERTIFICATION

ABS ALSO OFFERS CERTIFICATION TO SPECIFIED

STANDARDS. Whereas classification requires periodic surveys of the classed vessel or offshore unit throughout its life, certification verifies that the item conforms to designated standards at a specified time. Certification can establish compliance with ABS, national, international, industry or other standards.

While ABS has developed standard certification programs for most applications, it can also tailor programs to meet specific needs.

Typical standard certification programs offered by ABS can cover such items as:

- ▷ thruster systems
- ▷ elevators
- ▷ refrigeration machinery
- ▷ diving systems and decompression chambers
- ▷ drilling equipment
- ▷ deck machinery
- ▷ mass produced equipment and machinery
- ▷ container lashings
- ▷ cargo handling equipment
- ▷ oil and gas production facilities
- ▷ process systems
- ▷ vapor emission control systems
- ▷ controlled atmosphere systems
- ▷ cargo containers ■



OFFSHORE & ENERGY SERVICES



ABS IS ACKNOWLEDGED BY THE INDUSTRY AS THE
LEADER IN DEVELOPING AND APPLYING TECHNICALLY
ADVANCED, COMMERCIAL PRACTICAL STANDARDS

for the design, construction and operational maintenance of offshore drilling and production units and for gas carriers of all types. It has been the preferred classification society for the offshore and energy industry for more than 50 years.

It was the first society to class jackup rigs and still classes the majority of jackups in service. The *ABS Rules for Building and Classing Mobile Offshore Drilling Units* were the first of their kind and still form the template from which other codes and regulations have been developed. It was the first society to class spars and is the preferred society for the classification of TLPs.

ABS standards also cover offshore facilities, installations, pipelines, risers, mooring systems, FPSOs and SPMs. Updated Guides for floating production installations and facilities now take into account the latest risk analysis techniques to assess novel concepts and new design innovations. ■



OFFSHORE TECHNICAL SERVICES

ABS TECHNICAL STAFF HAVE APPROVED THE MAJORITY OF OFFSHORE AND ENERGY RELATED INSTALLATIONS, FACILITIES AND VESSELS IN THE WORLD. Where necessary they have developed and applied leading edge risk assessment methodologies to review and approve the many novel concepts that characterize the advanced technological developments in this sector.

Technical services include:

- ▷ design and structural review
- ▷ global strength, fatigue and redundancy analysis
- ▷ stability analysis
- ▷ sloshing analysis for LNGs
- ▷ seakeeping and mooring analysis
- ▷ electrical and mechanical systems review
- ▷ statutory reviews ■



OFFSHORE SURVEY SERVICES

ABS PROVIDES COMPREHENSIVE SURVEY SERVICES TO THE OFFSHORE ENERGY SECTOR. ABS surveyors

are located in every major offshore energy area in the world, from Kazakhstan to the Australian North West Shelf to the Gulf of Mexico.

With more than 70 percent of the world's offshore units and facilities classed with ABS, no one can offer more experienced or responsive survey services than ABS including:

- ▷ surveys during fabrication
- ▷ installation surveys
- ▷ hookup and commissioning surveys
- ▷ periodic surveys for the life of the offshore structure
- ▷ survey of damage, repairs and modifications ■



GAS HANDLING TECHNOLOGY



RAPID ADVANCEMENTS IN GAS HANDLING AND TRANSPORTATION METHODS ARE CREATING OPPORTUNITIES FOR LARGER LNG TERMINALS,

many located offshore, significant size increases in LNG carriers, groundbreaking LPG FPSO vessels and the development of novel compressed natural gas (CNG) and gas-to-liquids (GTL) concepts with which ABS is deeply involved.

ABS has issued or conducted detailed development work on new standards and guidelines for building and classing these new gas transport and storage facilities. Developments include the application of ABS SafeHull to membrane-type LNG carriers to approve designs for a 40-year North Atlantic fatigue life and the development of advanced sloshing analysis programs to evaluate partial loading.

With the growing interest in offshore terminals, ABS issued the industry's first standards, contained in the *ABS Guide for Building and Classing Offshore LNG Terminals*.

ABS has also granted "approval in principle" for the majority of the proposed designs for the transport of CNG. The first LPG FPSO has also been built to ABS criteria. ■



OFFSHORE REGULATIONS



ABS HAS BEEN ACCEPTED BY MORE THAN 100 FLAG STATES AND NATIONAL JURISDICTIONS TO PROVIDE STATUTORY REVIEW TO THOSE GOVERNMENTS' REQUIREMENTS. Principal among the authorizing bodies are the US Coast Guard and US Minerals Management Service (MMS), the UK HSE, the Norwegian NPD, Indonesia's MIGAS, DPC of Brazil, CNSOPB and CNOBP of Canada and Nigeria's NMA/DPR.

ABS has also participated in the development of technical standards for the design and construction of platforms in Azerbaijan and Kazakhstan waters.

ABS' understanding of the statutory requirements of governments around the globe means we are able to guide operators towards quick, complete compliance. The Alternate Compliance Program (ACP) for MODUs was jointly developed by ABS and the USCG in a unique example of regulator and industry cooperation. ■



FIRE CONTROL

SAFETY PI

SHIP SECURITY

SEPTEMBER 2002

STATUTORY SERVICES



MORE THAN 100 GOVERNMENTS HAVE RECOGNIZED THE PROFESSIONAL INTEGRITY AND EXPERIENCE OF ABS by authorizing the classification society to act as a Recognized Organization (RO) or Recognized Security Organization (RSO).

These duties include the conduct of surveys and the issuance of certificates in accordance with various international and national maritime Conventions and Codes, such as Load Line, Safety of Life at Sea (SOLAS), Tonnage, Marine Pollution (MARPOL), ISM Code and the International Ship and Port Facility Security (ISPS) Code.

These governments have recognized that ABS possesses a global network of exclusive, qualified surveyors and extensive resources in manpower and technology to conduct the technical reviews, audits and surveys necessary to fulfill the various Convention requirements.

These activities have given ABS a comprehensive knowledge of national and international maritime regulations. It is able to draw on this knowledge in advising clients on how best to meet the documentation needs and accurately apply the criteria. ■



SOLAS

CERTIFICATES

ABS ENGINEERS AND SURVEYORS, WORKING WITH INDUSTRY AND GOVERNMENT REPRESENTATIVES, can verify that the vessel is built and provided with the necessary equipment and features required by the SOLAS Convention.

At the time of construction and throughout a vessel's service life, based on a satisfactory review and survey of the vessel, certificates can be issued indicating compliance with the requirements of the SOLAS regulation. These include:

- ▷ Safety Construction Certificate (SLC)
- ▷ Safety Equipment Certificate (SLE)
- ▷ Safety Radio Certificate (SLR)
- ▷ Passenger Ship Safety Certificate (SLP)

Additionally, document review and appropriate audits are also carried out by ABS verifying that the safety and security management systems comply with:

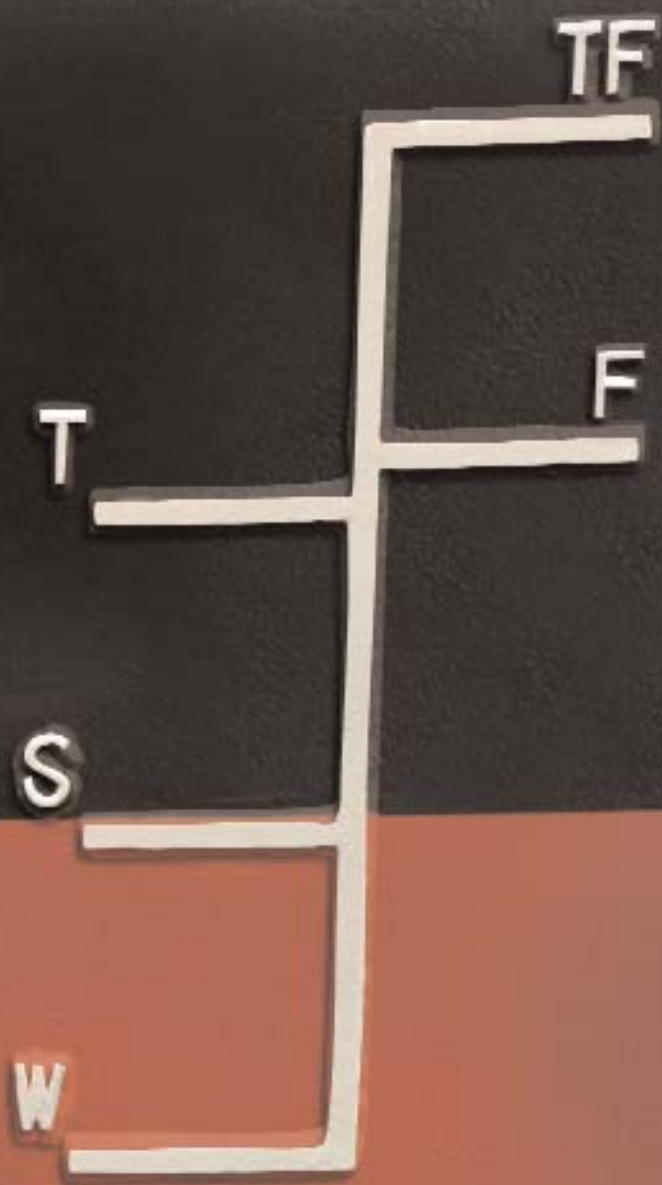
- ▷ International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM)
- ▷ International Ship and Port Facility Security (ISPS) Code ■



MARPOL CERTIFICATES

AS A PART OF THE REVIEW AND SURVEY PROCESS
RELATING TO THE ISSUANCE OF SOLAS CERTIFICATES
ABS WILL, upon request, perform review and survey of those details
relating to the issuance of the following MARPOL certificates:

- ▷ International Oil Pollution Prevention (IOPP) Certificate
- ▷ IMO Certificate of Fitness for Ships Carrying Liquefied
Gases in Bulk (IGC)
- ▷ IMO Certificate of Fitness for Carriage of Dangerous
Chemicals in Bulk (IBC)
- ▷ International Air Pollution Prevention (IAPP) Certificate ■



LOAD LINE CERTIFICATES

A LOAD LINE CERTIFICATE IS ISSUED ON BEHALF OF AN ADMINISTRATION TO INDICATE THAT A VESSEL is capable of carrying its intended cargo in a stable condition. The load line itself is a hull mark that indicates the maximum draft to which a vessel is permitted to safely load. ■

TONNAGE CERTIFICATES

IN ADDITION TO THE NATIONAL OR INTERNATIONAL TONNAGE CERTIFICATES, PANAMA AND SUEZ CANAL TONNAGE CERTIFICATES can be issued by ABS on behalf of those authorities. SOLAS and MARPOL regulations specify arrangements and equipment requirements based on the ship's gross tonnage. ■



ABS & THE US GOVERNMENT

ABS HAS MAINTAINED A LONG AND CLOSE RELATIONSHIP WITH THE US COAST GUARD.

A formal Memorandum of Understanding (MOU) was completed in 1981 which authorized ABS to act on behalf of the Coast Guard in the review of certain structural, mechanical and electrical plans for vessels which are both ABS classed and require USCG certification. This initial MOU has been periodically revised and expanded throughout the 1980s and 1990s.

The development of the Alternative Compliance Program (ACP) expanded the scope of plan review and inspection activities delegated to ABS and eliminated the duplication of tasks performed by both the USCG and ABS.

Representatives from the USCG serve on ABS technical committees contributing to the updating of ABS Rules and Guides. The US Coast Guard Commandant is also a member of the ABS Council, one of the governing bodies of ABS. ■



NAVAL VESSEL STANDARDS



THE NEXT GENERATION OF COMBATANTS AND SUPPORT VESSELS BUILT BY THE US NAVY ARE BEING CONSTRUCTED in accordance with technical guidelines developed by ABS in close cooperation with Naval Sea Systems Command (NAVSEA).

The ABS *Rules for Building and Classing Naval Vessels* and associated Guide for naval high speed craft are the result of a multi-year project that has involved representatives from ABS, NAVSEA, the Naval Warfare Center other Navy commands, shipyards, design agents and academia.

The standards address the bulk of hull, mechanical, electrical, environmental and safety related criteria for the vessels. It merges commercial processes with naval technical requirements to produce a ship classification approach tailored specifically to the needs of the military. ■



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