

## ANNUAL REVIEW 2005

## Mission

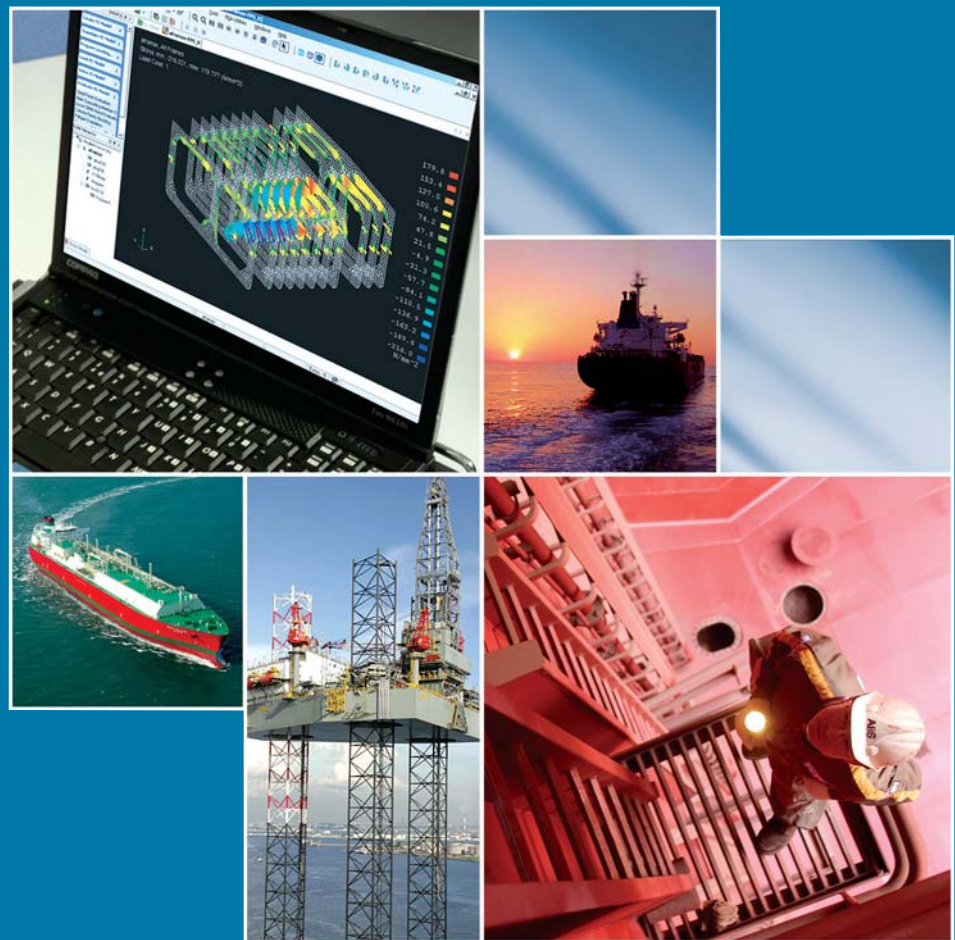
The mission of ABS is to serve the public interest as well as the needs of our clients by promoting the security of life, property and the natural environment primarily through the development and verification of standards for the design, construction and operational maintenance of marine-related facilities.

## Quality & Environmental Policy

It is the policy of ABS to be responsive to the individual and collective needs of our clients as well as those of the public at large, to provide quality services in support of our mission, and to provide our services consistent with international standards developed to avoid, reduce or control pollution to the environment.

All of our client commitments, supporting actions, and services delivered must be recognized as expressions of Quality. We pledge to monitor our performance as an on-going activity and to strive for continuous improvement.

We commit to operate consistent with applicable environmental legislation and regulations and to provide a framework for establishing and reviewing environmental objectives and targets.

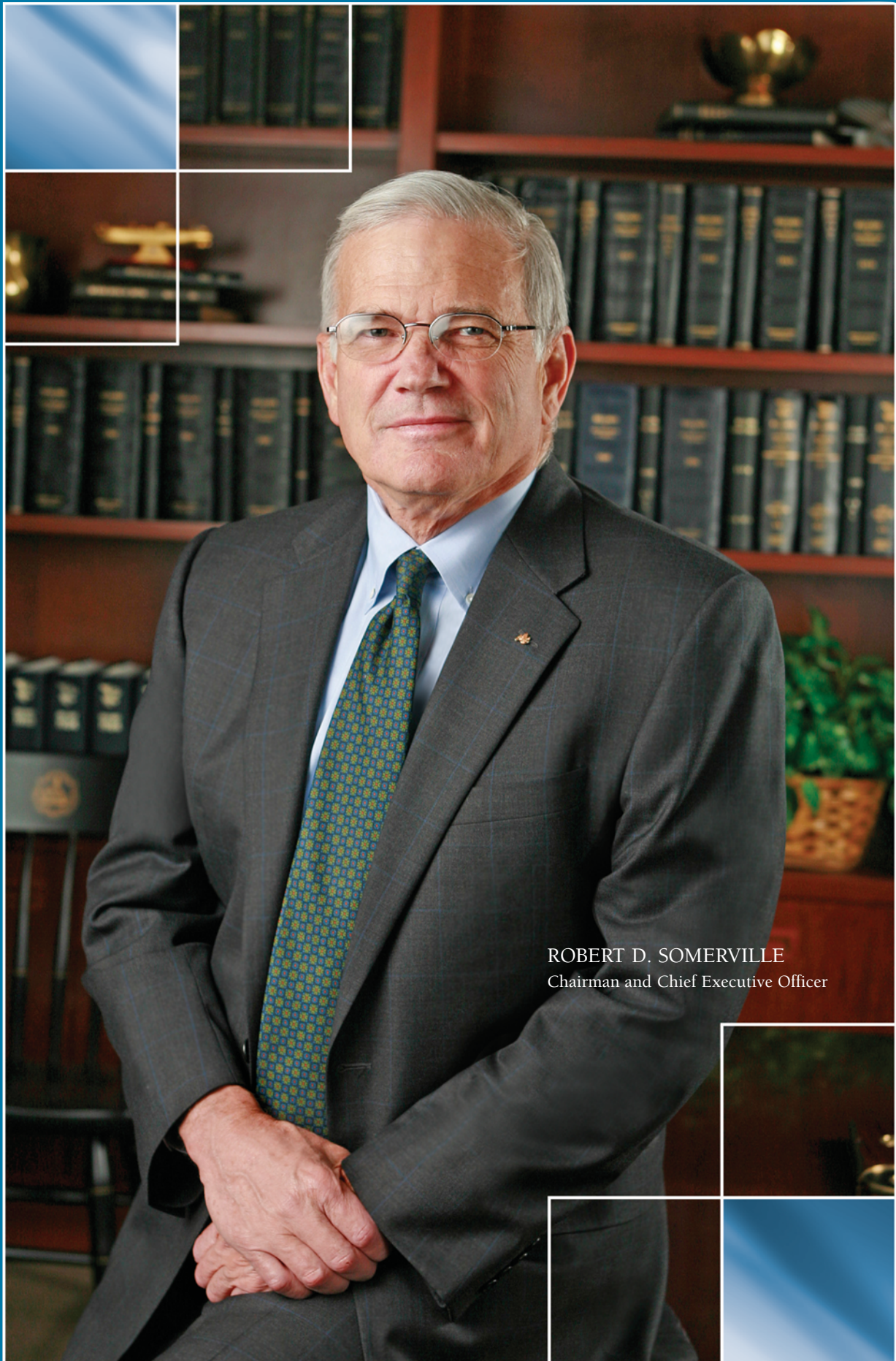


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ROBERT D. SOMERVILLE  
Chairman and Chief Executive Officer

## CHAIRMAN'S REPORT



**D**emand for classification services is directly related to the strength of the international shipping markets. With world trade continuing to grow, albeit at a slightly reduced pace from the previous year, and demand for energy increasing, those markets remained strong throughout 2005 with all sectors including offshore, enjoying an extended period of prosperity.

In particular, newbuilding activity remained fevered. Despite warnings towards the end of the year that the rate of growth in world trade was declining, shipowners remained eager to place orders for ships for forward delivery through 2009 at shipyards with already long orderbooks. Contracts for new mobile offshore drilling units reached unprecedented levels with most specifying ABS class.

This activity and optimism provided a buoyant business market for ABS. Our engineering and survey staff recorded unusually high utilization levels throughout the year as our fleet grew steadily to yet another new record of close to 121m gt. This represented a remarkable 6.5m gt increase in fleet size in just 12 months, reflecting the steady stream of deliveries from shipyards, an influx of existing vessels switching to ABS class and an unusually low level of scrapping as owners sought to keep older tonnage and offshore rigs working in the bull market.

As could be expected, service delivery became a prime differentiator between class societies in such a demanding climate. The many administrative efficiencies, particularly in the area of information systems, that ABS had introduced progressively over the previous five years provided us with the ability to absorb this increased level of activity while at the same time improving the speed and responsiveness of our services to clients.

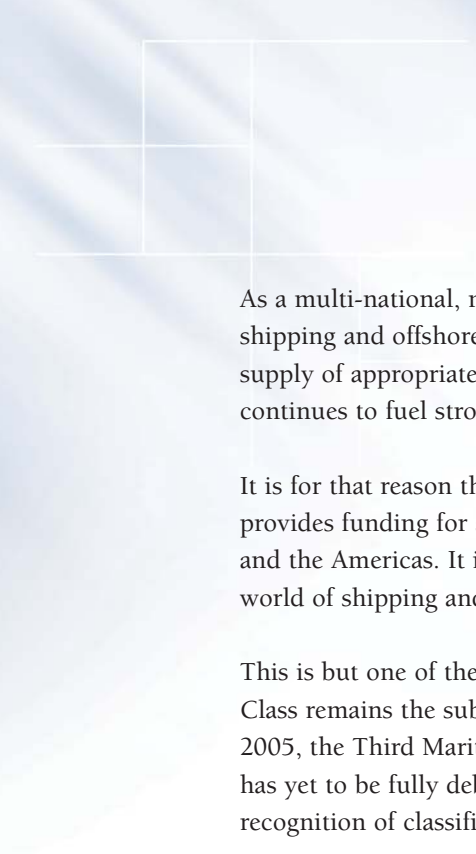
Those operating efficiencies also meant that we were able to continue rebalancing the profile of the ABS worldwide workforce to place even greater emphasis on our engineers and surveyors who directly interact with our clients. The ABS fleet has maintained a steady year on year growth for an extended period. This growth has been reflected by a similar growth in the number of ABS exclusive surveyors and engineers available to respond to client needs. Yet the total number of Bureau employees has increased only marginally as the new administrative systems have allowed us to significantly reduce the number of administrative support staff while improving service delivery.

In many instances the field surveyor is now able to not only file his survey report prior to leaving the vessel, with the information being made available to the owner at the home office in almost real time, but to also issue the relevant class and statutory certificates to the master before heading down the gangway.

In ABS' own offices, our engineers can now receive, review and approve drawings from shipyards entirely electronically, providing a level of responsiveness and client interaction that has not previously been possible. The accounting functions have been similarly streamlined to further simplify and speed the raising and tracking of invoices and enhance the overall service delivery to our clients.

This is a process that is on-going. Many additional system and administrative enhancements have been identified that will further differentiate the services offered by ABS throughout 2006 and beyond.

But we also recognize that such administrative efficiencies are only part of the package. Our surveyors and engineers themselves are the mind and heart of ABS and our challenge is to find, train and retain the finest professionals available. That is no easy task as these skills are in great demand by all sectors of the industry.



As a multi-national, multi-cultural organization ABS is able to draw on the worldwide pool of trained shipping and offshore energy personnel to meet our needs and those of our clients. Yet the future supply of appropriately skilled people is a source of concern given the growth of world trade that continues to fuel strong demand for shipping, for energy and ultimately for classification services.

It is for that reason that ABS continues to expand a multi-disciplinary scholarship program that provides funding for students in a variety of maritime related courses at universities in Asia, Europe and the Americas. It is essential that the industry jointly encourages new generations to enter the world of shipping and ABS is committed to doing all it can in this area.

This is but one of the many challenges that continue to confront the classification sector and ABS. Class remains the subject of scrutiny by regulatory authorities, particularly the European Union. In 2005, the Third Maritime Safety Package was introduced by the European Commission. Although it has yet to be fully debated and accepted, the draft pays particular attention to issues related to the recognition of classification societies to operate within the 25-member European community.

The new draft Directive is based on the premise that the existing system of classification does not provide reliable information about the real state of ships. Among other elements, it would reserve the right to the European Commission to limit the approval of a classification society to ships of only a specified size, type or trade. If adopted it will impose a system of substantial monetary fines for perceived short-comings on the part of a class society.

It would require member States to participate in the development of the rules and regulations of the recognized organizations they authorize. It would require that the recognized organizations provide world-wide coverage with exclusive technical staff and would limit the use by one society of exclusive surveyors of another society to exceptional cases.

Importantly, it continues to deny the protection of limited liability to the class societies for statutory actions taken on behalf of member States when acting as a Recognized Organization. This reluctance to provide reasonable protection to class remains the single greatest threat to the future of classification as the self-regulatory mechanism for the shipping and offshore industries.

There is no clearer illustration of this exposure than the on-going litigation faced by ABS with respect to the loss of the tanker *Prestige* in 2002. We remain convinced that, on the basis of all the evidence available to us, this suit is without merit and that we will be exonerated by the courts. However, what is at stake is not just the future survival of ABS but of the classification profession in its current form.

It is imperative that all the members of the safety regime take sober account of the realities of the continued exposure of class to potentially unlimited liability and jointly work with us to introduce a more rational, properly accountable system.



For its part, class continues to seek and implement measures that will further improve maritime safety. The most important of these was the adoption by the Council of the International Association of Classification Societies (IACS) of the new Common Structural Rules for tankers and bulk carriers at its December 2005 meeting. Following incorporation into the Rules of each of the ten member societies, those new standards are scheduled to take effect on 1 April 2006 when they will introduce a completely new, coordinated, consistent and much more transparent approach to classification rule development.

The genesis for the new rules was the desire to end the possibility of shipyards and, on occasion, shipowners using differences in the rules of the individual societies to optimize ship designs to the minimum standards available. All of the analyses completed to date indicate that the new Rules will encourage the design of more robust and hence safer ships in the future.

The process of developing and adopting the new Common Structural Rules also marked an unprecedented level of cooperation between the ten IACS member societies. The societies were asked to focus on our collective core mission of promoting maritime safety to protect life and the natural environment and to put aside individual agendas and competitive considerations.

For class to remain effective, to maintain the trust of those who rely upon the impartial exercise of our professional judgment and technical capabilities, we must build on this landmark agreement. We must defer national or regional sentiments to the common good. The International Association of Classification Societies is really the association of international class societies as each of its members continues to expand its activities around the world.

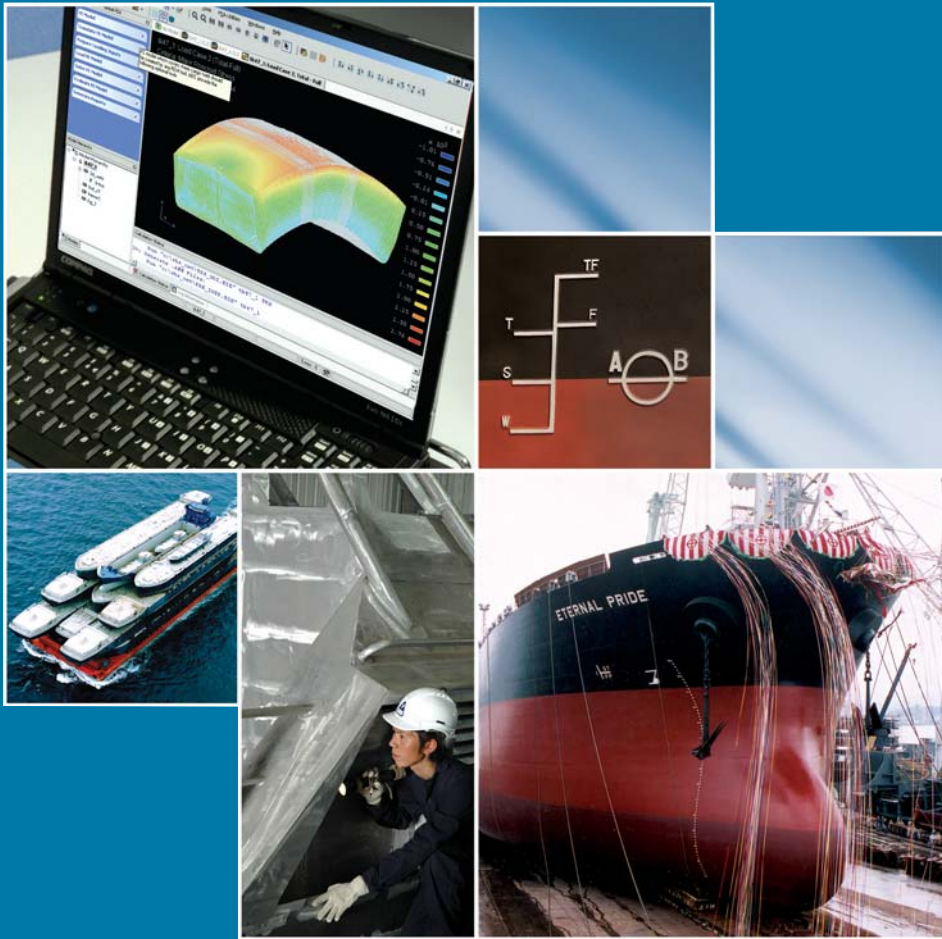
The issues that we confront – the technical standards for the ships and offshore structures themselves, the management systems aboard the ships and in the shipowners' offices, the security systems that are in place on board the ships and the soon to be added social welfare auditing of the on-board living and working conditions of the crews under a nascent ILO Convention, are too important and their impact too global to be reduced to regional factionalism.

Class is an important member of the maritime safety regime. We bring a combination of technical expertise and practical experience to our responsibilities that is unmatched. Our efforts contribute to the exceptional and constantly improving safety record of the international shipping industry.

The employees of ABS, as do I, take great pride in the services we provide and the contribution that we make in this respect. We will continue to pursue innovative ideas, technical advancements and client-oriented efficiencies in pursuit of this mission.

A handwritten signature in black ink, reading "Bob Somerville". The signature is fluid and cursive, with the first name "Bob" and last name "Somerville" clearly distinguishable.

Robert D. Somerville  
Chairman and Chief Executive Officer



# M A R I N E   A C T I V I T Y



With charter rates for all vessel types remaining at highly remunerative levels throughout 2005 and predictions of continued growth in world trade, shipowners felt justified in continuing their order spree at the world's shipyards with a particular emphasis on tankers and containerships. The combination of strong newbuilding activity and extremely high fleet utilization of existing vessels kept ABS surveyors and engineers fully occupied throughout the year.

ABS geared up to meet the challenge by allocating its engineering and survey resources in the most effective manner, by working with clients to develop pragmatic responses to their operational and regulatory responsibilities and by introducing improved administrative processes aimed at speeding plan approvals, streamlining survey support and simplifying documentation.

The net result was another exceptionally strong year for ABS. The ABS-classed fleet grew by 5.7 percent, an accelerated pace over the previous year's solid growth, to yet another new record of 120.9m gt. The number and aggregate tonnage of all vessels on order to ABS-class also reached record levels. The number on order grew by 35 percent to just over 1,350 vessels. The aggregate tonnage on order increased by 2.6m gt, or more than 13 percent, to 21.9m gt.

In addition to the acceptance into class of more than 100 existing vessels during the year, either as a result of a change of class or reinstatement, ABS classed 426 newly-built vessels aggregating 6.5m gt in 2005.

Revenues reflected this level of activity and a concerted effort to restrain expenses through the introduction of administrative efficiencies resulted in a sound financial performance that leaves the society solidly positioned for the future.

At the close of the year the ABS-classed fleet had increased by 252 vessels to stand at 9,503 vessels and offshore facilities. Tankers, bulk carriers and containerships combined to continue their dominance of the ABS-classed fleet in tonnage terms, accounting for 85.8m gt of the total and totaling 2,073 vessels in number. A direct comparison with the previous year is misleading as FPSO/FSO units were listed separately from tankers in 2005. These amounted to 62 units aggregating 5.9m gt at year's end. Smaller vessels including offshore support vessels, tugs and barges outnumbered the larger, blue water vessels and also contributed significantly to the overall high level of activity and to the revenue stream over the course of the year.

Tanker contracts continued to dominate the new construction orderbook. At the close of 2005 ABS retained a substantial 27 percent share of all tankers on order at shipyards around the world. This included a market-leading 39 percent share of all contracted suezmax tonnage and a similarly unmatched 24 percent share of all product tankers.





Over the course of the year, ABS received contracts to class 110 new tankers, representing 5.3m gt, contributing to a year-end orderbook of 267 tankers of 10.2m gt with a further 46 contracts of 1.6m gt pending. ABS accepted 75 new tankers of 3.9m gt into class bringing the ABS tanker fleet (including chemical carriers and OBOs but excluding FPSOs and FSOs) to 965 vessels aggregating 46.8m gt.

Bulk carrier activity weakened in 2005 as owners kept a close eye on the supply-demand ratio for these vessels. At the close of the year, the fleet of ABS-classed bulk carriers remained relatively stable at 669 vessels aggregating 22.2m gt. Buoyant dry bulk charter markets kept most vessels active and scrapping levels near all-time lows.

Competition for containership orders remained distorted in 2005 due to the significant impact of the German fiscal policy on this market which continued to offer significant advantages to German-based owners. Some relief can be expected in the future, however, as traditional ABS clients, particularly Asia-based clients, returned to the market such that, at year's end 102 containerships aggregating almost 4m gt were on order to ABS class with contracts for a further 12 ships, aggregating over 0.5m gt pending. This represented a substantial increase over the end-2004 figures of 57 vessels of 2.9m gt contracted. As 2005 drew to a close, the ABS-classed fleet of containerships numbered 439 vessels aggregating 16.6m gt.



In 2005, ABS was particularly successful in winning large series contracts from owners placing orders for smaller vessels below 20,000 dwt, many of them coastal tankers. Greek owners were particularly active in this sector and ABS was able to maintain its traditionally strong foothold in the Greek market with a 27 percent share of all newbuilding contracts placed by Greek domiciled owners as at end-December. Chinese and Singaporean owners also continued to show strong support for ABS resulting in a 28 and 29 percent share respectively of all tonnage on order to owners domiciled in each of those countries.

LNG remained a focal point of new ordering activity in 2005, although at a slightly reduced rate from the previous year. More orders were placed to meet the needs of the huge Qatar gas project, and for increased shipments from Egypt, Indonesia and Australia. By the end of the year ABS had retained its 26 percent market share for LNG carriers and was beginning to attract orders for new LPG carriers as market interest in these vessels increased.

Encouraging as these positive fleet growth figures were, the quality of the ABS-classed fleet was of paramount importance. Port State performance records were scrutinized closely to identify potential problem vessels. Over the course of the year, class was cancelled on 156 vessels for non-compliance with the ABS Rules.

Despite limited scrapping activity – just 23 ABS-classed vessels of all types over the course of the year – the robust pace of new deliveries continued to lower the average age of the ABS fleet. At end-December 2005, the age profile showed 51 percent of the fleet, based on gt, was 9 years or less in age.

With the contract figures for all types of new vessels remaining well ahead of the historic ordering patterns of the previous decade, the future for ABS continues to be bright. Further fleet growth can be expected although the inevitable return of normal scrapping levels and the impact of the mandatory scrapping requirements for single hull tankers will slow that growth at some stage in the future.





## OFFSHORE & ENERGY ACTIVITY



Rapidly escalating oil and gas prices translated into a remarkably intense level of activity in offshore exploration and production and in gas transportation during 2005. As the principal provider of classification and certification services to the offshore sector, ABS benefited from this bustling activity as it received requests for class for an unprecedented number of new drilling units and for some of the most expensive and sophisticated production units ever ordered.

At year's end all but one of the 47 jackups on order at shipyards in Singapore, China and the US were to ABS class. The addition of a drillship and several semisubmersible drilling units brought the total mobile offshore drilling unit orderbook to ABS class to 54 units equating to an overall share of this market of more than 88 percent. The rigs were on order to clients from across the globe with the greatest number being to US-based and Norwegian owners' accounts.

With day rates increasing strongly throughout the year, the resulting squeeze on supply saw many older drilling units moving to shipyards for refurbishment and upgrades to meet the strong demand. These multi-million dollar projects provided an additional source of activity for the ABS engineering offices in Houston, Singapore, London and Rio de Janeiro and for ABS surveyors in Asia and along the US Gulf Coast.

At the same time, almost 46 percent of all the floating production units on order or under construction were to ABS class including FPSOs, FSOs, semisubmersibles, TLPs and a spar.

ABS received the contract for ChevronTexaco's *Tahiti* truss spar, destined for deepwater Gulf of Mexico. The innovative spar is among the first such projects to utilize ABS' industry-first *Guide for Building and Classing Floating Production Installations* which includes specific criteria for both spars and tension leg platforms (TLPs). The Guide provides the most advanced classification approach to the evaluation of structural integrity of these units. It addresses global performance, load and environmental issues, stability parameters, structural strength criteria and motion characteristics unique to these floating structures.

BHP awarded two mini-TLPs, the *Neptune* and the *Shenzi*, to ABS in 2005. Extensive Gulf of Mexico experience, combined with previous work on the *Atlantia SeaStar* monocolumn tension leg platform design, earned ABS the class contracts for these structures which will go on station some 120 miles off the coast of Louisiana.

A significant contract awarded to ABS during the year was for Chevron's *Blind Faith* deep-draft semisubmersible to be located about 175 miles southeast of New Orleans in 7,000 feet of water.





Also awarded in 2005 was the class contract for the largest, most sophisticated newbuild FPSO to date. The \$1 billion *Agbami* is destined for service off Nigeria upon delivery from South Korea's Daewoo Shipbuilding & Marine Engineering (DSME). To meet Nigerian content requirements some of the topsides equipment, including the flare module and boom and the port and starboard laydown modules, is being fabricated at yards in Lagos and Warri. The ABS office in Nigeria began providing survey services and assistance on these projects.

With FPSO projects for Angola, Equatorial Guinea, Gabon, Ghana, Mauritania, Cote d'Ivoire and Guinea under development, the ABS West African offices prepared for significantly increased activity in the future.

Other FPSO contracts received included a newbuild for Star Deep Water Petroleum Ltd., an affiliate of Chevron Corp. In its class review of this vessel ABS will be employing a risk-based verification approach to the topside processing systems.

ABS' FPSO experience and longstanding relationship with Brazil's Petrobras led to the granting of ABS Approval in Principle (AIP) for a novel non-ship shaped FPSO in 2005. Petrobras' Procap-3000 deepwater technology program at its Cenpes Research and Development facility has developed two new hull production unit concepts – the FPSOBR and the MONOBR.

The FPSOBR is designed to reduce heave and pitch motions in water depths up to 3,000 meters. It is destined for the Jubarte-Cachalote development in the Campos Basin. The ABS engineering office in Rio de Janeiro Engineering conducted the design analysis of the novel configuration.

The single-hull floater design MONOBR is a short, cylindrical mono-column hull with a 40m draft designed to support production facilities. ABS reviewed the design and issued the AIP based on the criteria contained in the *ABS Guidance Notes on Review and Approval of Novel Concepts*.



ABS was also selected by Woodside Energy Ltd., Australia's largest publicly traded oil and gas exploration and production company, to provide classification and verification services across the Pan-Woodside Energy Ltd. asset base for the next five years. The multi-year, multi-million dollar contract covers core operational requirements of the company's activities off Australia and existing and future emerging projects in Australia, the UK, the US, Singapore and Korea.

The agreement covers the energy major's FPSO assets including production, equipment and safety systems. Classification will be to applicable ABS Rules. Verification will be to relevant international, national and state regulations. ABS will provide engineering design review, survey services and act as a liaison on behalf of government agencies to facilitate the reviews and surveys conducted to fulfill the regulatory requirements of these agencies.

ABS already classes the Woodside-operated FPSO *Cossack Pioneer* on station on the North West Shelf. This new agreement significantly expands the relationship with Woodside in terms of the number of units and geographic scope of the ABS activities.

Accompanying this high level of activity in the offshore sector was a continuation of the strong demand for new very large LNG carriers to meet the export needs of Qatar, in particular, and new trades from Egypt, Indonesia and Australia. Designs for further LNG carriers to meet the export needs of Russia, Nigeria and Angola were under development. By year's end 20 liquefied gas carriers (LNG and LPG) were already under contract to ABS class including a series of LNG carriers of 210,000m<sup>3</sup>, among the first to have been ordered that breached the 200,000m<sup>3</sup> barrier. A further 15 gas carrier contracts were pending.





During the year, ABB Lummus Global approached ABS for Approval in Principle of a novel concept for a liquefied natural gas and liquefied petroleum gas, floating production storage and offloading unit (Niche LNG FPSO). The concept is the offshore application and marinization of the NicheLNG SM process, a proprietary dual turbo-expander based LNG liquefaction scheme developed by ABB Lummus Global. The equipment layout is similar to a typical FPSO. However, the concept for this new purpose-built FPSO allows for processing facilities onboard which incorporate both the gas feed pre-treatment and LNG liquefaction.

Extensive research undertaken by the ABS technology department helped position the society within the specialized liquefied gas market segment. Joint industry studies with two leading Korean ship-builders and another with Gaztransport & Technigaz (GTT), evaluated the MK III and No. 96 membrane containment systems leading to the establishment of new classification criteria for strength assessment of these systems.

ABS also jointly undertook a first of its kind vibration research project with Hyundai Heavy Industries (HHI) to determine the impact of propulsion excited vibration on a membrane containment system.

These studies were in addition to the on-going research undertaken by ABS, in conjunction with academia, into the impact of sloshing loads within partially-filled membrane containment tanks.

As operator interest grew in alternative propulsion systems for LNG carriers to the traditional steam turbine plants using boil off gas as fuel, ABS developed specific criteria for these alternatives. Contained in the *ABS Guide for Propulsion Systems for LNG Carriers*, this was the first comprehensive set of standards addressing this issue to be issued by a classification society. The Guide covered alternatives such as dual fuel, diesel electric and direct drive, slow speed diesel plants. It also contained criteria for the on-board re-liquefaction plant needed to handle the cargo boil off that would no longer be used as fuel.

The transportation of compressed natural gas (CNG) as a viable alternative to LNG continued to interest industry in 2005 although no specific projects materialized. All of the principal competing containment systems had been approved in principle by ABS in advance of a contract which was expected early in 2006.

The strategic decision to strengthen and accelerate ABS technology offerings for the offshore industry helped ABS maintain its strong position across the entire offshore and energy sectors in 2005. New solutions continued to be developed to meet the industry's need for rational technical safety standards for designs that often exceeded known experience.



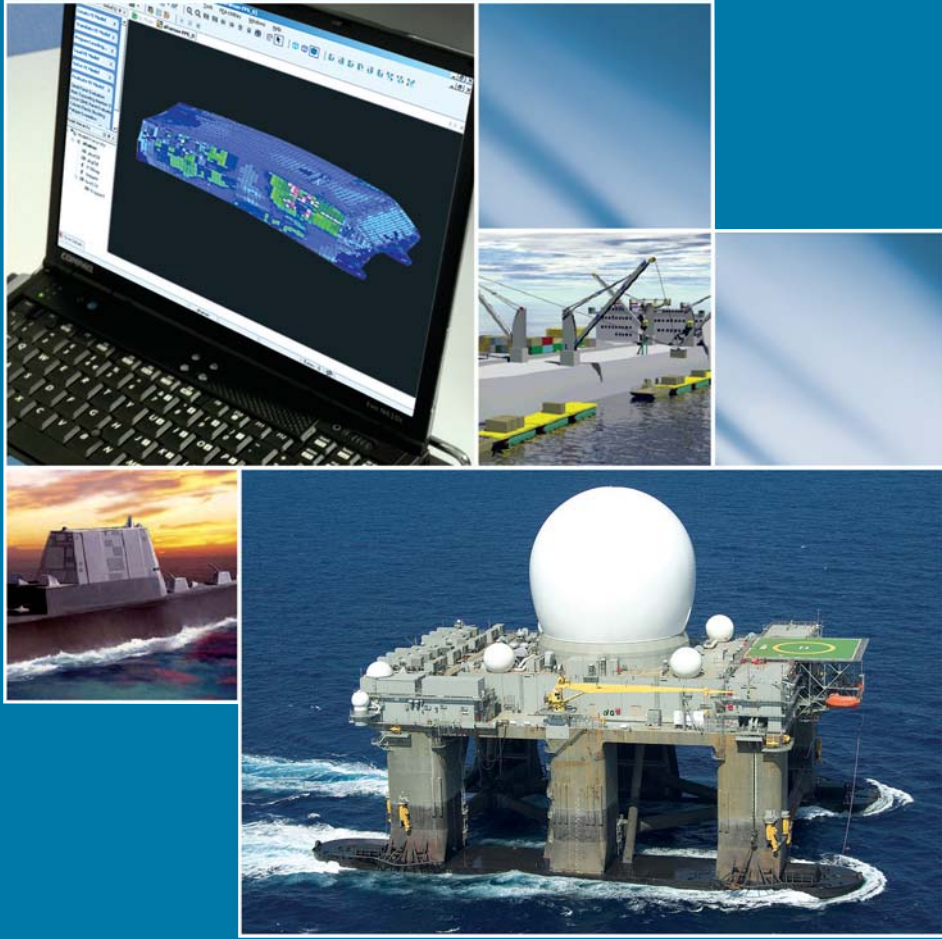
An example of this was the manner in which ABS responded to the need for offshore production systems to reduce the weight of the topsides and risers as production moved into progressively deeper water. ABS offered a comprehensive set of criteria covering the application of fiber reinforced plastics (FRPs) to their projects. The *ABS Guide for Certification of FRP Hydrocarbon Production Piping Systems* provides technical guidance and design procedures for using composites or FRPs on the topsides of offshore facilities. It was the first publication of its kind from a classification society.

Criteria were also being developed for carbon-fiber composite riser piping and joint application and for the application of composites to cryogenic piping installations. ABS also assisted clients analyzing the potential of other materials such as titanium and FRP for riser applications.

In a separate effort ABS worked directly with Noble Drilling on the development of its aluminum-magnesium-zinc alloy risers that received Independent Review Certification (IRC) as part of an ABS approved Certified Drilling System (CDS). The risers offer comparable strength to standard carbon steels but weigh in the order of 40 percent less. The weight savings increase the payload of the drilling rig such that a rig rated at 4,000 ft could increase its operating depth to 6,500 ft when using the alloy risers. In 2005 the material was used for installations in the Gulf of Mexico in water depths up to 4,000 ft.

As the year came to a close the level of activity in the offshore and gas transportation sectors was poised to increase further with new tranches of orders for drilling rigs, production units, LNG, LPG and the first CNG carriers all poised for confirmation. ABS increased its engineering and survey staff to meet this expected increased workload.





## MILITARY ACTIVITY



Significant developments in the burgeoning relationship between ABS and the US Navy occurred in 2005. The first vessel built to the ABS *High Speed Naval Craft Guide*, the advanced X-Craft, was delivered to the Navy and is now in service with Commander Naval Surface Forces Pacific. The Guide has also been used for the mine countermeasures control ship HSV-2 SWIFT and is being used for the new Torpedo Recovery/Security Craft and the new naval academy training vessels. And the innovative Littoral Combat Ship (LCS) and Land Attack Destroyer ((DD(X) programs to which the new ABS *Rules for Building and Classing Naval Vessels* will apply, continued to advance.

The new *Naval Vessel Rules* were extensively vetted by the ABS Naval Technical Committee made up of 30 technical experts whose skills cover the full range of naval surface ship design, construction and maintenance issues. Navy representation includes individuals selected from NAVSEA 05 and its Technical Group Directors, from the Naval Surface Warfare Center, Program Executive Officer (PEO) Ships, the Fleet and Military Sealift Command. The remaining members are drawn from the Coast Guard and from shipyards, designers and academia who are currently involved in warship construction.

The central philosophy in the development of a Naval Ship Certification Plan is the application to non-nuclear combatants of acceptable commercial standards and practices to the greatest extent practicable, while maintaining a robust combatant level of performance. This contributes to a final product that is in line with US Government acquisition reform goals, takes advantage of the proven cost benefit of commercialization and still satisfies combat readiness requirements.

Therefore the requirements for classification under the *High Speed Naval Craft Guide* and the *Naval Vessel Rules* distinguish between inherent survivability requirements and requirements imposed by the Naval Administration on survivability and signature reduction against enemy threats. The inherent survivability requirements fall under classification and cover issues including hull structure, subdivision and stability, propulsion, electrical, control and navigation systems, structural fire protection, auxiliary machinery, materials, welding and damage control.

Our Navy partners also recognized that the Rules would be a convenient tool with which to capture a wider range of design and construction criteria than those traditionally addressed by classification society Rules. And so the development effort expanded to include such areas as seakeeping, maneuvering, human systems integration, ship design margins, habitability and environmental protection systems.

The enemy threats, such as protection against blast, fragmentation, electro-magnetic pulse, chemical, biological and radiation effects and signature reduction are addressed by the Naval Administration.

This duality of approach in which ABS, as the class society, establishes the standards for the ship, its machinery and normal survivability and the Navy addresses those issues related to the vessel's combatant role, is intended to maximize the application of the technical strengths and expertise of both parties.





Already the next evolution of the Rules is beginning as ABS and its counterparts within the military are developing applications for risk-based analysis to further identify and then mitigate performance risks to an acceptable level.

In 2005 a different opportunity was made available to ABS with the provision of classification support for various platforms that will support the Navy's Sea Basing concept. Sea basing replaces the establishment of onshore logistical centers with a sea base at least 25 miles offshore.

The Navy's plan for a sea base is comprised of an Expeditionary Strike Group, a Carrier Strike Group and Maritime Prepositioning Force (MPF) ships. Future sea bases will consist of a number of different ship platforms each targeted to specialized functions.

These Maritime Prepositioning Force (Future) MPF(F) platforms will be classed with ABS and include medium speed roll on/roll off vessels, advanced dry cargo delivery vessels, mobile landing platforms, air capable support ships and amphibious support ships. Design work has started on the ABS classed vessel that will provide interface support to the MPF(F) as well as intra-theater support to the Army – the Joint High Speed Vessel (JHSV).

ABS also chaired the NATO working group that produced unified certification processes for submarine rescue systems worldwide to maximize inter-operability among the navies of the world which operate submarines. ABS conducted certification work on the new pressurized rescue module and the launch and recovery system for the new submarine rescue diving and recompression system (SRDRS). This is being developed as the next generation rescue system for the crew of submarines in distress.

Navies from other nations also sought assistance from ABS in 2005. The Egyptian government's Fast Missile Craft (FMC) Program and Fast Patrol Craft Program call for a series of high speed, highly maneuverable vessels to be built to ABS class and this work is underway. Engineering and survey services were also provided to the government of Oman on a series of patrol craft building in the



United States. In addition, the Mexican Navy placed the order for the first four of what is expected to be a longer series of patrol boats building to ABS class. And classification work is taking place in support of both the Indian Navy and the Indian Coast Guard.

Support for the US Coast Guard's Deepwater program continued in 2005 with ABS providing selected certification for the first Maritime Security Cutter, Large (WMSL), otherwise known as the National Security Cutter. This support included both engineering plan review and survey attendance. ABS began classification work for the Deepwater Fast Response Cutters and finalized similar certification support to be provided for the Deepwater Offshore Patrol Cutters.

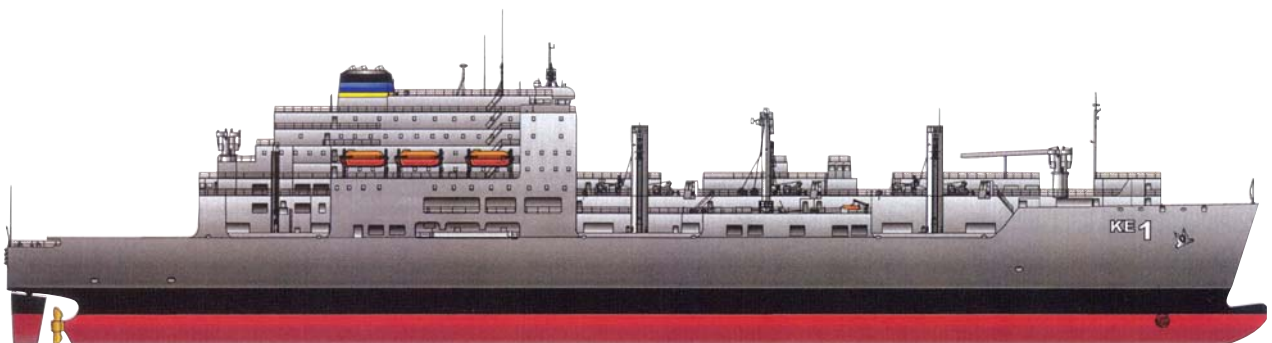
Work for the US Military Sealift Command (MSC) in 2005 focused on keeping this fleet of logistical supply vessels operating in support of US forces around the world. Quick response engineering review and survey services were provided to keep the vessels in service. New construction classification work for the MSC continued on the T-AKE, a ship that MSC will operate as an advanced dry cargo delivery vessel in support of deployed forces. The T-AGM(R) vessel project, a new construction missile range instrumentation ship used to monitor international compliance with strategic arms treaties will also be to ABS class.

The US Army Tank Automotive and Armament Command (TAACOM) engaged ABS to class the Logistics Support Vessels (LSV) built at a US Gulf Coast yard. Hurricane Katrina moved two of these vessels over a mile from the shipyard and ABS survey services were used to verify the vessels' condition after they had been refloated.

The new Fisheries Research Vessel, classed by ABS for the US National Oceanographic and Atmospheric Administration (NOAA), was delivered and is in operation in the Pacific Northwest. ABS also began applying the comprehensive inspection process developed for NOAA that complements class surveys by providing a framework for assessing the status of all systems fitted on NOAA ships.

The long standing support provided by ABS to the US Army Corps of Engineers continued in 2005 through the society's involvement with several of the Corps' vessel programs. Through Boeing, ABS supported the Missile Defense Agency by providing classification review and survey of the new SBX platform, a Mobile Offshore Drilling Unit converted to carry a large X-Band Radar for application in the Strategic Defense Initiative missile defense program. This vessel is now classed and in operation.

This unprecedented level of involvement by ABS in an ever widening range of government and military programs for the US and other nations is expected to continue and expand in 2006. By working collaboratively with the various government forces, departments and agencies ABS has earned a growing level of trust and confidence in the ability of class to efficiently provide a high level of technical services that fully meet the specialized needs of the military.





# O P E R A T I O N S

Efficiency and superior service delivery were the principles guiding ABS operations throughout 2005. The on-going challenge for everyone within the organization was to consistently exceed customer expectations in terms of the accuracy, speed and practicality of the services provided. The approach was the same, whether it was related to the performance of a routine survey, the review and approval of the design for a technically complex newbuilding project, the quick and efficient handling of documentation or providing information in response to a telephone or email inquiry.

Supporting many of these operational changes was the continued expansion of the sophisticated information technology infrastructure that has been introduced in a progressive manner over the last five years. These projects have brought together the core functions of ABS – survey and engineering – and have integrated them with the human resources and financial systems needed to fully support them in such a way as to provide unmatched service delivery to our clients.

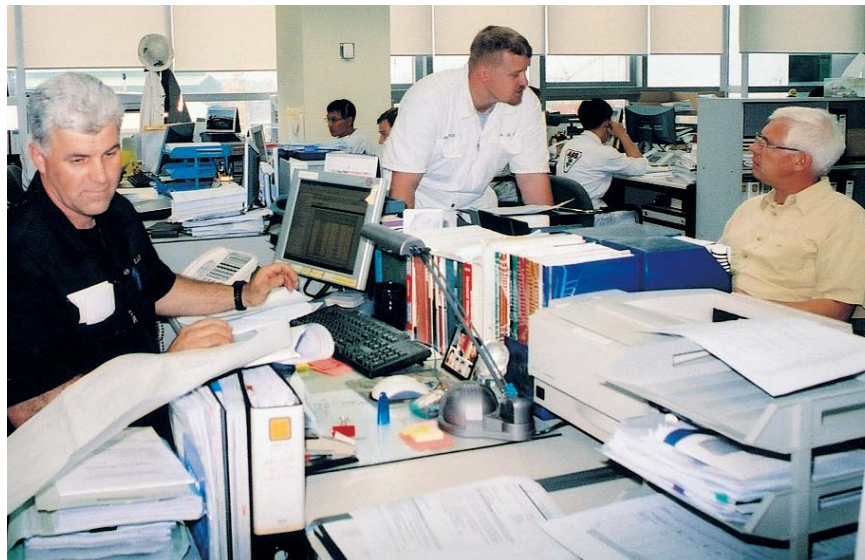
Although changes in information technology mean that services that may have taken weeks as recently as 10 years ago are now handled in hours or even real-time, the underlying issues of professionalism, experience, judgment and integrity are in greater demand by classification society clients than ever before.

As a consequence, staff training and refresher courses remained one of the most important elements of the overall ABS operational strategy. The ABS Academy continued to provide a comprehensive suite of training programs tailored to everyone from the most recent, newly hired, administrative staff member to the most experienced surveyors within the worldwide team of ABS professionals.

These courses were conducted in Houston and in the Divisional and regional offices. In addition, the ABS survey staff in Korea developed a comprehensive training program covering LNG design and construction that proved so successful that many clients also began enrolling their own staff members so that they could benefit from the course. The 20-module class covered topics ranging from Rule and regulatory requirements, to hull construction and surveys, to cargo containment systems and future gas trends and technologies.

A comprehensive Condition Assessment Program (CAP) training course for surveyors was held in Singapore, Houston, Dubai and Piraeus to review the program's latest requirements for tankers and bulk carriers. And within the Divisions a series of small, team training meetings were held to encourage discussion and consider case studies.

In addition, the first of what is expected to become an on-going series of customer orientation courses was held at the ABS Academy in Houston. The highly successful course introduced the large number of client representatives to the full scope of class and statutory activities of ABS, with subject matter experts providing an in-depth insight into the role and responsibilities of the classification society relative to the operational needs of the shipowner.







As an ISO management and environmental certified organization, ABS is keenly aware of the benefits that accrue from the adoption and implementation of an internal quality system that is firmly rooted in the concept of continuous improvement. By constantly challenging our employees to identify areas of our operations that can be improved, the management of ABS is able to constantly trim the operational sails to maintain optimal performance within a prevailing market.

A Continuous Improvement committee structure within Divisions and departments provides a conduit for positive changes to be considered and implemented. And a closely monitored auditing program, conducted by ABS' own team of skilled management system auditors and by various external bodies including IACS, various flag States, the European Commission and the registrar that certifies ABS to applicable standards, provides a highly effective framework for identifying and correcting possible inconsistencies in the day-to-day application of the quality system.

## SURVEY ACTIVITIES

Numerous survey-related initiatives were undertaken in 2005 to further strengthen the global quality and consistency of the ABS survey product. One review looked at the manner in which the IACS Transfer of Class (TOCA) requirements were being implemented across all of ABS to verify

that the procedures were clearly defined and effectively implemented. The review identified areas for improvements and relevant instructions and requirements were refined to simplify the process and provide more responsive service to clients.

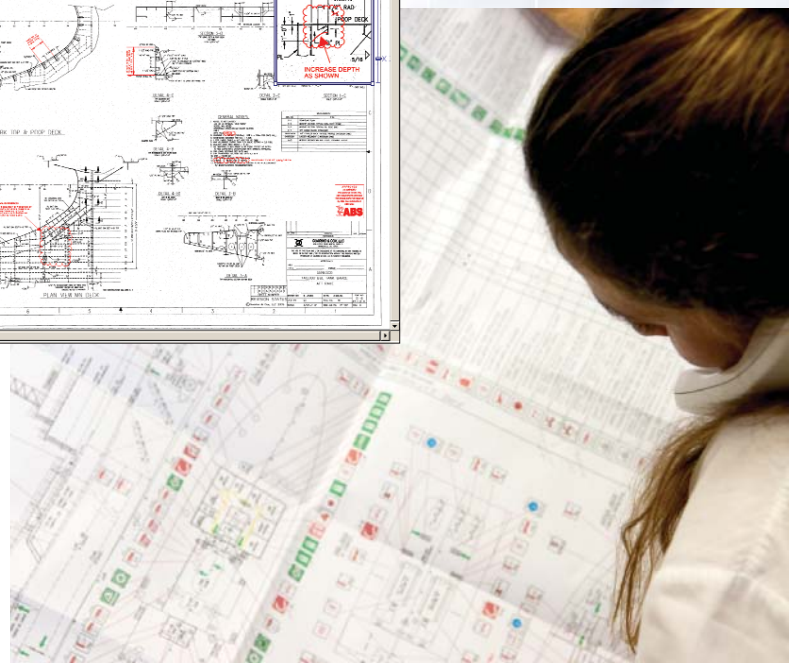
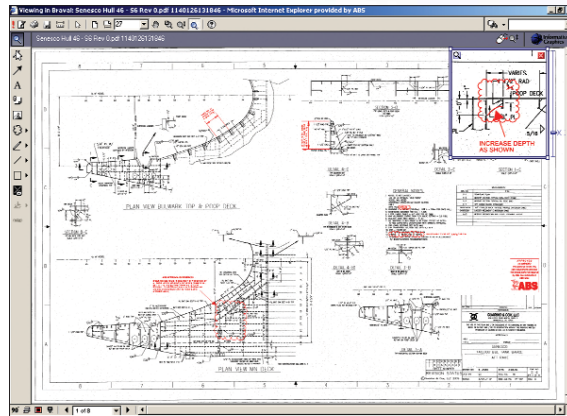
A proactive project was also undertaken at the Divisional level to meet with flag Administrations that have accorded ABS Recognized Organization status to identify opportunities to improve communication channels and procedures used to resolve statutory concerns when they arise.

Changes were also introduced to the comprehensive internal survey monitoring program. Every surveyor is monitored in the field at least once a year by an experienced, designated survey monitor. Increased monitoring and a more structured coding system for comments and variances came from the review of existing procedures. A Survey Activity Monitoring Variances (SAMV) form featuring



27 variance codes was introduced to help quantify comments for more accurate trending.

Training and mentoring programs continued at seven ports that had been designated as places where experienced ABS surveyors could quickly gain additional exposure to common problems encountered when surveying aging vessels, specifically tankers and bulk carriers. Those ports included Charleston and Mobile in the Americas Division; Lisbon, Constantza and Dubai in the Europe Division; and Singapore and Shanghai in the Pacific Division. The training ports are designed to supplement the in-classroom Experienced Surveyor Validation Training program that has been in-place for several years.



The worldwide ABS field survey team was also provided with several significant updates to the ABS SafeNet program that supports their activities. Additional modules were added that provided for the automation of fee schedules and the ability to print any of the more than 400 class or statutory certificates prior to leaving a vessel. Vessel type specific, dynamic checksheets were also provided to surveyors through the SafeNet system.

## ENGINEERING ACTIVITIES

In 2005 the introduction of a sophisticated system that allows for the electronic filing, review and approval of drawings marked a change in the way the ABS engineers approach their work. Engineers in Houston, Yokohama, Shanghai and London, participated in piloting this program. Engineers from any of the 11 ABS engineering offices around the world can now have simultaneous access to the drawings, the correspondence file and the entire review history relating to a design. This flexibility means that complex projects, particularly for the offshore sector, can be handled more quickly and efficiently.

Kerr-McGee's *Constitution* truss spar, slated for Gulf of Mexico installation, served as the first project to undergo totally electronic plan review using the new system. Thousands of submittals and other project documents were handled electronically. Layers of comments to engineering drawings were distributed and accessible by all those involved on the project including the client and the shipyard. ABS engineers addressing different elements of the design – structure, stability, topsides, piping, electrical systems and moorings for example, could work on the project at the same time and share their comments with the client and their fellow ABS engineers. The new system promises to significantly improve plan review turnaround time and overall productivity.

The integrated nature of the information technology systems that are being introduced by ABS also means that this comprehensive engineering information can be used to populate survey information. In turn, this will offer greater efficiencies to the survey office in the yard at which the new vessel or offshore unit is being constructed.



## SAFETY, ENVIRONMENTAL & SECURITY ACTIVITIES

With safety, environment and security issues retaining a high profile within the industry during 2005, the ABS Safety, Environment and Security Certification (SESC) services staff remained busy assisting clients in meeting their International Safety Management (ISM) and International Ship and Port Facility Security (ISPS) certification requirements. ISPS activity was particularly strong as clients amended their security plans in response to continuing global terrorist activity and in preparation for the first intermediate audits that will begin in 2006.

To make the ISM/ISPS auditing process simpler and more efficient for ship operators, the ABS SESC team hosted an IACS working group that developed Procedural Requirements for harmonizing certification to the two Codes. This initiative will be continued in 2006 through a Joint Industry Working Group that will be chaired by ABS representing IACS, and at which representatives from industry associations including the International Chamber of Shipping, Intertanko, Bimco and others will address ISM and ISPS related issues.

In preparation for the pending intermediate ISPS audits, ABS continued to expand its team of maritime security auditors by training an additional 50 surveyors to the necessary standards.

ISM certification activity also remained at a high level throughout the year as vessels previously certified underwent intermediate and renewal audits and verifications.

Responding to client needs, ABS expanded its certification services by offering certification to the Occupational Health and Safety Management Systems (OHSAS 18001:1999) standards in 2005. The *ABS Guide for Marine Safety, Quality and Environmental Management* was updated and reissued under a new title to include health and safety systems mandated by the additional standard. A class notation (HSQE) was introduced so that clients could demonstrate compliance.

The OHSAS standards require a company to establish, implement and maintain documented occupational health and safety objectives at each relevant function and level within the organization. In doing so the company is required to establish and maintain procedures for the on-going identification of hazards, the assessment of risks and the implementation of necessary control measures for routine and non-routine activities, for the activities of all personnel having access to the workplace, including subcontractors, and for the workplace facilities themselves.

At the close of 2005 several organizations had begun the process of obtaining the HSQE notation with the first certificate expected to be issued in early 2006.

New tanker management standards introduced by the Oil Companies' International Maritime Forum (OCIMF) also provided opportunities for the ABS SESC team to assist clients in understanding and



introducing continuous improvement-based management systems in conformance with those standards. These Tanker Management and Self Assessment (TMSA) guidelines expand upon the foundations of the ISM Code. ABS offered a series of informational seminars in major shipping centers around the world and provided printed materials as part of the overall assistance provided to our tanker operator clients.

In addition to these specific SESC services, ABS offered other related programs to tanker operators to assist them in demonstrating compliance with the new standards. These included enrollment in the ABS Rapid Response Damage Assessment (RRDA) Program, software modules available through the ABS affiliate, ABS Nautical Systems, designed to provide simple document management, and an incident investigation program with accompanying documentation. ABS was called upon by several operators to assist them in conducting a gap analysis of their existing tanker management system in preparation for meeting TMSA requirements.

The SESC Europe division office in Dubai, UAE was moved to Piraeus, Greece at the end of 2005 to establish closer contact with clients and to better assist the many clients who were requesting management systems' training.

In the US, ABS SESC provided assistance to the US Coast Guard and the Towing Safety Advisory Committee (TSAC) in developing a safety management system standard for the nation's inland waterway and cabotage sectors. This will result in some 4,000 additional vessels adopting a safety management system within a relatively short period after the adoption of the formal regulation, expected in early 2007.

## TYPE APPROVAL

Enrollment in the ABS Type Approval Program provides a manufacturer with an internationally accepted method of demonstrating that a product is consistently produced in compliance with approved product specifications and has been evaluated for use within the marine and offshore environment.

While a key driver for the program is the increasing number of national and international standards requiring Product Type Approval, there is a growing awareness by product manufacturers of the competitive advantages of validating and recording the quality of their product. Furthermore, many purchasing agents are specifying that they will only order type approved products. As a result, more than 1,600 manufacturers and over 5,000 active product designs were covered by the ABS Type Approval Program at year-end 2005.

The ABS Type Approval database is available to industry in an easy-to-search format on the program's dedicated website. Along with the notification of compliance to the Rules, the





database is automated to advise clients via email of expiring Product Design Assessments (PDAs) requiring revalidation and of audits due or overdue required for Manufacturing Assessments (MAs).

The ABS Type Approval website data is updated hourly. The program provides Confirmation of Product Type Approval direct from the website. This facility assists manufacturers in marketing a product and simplifies the process for manufacturers who must declare conformity with an approved type prior to affixing the CE mark under the European Marine Equipment Directive.

## ORGANIZATIONAL CHANGES

ABS continued to refine its organizational and management structure throughout

the year to better support changing client needs and to provide for the seamless transition of key personnel. Hurricanes Katrina and Rita provided additional challenges for the staff of the ABS New Orleans, Houston, Morgan City, Mobile and Beaumont offices on the US Gulf Coast.

Concern for the safety of the many ABS employees affected by Katrina was the highest priority as many of their homes were either destroyed or damaged. The New Orleans office, which acts as the headquarters for the US Central District, was closed for an extended period with the engineering staff moving to Houston and the survey staff working from other ABS offices in the region. Clients received uninterrupted survey and engineering services throughout despite the significant organizational disruptions that were experienced.

Hurricane Rita led to a two-day shutdown of the ABS Corporate and Americas headquarters in Houston. A carefully orchestrated contingency plan minimized the impact on operations and also provided for a rapid resumption of activities at the ABS Beaumont office that incurred the full wrath of Rita's devastation.

Unrelated to these temporary, weather-related changes, ABS relocated its North Americas regional headquarters from Houston to the New York area to provide wider and more immediate client coverage for the large number of shipowners located in the US North East and in Eastern Canada. Robert W. Gilman Jr. was appointed Regional Vice President North America replacing Adam Moilanen who relocated to Singapore, assuming the position of Vice President, Southern Region, ABS Pacific.

The ABS Americas Division also announced the appointment of Joe Riva as Assistant Chief Surveyor with operational responsibility for all ABS surveyors in North, Central and South America. Riva had previously served in a comparable role as Assistant Chief Surveyor, ABS Europe.

In South America, a permanent survey office was established in Manaus, Brazil to handle an increased volume of activity in the Amazon region and a new survey station was opened in Macae to better serve the bustling Brazilian offshore sector.



In Europe, Christopher J. Wiernicki was appointed President and Chief Operating Officer, ABS Europe replacing the long-serving Antonio Lino Costa who assumed the newly created position of Corporate Vice President, Global Marketing. Wiernicki had previously held the position of Chief Technology Officer in the ABS Corporate headquarters.

ABS strengthened its Committee structure within Europe and the Middle East to better provide for industry input from two areas of growing importance to the society – Germany and the Middle East region. A German National Committee, comprised of 34 prominent members from the country's shipping community, was established in formal recognition of the importance of German shipowning and of the historic ties that exist between the class society and the German maritime industry. Previously, German owners had participated in the ABS North Europe Regional Committee.

Also established was a new ABS Middle East Technical Committee which held its inaugural meeting in Dubai towards the end of the year. The committee is comprised of 37 senior technical representatives from the Middle East shipping, oil and gas and offshore support sectors.

Improved client service in the Eastern Region of ABS Europe, particularly within the Greek market was expected from the appointment of a regional lead surveyor for the region, located in the ABS Piraeus office.

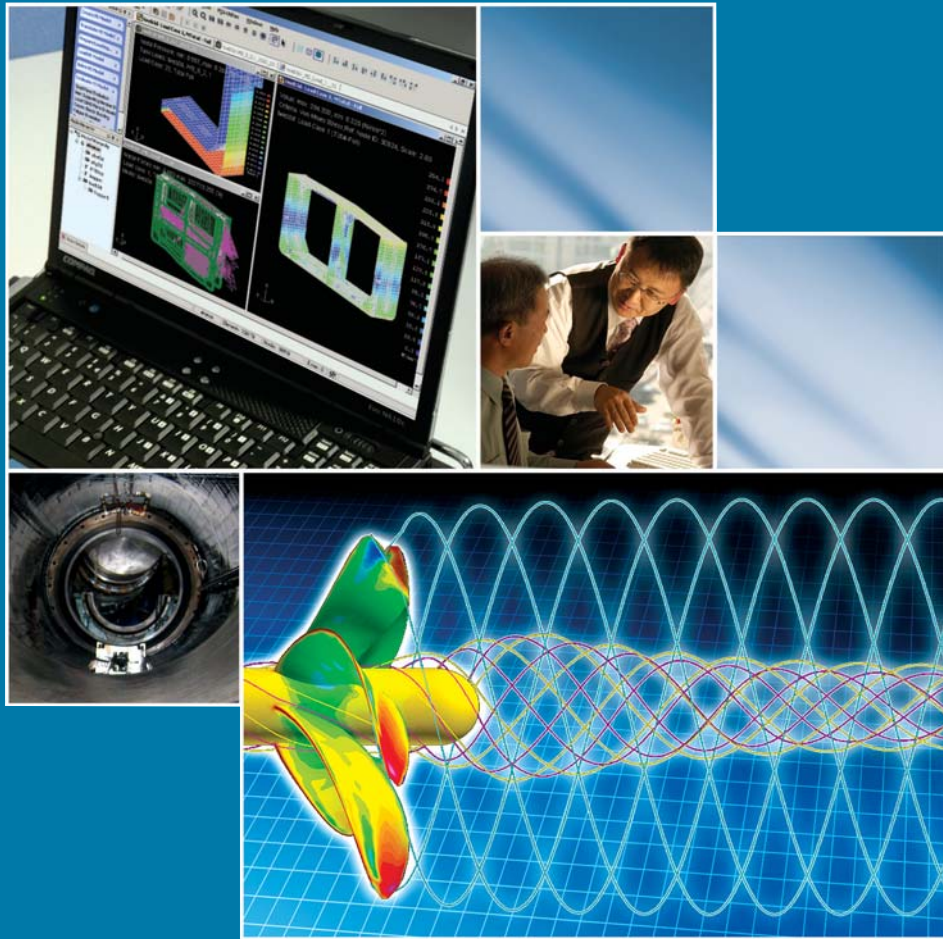
Recognizing the growing importance of Russian shipowners and of Russia's energy-related activities, ABS and the Russian Maritime Register of Shipping (RS) extended the long-standing agreement of cooperation between the two societies by signing a new bilateral agreement in 2005. The agreement addressed the provision of field surveys for ships and floating structures in service and under construction, design approval, technical documentation and certification of materials and products.

In Asia, ABS activity remained strong across the region with China providing a focal point as its shipyards continued to modernize and expand. The ABS office in Shanghai was expanded and refurbished to reflect this growing activity and the ABS China team grew to nearly 150 people to meet this increased activity. Further additions to the ABS China team of surveyors and engineers are planned for 2006.

The ABS Corporate Technology group reorganized into four functional areas designed to provide more focused service to our clients. These consisted of Operational Safety and Evaluation; Research and Product Development; Engineering Support; and Rules and Standards Development. The technical expertise in each of these four areas was broadened.

As 2005 drew to a close the ABS worldwide staff of more than 1,700 professional and support staff was well positioned to provide responsive services to clients wherever and whatever the challenges may be.





## TECHNOLOGY ACHIEVEMENTS



Classification societies are increasingly looked to by industry to provide a broad spectrum of highly specialized technical capabilities in support of the challenges of building larger, more sophisticated or, in many instances, novel ships and offshore structures. ABS takes great pride in the breadth and depth of the technical expertise it is able to offer.

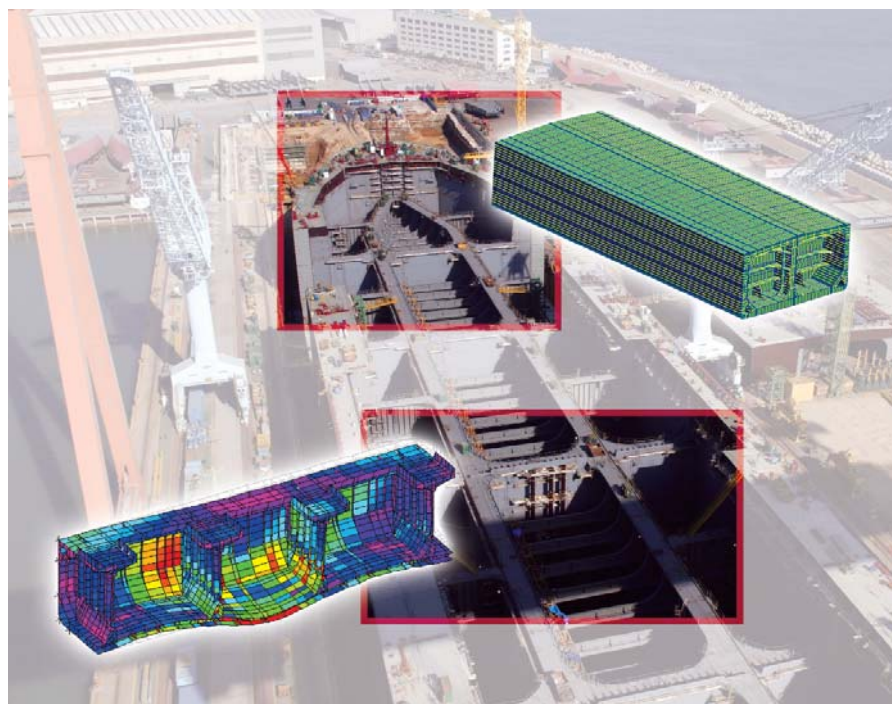
At any one time the staff of researchers within ABS Technology are orchestrating more than 100 innovative projects, many carried out jointly with industry and/or academia. All of that research is focused on issues that have been identified as being directly relevant to existing and future client needs. It is part of the on-going challenge at ABS to strengthen the traditional role of class, to improve service delivery and, where appropriate, to broaden the role of class to address safety issues beyond structural concerns and to incorporate new methodologies for evaluating risk in the marine environment.

The nature of research and development means many of ABS' projects are multi-year, on-going initiatives. Each year these initiatives bring to industry new approaches, accompanied by new tools that address the structural and operational challenges of our clients.

Project highlights in 2005 included: strength assessment studies on LNG containment systems; advanced approaches to building and classing floating production, storage and offloading units (FPSOs); a detailed review of ice loads, cold weather operations and ice class Rules; creation of shaft alignment optimization software; technical support for the Common Structural Rules for double hull tankers; a further extension of the ABS Dynamic Loading Approach (DLA); studies of hull structure and machinery vibration; development of a systematic methodology to determine the root cause of marine accidents; application of risk-based inspection (RBI) techniques for ship structures; and continued review of the methods available for the structural assessment of existing ships.

In addition to these major projects, 30 Rules, Guides, Guidance Notes or commentaries were issued to industry, 13 major technical reports were completed, 26 technical papers were delivered at key industry conferences, numerous in-house training programs were conducted to advance the knowledge of surveyors and engineers, specialized training programs were developed for clients and assistance was provided in the development of engineering software designed to support better service delivery.

With tankers being a traditional focus of ABS classification activity, the Technology Department worked on several initiatives designed to further improve this sector's already impressive safety record. The most significant of these was the extensive support provided to the IACS' Joint Tanker Project (JTP) that was developing new Common Structural Rules for double hull tankers of 150m in length and greater. The JTP initiative had grown out of the earlier project embarked upon by ABS, DNV





and Lloyd's Register to jointly develop rules that would eliminate the tendency for shipyards to optimize scantlings against the minimum class society standards available. The new Rules were adopted by IACS Council in December 2005 and scheduled for implementation on 1 April 2006.

Large tankers, propelled by the latest generation of high-powered diesel engines, can be susceptible to shaft alignment problems and tail shaft bearing failure if careful attention is not paid to the propulsion shafting alignment during the design and construction of the vessel. To assist with proper shaft alignment, ABS developed a computational tool called ABS SHAFT to automate shaft alignment analysis and optimize measured hull deflection data to predict alignment behavior for given cargo loading conditions. The software is equally applicable to other vessel types susceptible to shaft alignment problems including ultra large containerships and the larger size ranges of bulk carriers.

With the latest designs breaking 10,000 teu, ultra large containerships were the subject of several technical studies undertaken by ABS in 2005. The ABS Rules were modified to require more sophisticated analysis of the structure of these vessels.

Hydrodynamic and ship structure experts in the Technology Department identified critical areas within the structure by applying ABS' proprietary Dynamic Loading Analysis and Large Amplitude Motion Program (LAMP) in addition to standard finite element modeling to more accurately identify high stress areas within the hull of this specialized ship type. ABS has been able to offer containership owners and designers a more accurate prediction of the motions and structural behavior of these ships using the non-linear hydrodynamic sea-based approach.



The DLA software was also refined in 2005 to provide a more standardized and systematic approach to the analysis of the structural adequacy of bulk carrier designs that exceed the largest such vessels currently in service.

Ice research and cold weather operations studies undertaken in 2005 that were on-going at year's end will further advance the understanding of the many issues impacting the operation of vessels in harsh Arctic environments. As the society that classed the first commercial vessel to ever successfully navigate the Northwest Passage more than 35 years ago, ABS has a long and storied history in the application of classification standards to ice class vessels. With growing interest in the development of gas fields in the Arctic regions, ABS is focusing a great deal of research on the issues that may impact a new generation of ice class LNG carriers designed for these future trades.

Of particular interest to industry is the impact of ice on LNG membrane containment systems. ABS has embarked on a wide ranging series of studies related to this and other harsh environment structural and operational issues so that it can provide appropriate assistance to clients as they further develop these challenging projects. ABS worked with the world's leading ice experts as well as engaged in a joint project with Russia's Krylov Shipbuilding Institute on these studies in 2005 and will further develop these key strategic relationships in the coming year.

A prime example of an R&D project contributing to the broadening of class' role was the Incident Investigation software program that was released for industry evaluation in 2005. The program uses the marine root cause analysis technique to provide the most comprehensive, yet easily understood, approach available for ships' crews to identify and address systemic errors that can lead to engineering, navigational and operational mishaps aboard ship.

This leading edge work from ABS' Risk and Human Factors group dovetailed neatly with the enhanced requirements contained in the tanker safety management program that was introduced by OCIMF in the previous year.

Incidents are almost always the result of a combination of factors and circumstances. To assist industry, ABS developed a unique suite of tools to establish an effective system to identify root causes and the sequence of events leading to an incident. The materials included the *ABS Guidance Notes on the Investigation of Marine Incidents*, a toolkit containing guidance check-lists and forms to assist with the documentation of incident investigations, sample investigation programs, spreadsheet templates and software to automate the investigation process. The software captures data and places the information in a database to provide an owner with effective report generation.





To provide class guidance on vibration acceptability at a vessel's earliest design concept phase, ABS drafted a new *Guide for Ship Vibration* for industry review providing information to assist in the avoidance of excessive hull structure and machinery vibration that may adversely affect the safety and functionality of the vessels.

In addition to specialized technology projects, the team of ABS researchers also worked closely with survey staff throughout the year, providing technical consulting on numerous topics affecting current vessels in operation. Examples include the guidance provided to the survey department on approving steel renewals using the new Sandwich Plate System (SPS) that incorporates an elastomer core that eliminates the need for stiffeners between two steel plates; counsel on the appropriate technical response to twisted rudders; and the measurement of coatings breakdown.

Perhaps no one sector benefited more from the ABS Corporate Technology expertise than the energy sector. Clients exploring, producing and transporting oil and gas looked to ABS classification for technical guidance as the demand for energy pushed the boundaries of the exploration and production frontier. ABS' position as the leading society providing services to the offshore sector is based, in part, on the society's ability to advance sound technical solutions for projects and novel concepts that go beyond empirical experience.

The leadership role ABS has taken to advance LNG transport technology was further underscored in 2005 with the release of the *ABS Guide for Propulsion Systems for LNG Carriers*. It was the first such comprehensive set of standards issued by a classification society. Several different systems to the traditional gas powered steam turbines are now being specified for the new generations of very large LNG carriers for commercial and economic reasons.



The Guide provides comprehensive criteria for these alternative propulsion systems including dual fuel gas turbine/steam turbine combined cycle with electrical propulsion, dual fuel diesel electrical propulsion and slow speed diesel direct drive and for the associated reliquefaction equipment needed to handle the cargo boil off gas that was previously used as fuel. ABS hosted and participated in a number of hazard and risk identification studies together with owners, builders and equipment suppliers, as part of the development process for the new criteria.

Other related LNG development projects took place between ABS and major Korean shipyards including a low cycle fatigue study with Daewoo Shipbuilding & Marine Engineering Co., Ltd. (DSME) and a temperature distribution analysis with Samsung.

With growing industry demand for large LPG carriers, ABS undertook an evaluation of the class requirements applicable to this vessel type. A new draft *Guide for Building and Classing Liquefied Petroleum Gas Carriers with Type-A Independent Tanks* was developed for industry review and comment.

To further support offshore technology developments, ABS began a long term collaborative project with the Singapore government, universities and industry in the island Republic with the intent of establishing a new Singapore Offshore Technology Center under the leadership of ABS research specialists. The new center, which will be formally opened in early 2006, specifically recognizes the rapid growth in energy related projects in Southeast Asia and the world leading capabilities of the Singapore ship and rig building yards and is intended to broaden the pool of skilled technical people available in the region.

Other offshore related research undertaken by ABS in 2005 included issues such as jackup dynamic analysis methodology; spudcan and soil interaction with aging jackup assessments; global performance of floating structures; first principles fatigue and strength analysis of offshore installations as well as sea load assessments and composite applications to offshore installations.





## MARITIME AFFILIATES



In recent years, ABS has substantially expanded its non-classification activities, principally in the areas of risk consulting and ISO certification, through its affiliate, the ABS Group of Companies. A review of these activities can be found in the separately issued report of ABS Group. However, in recognition of the central importance to ABS of the international shipping and offshore industries, greater emphasis was placed on the activities of two affiliated companies, ABS Nautical Systems LLC and the Marine Casualty Response Center during 2005.

**ABS Nautical Systems** provides a fully integrated suite of fleet management modules to both shipping companies and offshore rig operators. In 2005 the latest version of the management software suite, NS-5, brought a marked upturn in activity for the company. It attracted a steady stream of new orders, particularly from US and Asia-based operators, and also brought requests for assistance with data migration to the new system from existing users. Nautical Systems continued to expand its staffing to handle this increased activity and also inaugurated a new customer training center at its Houston headquarters to further improve client service.

As a result the Nautical Systems customer base of companies and shipboard installations (including ships classed with many different societies) grew significantly to new record levels by year's end. Of particular note was the contract won from the US Maritime Administration for the installation of NS-5 across the entire fleet of 52 MARAD controlled ships, 4 MARAD offices and 9 shipmanagement centers.

Offshore operators' interest in the Nautical Systems product line also grew in 2005 with new clients such as Songa and Cal Dive International signing on. The joint project with drilling contractor GlobalSantaFe (GSF) to develop and implement a sophisticated rig maintenance module continued. The program enables offshore operators to monitor the structural condition of the units within their fleet and to implement a targeted and cost-effective maintenance and repair program.

**ABS Marine Casualty Response Center (MCRC)** provides 24/7 Rapid Response Damage Assessment (RRDA) emergency support services to both the marine and offshore industries. Vessels enrolled in the program are classed with many different societies. The center is staffed by experienced personnel with naval architectural skills and on-board ship operations experience, supported by advanced communications and computer systems.

By end-2005 MCRC had enrolled 858 active vessels in the RRDA program as shipowners sought to comply with increasingly stringent national and international standards introduced to further protect coastal states against ship-related damage to the environment.

Fortunately the number of incidents to which the Center was requested to respond in 2005 was statistically small at just 7 interventions but it did include providing assistance to a fully loaded LPG carrier in the center of a force 12 typhoon and to a chemical carrier involved in a collision off Shanghai.





## C L A S S   A C T I V I T Y

Vigorous ordering of new ships continued throughout 2005 boosting the ABS orderbook to a new all time record of 1,351 vessels aggregating 21.9m gross tons. Deliveries of ships to ABS class, while remaining well above historical averages, declined slightly year-on-year but were sufficient to drive up the total ABS-classed fleet to a new record of 120.9m gt, allowing ABS to comfortably retain its position as the third largest society based on tonnage under class.

Overall tonnage figures did not tell the full story, however. There was very active ordering of smaller product and chemical carriers and of handymax bulk carriers during the year, significantly boosting the number of ships on order. By the close of the year ABS held requests for class for 267 tankers, a figure that equates to nearly 30 percent of the existing ABS classed tanker fleet.

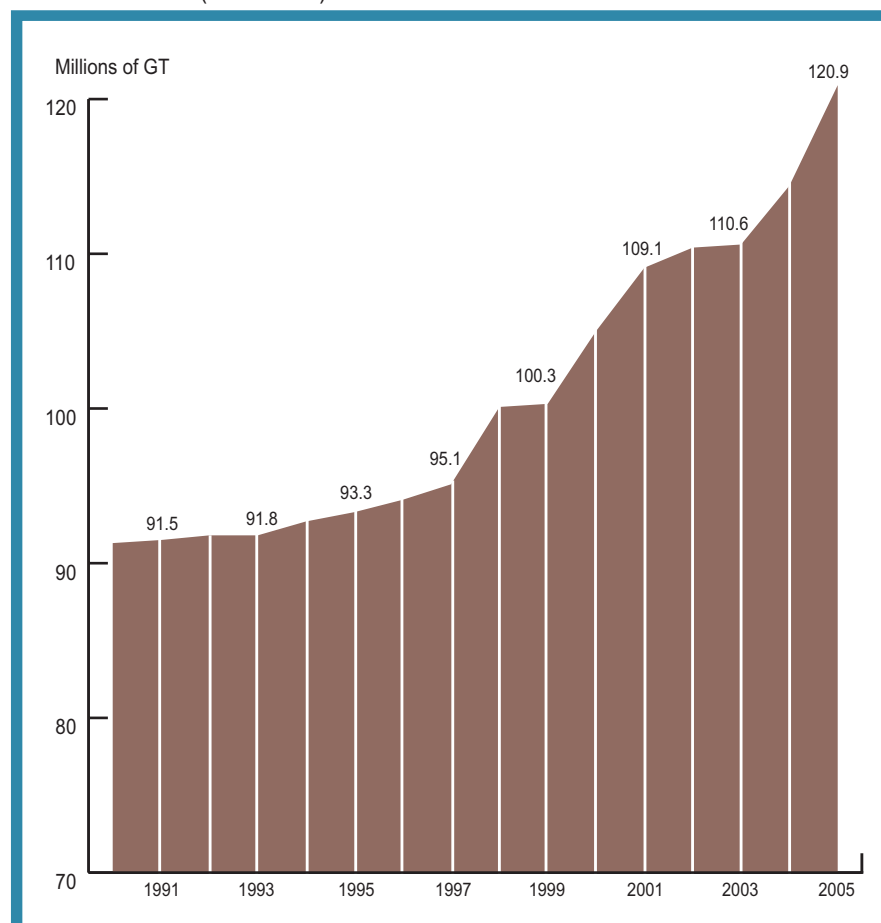
Although tanker contracts continued to provide the mainstay of the ABS ship orderbook, the bulk carrier sector showed an encouraging degree of strength with the ABS new construction share outperforming our existing market share yet again. This success could be attributed to particular strength in the capesize sector, with orders at Chinese shipyards predominant, and in the handysize sector where a remarkable 28 percent of all handysizes on order at year-end were to ABS specifications.

The containership sector remained distorted due to German fiscal policies but long-standing ABS clients in Asia helped maintain some resiliency for ABS, particularly in the post-Panamax sector.

Oil and gas exploration in both deep and shallow waters worldwide remained at a remarkably high level throughout the year, prompting the most active ordering for mobile offshore drilling units (principally jackups but also including semi-submersibles and drillships) recorded in more than a decade. The overwhelming majority of these contracts specified ABS class.

At year-end the ABS fleet and orderbook had never been higher. As charter markets soften, increases in scrapping can be expected that may slow future fleet growth despite the strong orderbook. Overall, forward projections remain strongly positive.

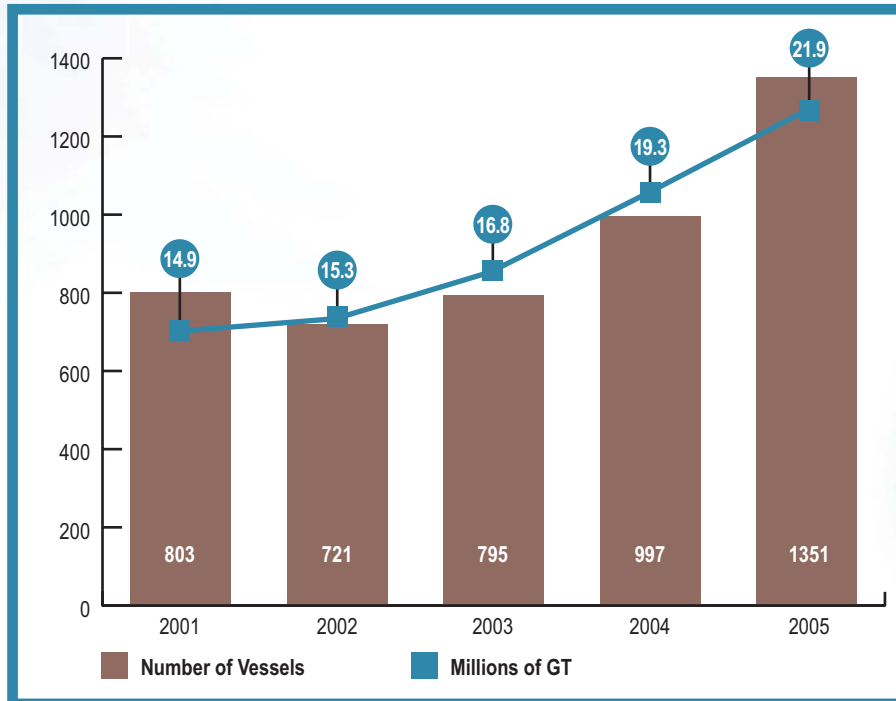
ABS FLEET SIZE (1990-2005)



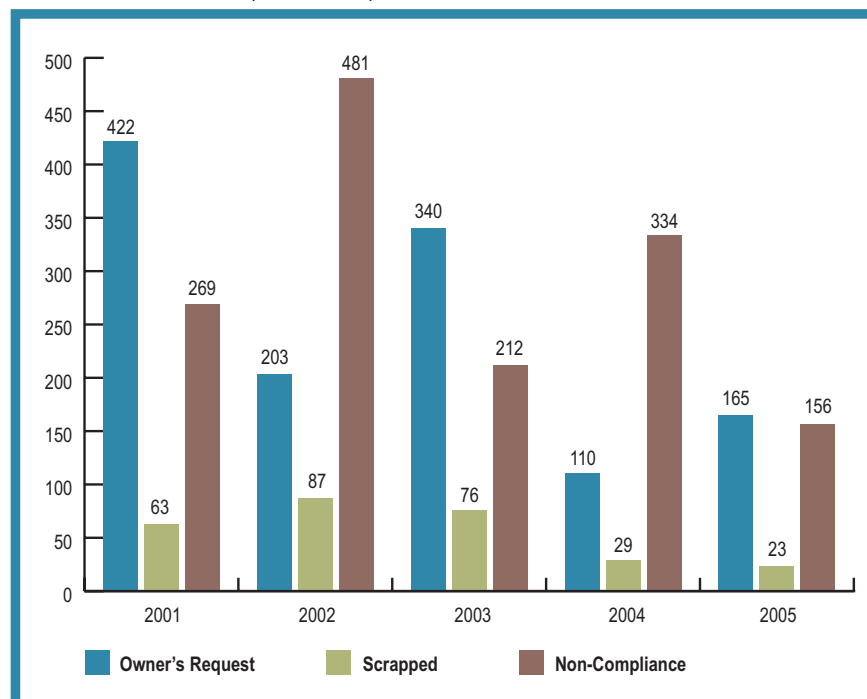


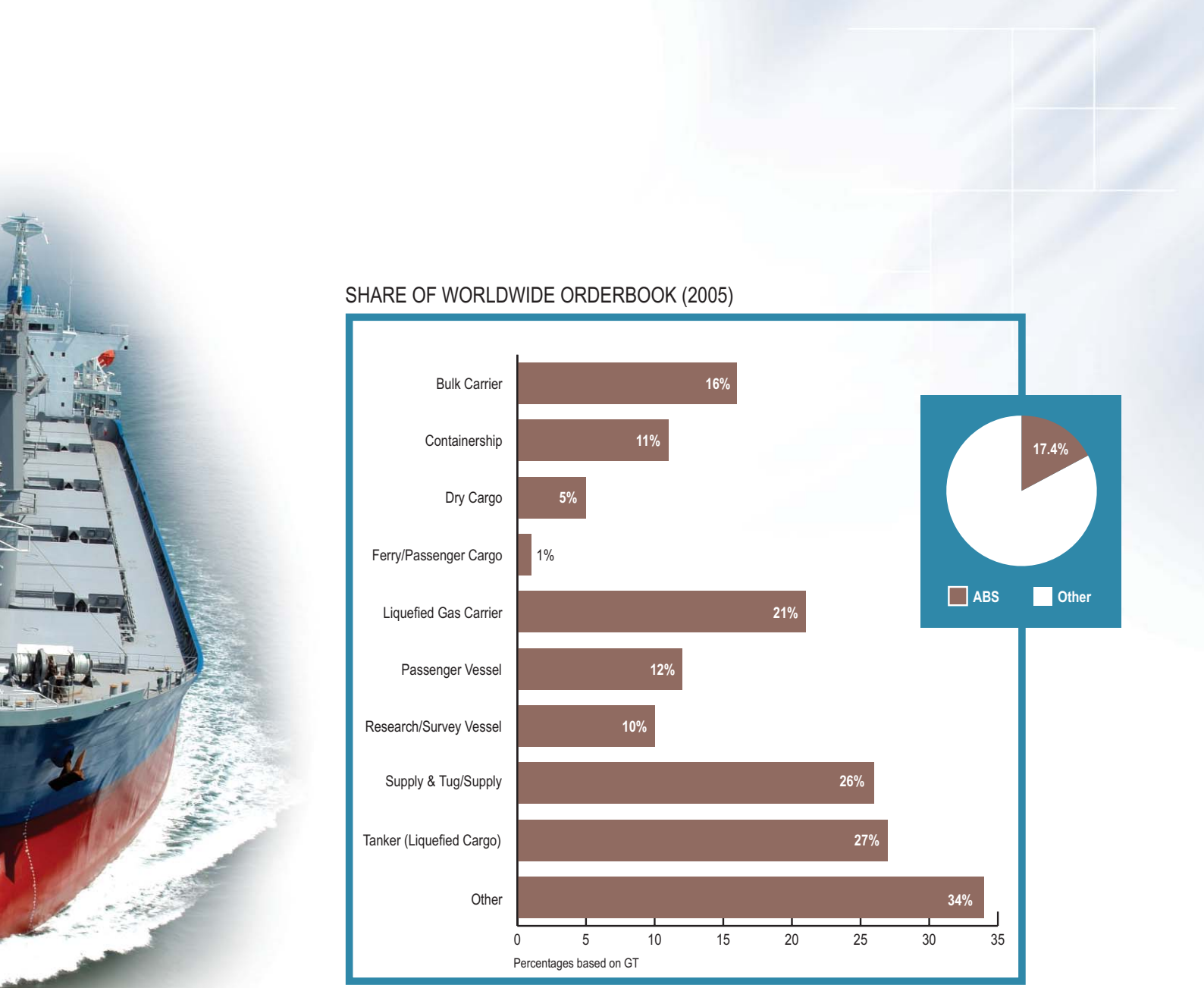
# ABS FLEET 2005

VESSELS ON ORDER (2001-2005)

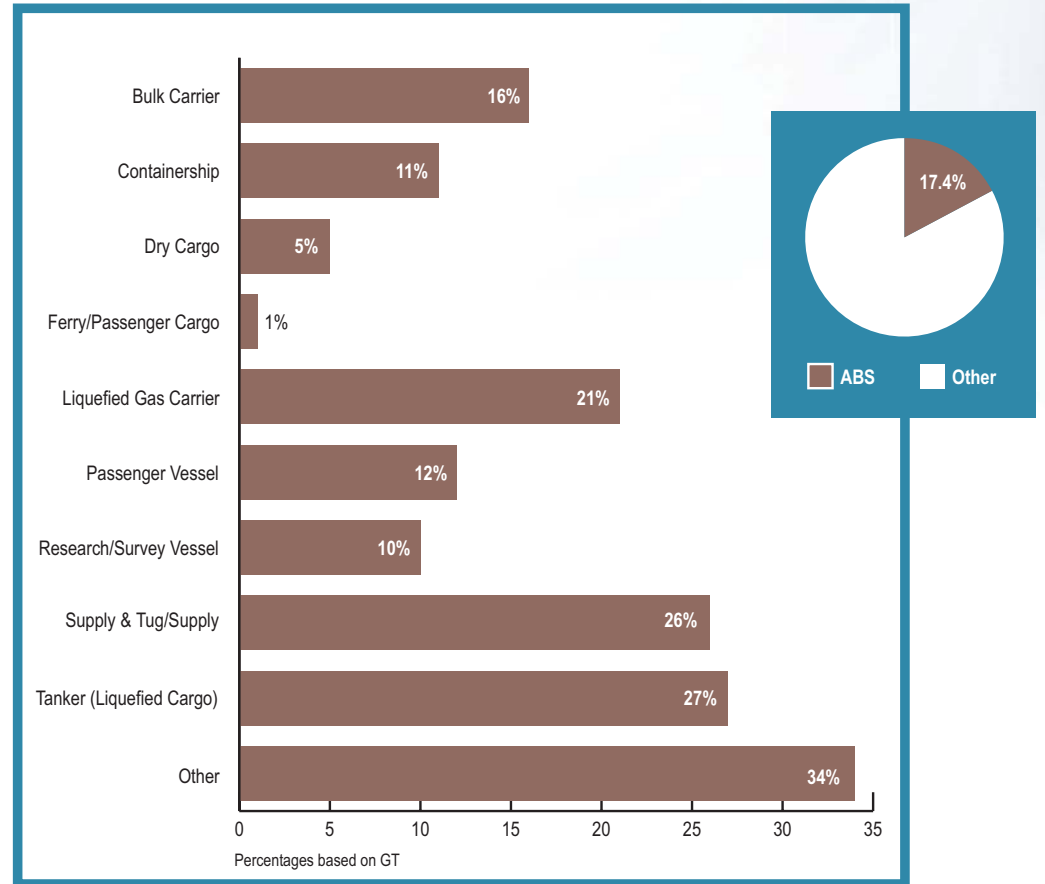


VESSELS REMOVED (2001-2005)

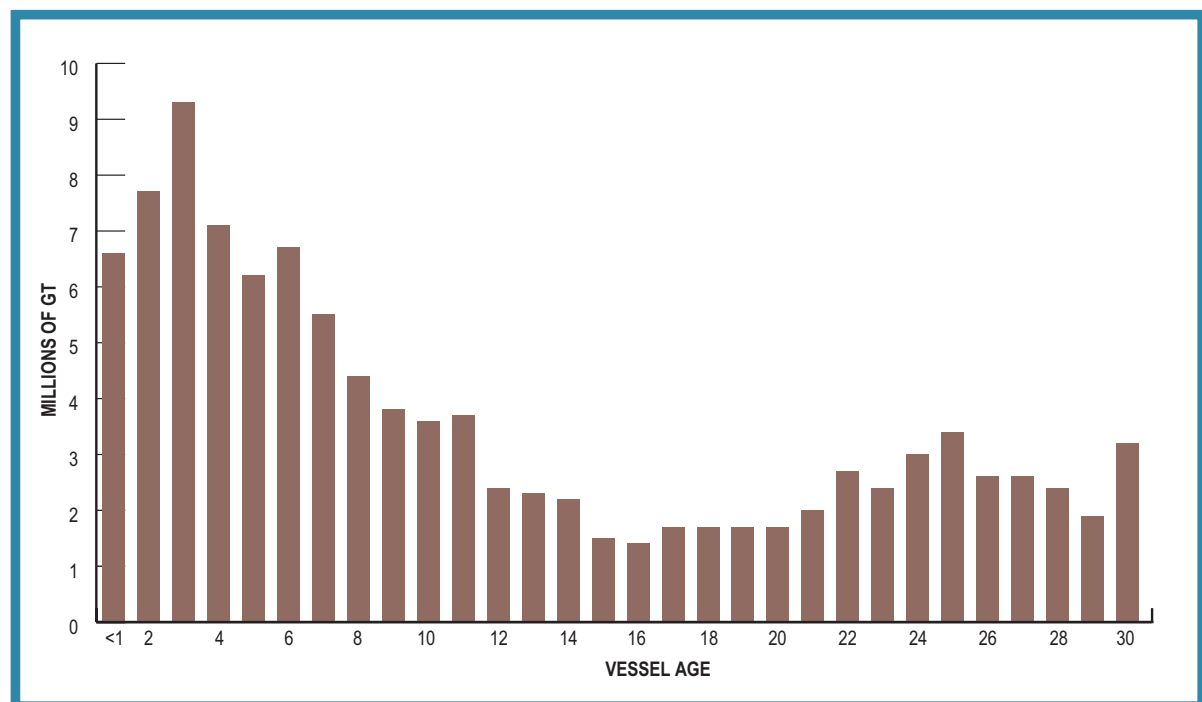




## SHARE OF WORLDWIDE ORDERBOOK (2005)



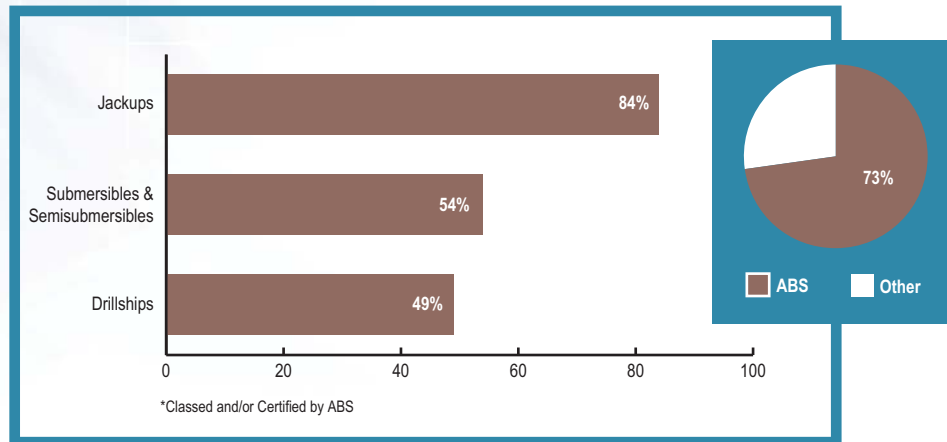
## EXISTING FLEET AGE PROFILE



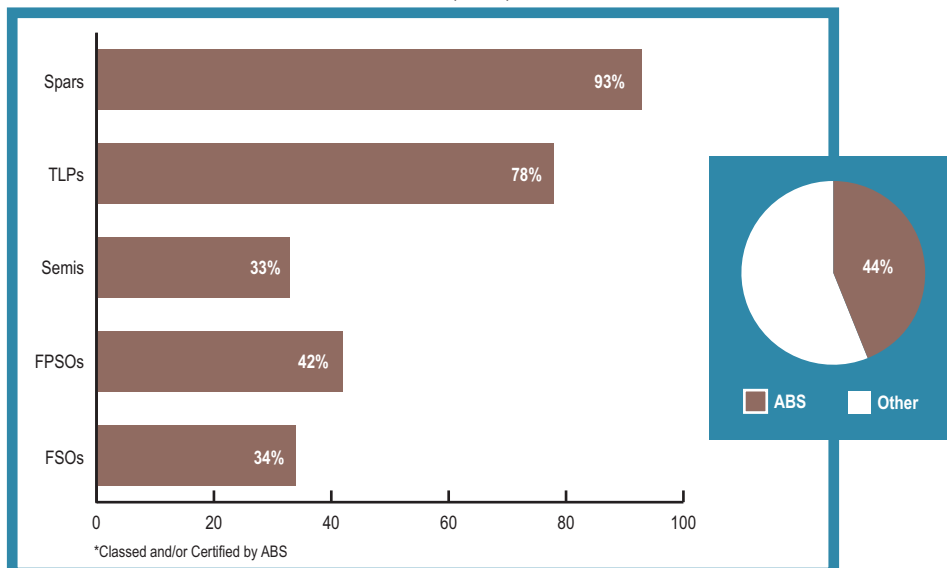


# OFFSHORE FLEET 2005

OFFSHORE EXPLORATION UNITS\* SHARE (2005)



OFFSHORE PRODUCTION UNITS\* SHARE (2005)



# CLASS ACTIVITY SUMMARY

	Vessels in Class 31 Dec 2005		Vessels on Order 31 Dec 2005		New Vessels Classed in 2005	
VESSEL TYPE	NO.	GROSS TONS	NO.	GROSS TONS	NO.	GROSS TONS
Barge	1,971	4,660,880	212	472,959	119	317,726
Barge Carrier	11	365,026	3	10,795	0	0
Barge Type Unit	38	150,231	2	0	0	0
Bulk Carrier	662	22,100,458	99	4,572,520	22	1,017,285
Bulk Liquid Carrier	13	63,617	1	3,000	0	0
Chemical Carrier	176	3,779,090	98	1,091,501	32	839,557
Column Stabilized Unit	145	2,122,868	6	0	2	30,718
Container Carrier	439	16,648,950	102	3,908,468	12	511,815
Dredge	24	95,814	1	9,600	1	1,057
Drillship	21	517,345	0	0	0	0
Ferry	88	948,652	15	12,760	5	11,856
Fishing Vessel	22	42,434	4	1,303	0	0
Fixed Platform	143	35,313	27	16	1	0
Floating Dry Dock	18	127,500	1	3,808	0	0
FPSO/FSO	62	5,951,889	2	311,980	1	111,246
Liquefied Gas Carrier	70	3,253,282	20	1,462,684	1	95,824
General Cargo Carrier	342	2,948,504	14	153,415	0	0
Heavy Lift Ship	4	63,304	1	7,500	0	0
High Speed Craft	164	45,856	66	14,921	0	0
Independent Tank Barge	7	27,749	0	0	0	0
Liquefied Gas Tank Barge	5	2,053	1	1,000	0	0
Offshore Racing Yacht	4	174	0	0	0	0
Offshore Supply Vessel	978	943,288	34	53,211	56	113,577
Offshore Support Vessel	158	256,377	66	108,040	5	6,484
Oil Carrier	773	43,025,086	168	9,120,412	43	3,085,997
Oil or Bulk/Ore (OBO) Carrier	3	81,990	0	0	0	0
Ore Carrier	7	113,595	0	0	0	0
Passenger Vessel	49	571,697	37	284,909	3	83,759
Refrigerated Cargo Carrier	25	271,967	0	0	0	0
Self Elevating Unit	371	2,054,997	25	11,343	3	19,386
Ship Type Unit (excl. FPSO/FSO)	17	1,321,178	2	20,718	4	132,779
Single Point Mooring	42	569	12	0	1	0
Spar	12	54,375	1	0	3	0
Special Purpose Vessel	519	900,497	15	26,641	32	16,097
Subsea Pipeline	9	0	2	0	0	0
Swath Vessel	8	24,972	0	0	0	0
Tank Barge	443	2,199,106	42	137,151	24	107,298
Tension Leg Platform	9	6,480	0	0	2	0
Towboat	3	586	4	5,037	0	0
Tug	1,074	615,467	133	62,180	34	14,336
Underwater System	47	793	5	10,515	0	0
Vehicle Carrier	113	4,389,516	3	16,365	0	0
Yacht	414	122,307	127	25,312	20	7,259
<b>TOTALS</b>	<b>9,503</b>	<b>120,905,832</b>	<b>1,351</b>	<b>21,920,064</b>	<b>426</b>	<b>6,524,056</b>



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