





## 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.



## Mission

To be the leading independent company worldwide applying engineering, science and technology to assist our clients to manage risk, improve the safety, enhance the quality and minimize the environmental impact of their facilities and activities.

## Quality Policy

It is the policy of ABS Group to provide quality services in support of our mission and to be responsive to the individual and collective needs of our clients, as well as those of the public at large. 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 ongoing activity and to strive for continuous improvement.

# ABS

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# Chairman's Message

At ABS, Our Entire Focus is on Protecting Life, Property and the Environment

**2001**

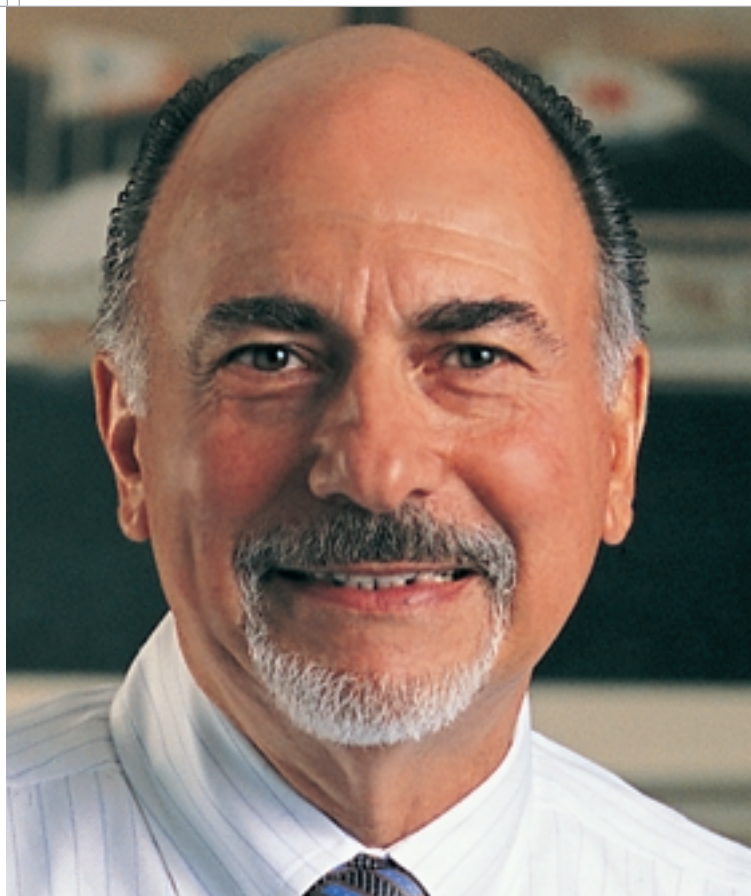
was a year of tragedy, challenge and opportunity. It was a year we will long remember. It was a year that refocused our attention on our 140-year-old mission of protecting life, whether afloat or ashore.

Our engineers, surveyors and consultants apply their knowledge, skill and professional judgment in this pursuit. Whether the object is the design, construction and maintenance of safer ships; the design of buildings able to withstand the devastating power of earthquakes and hurricanes; or the development of risk-mitigation strategies for a nuclear power plant or petrochemical complex; the task is the same. We are dedicated to creating a safer place for all those who live and work in those environments.

On occasion, the demands of the job expose our staff members to a degree of danger – enclosed spaces on ships, hazardous areas within heavy industrial plants, amid the rubble of an earthquake that still trembles the ground under their feet.

We do not expect those hazards to burst into the calm of our executive offices. Yet that is what happened on the morning of September 11 in New York when the aircraft that hit Tower One of the World Trade Center pierced the building immediately above the ABS office on the 91st floor.

Our concern for the ABS family members in the Trade Center grew as the minutes and hours ticked away.



**FRANK J. IAROSSI**

ABS CHAIRMAN & CHIEF EXECUTIVE OFFICER

It was with unimaginable relief that we finally heard they had all made it to safety. We shuddered at the memory of the eight years many of us spent on the 106th floor of Tower Two. We are humbly grateful.

It was a chilling reminder of both the fragility of life and the strength of human resilience.

It highlighted the risks inherent in our operations and existence. It encouraged us to rededicate ourselves to our mission of protecting life, improving safety, safeguarding the environment, enhancing quality and supporting the business continuity of our clients. It gave added meaning to our efforts to assist our clients in the effective identification and management of the risks associated with their operations, as extreme as they may be.

2001 is the first year that we were able to demonstrate our comprehensive capabilities across such a broad spectrum of responsibilities for both our traditional

marine clients and those from every sector of business and industry around the globe.

It is the year that marked the effective melding of our risk management skills into a market leading force under the banner of ABS Consulting, a newly-created subsidiary of the ABS Group of Companies. By year's end ABS Consulting was ranked as the largest US-based provider of operational and natural hazard risk management services.

The events of September 11, as tragic as they were, also created new demands for those skills as government and business sought to better assess the risks of terrorist actions and to identify effective, practical steps that could be implemented to further protect lives, facilities and our nation's infrastructure.

Within the marine environment we were also constantly reminded of the burden of our responsibilities as the consequences of a small number of high profile casualties kept maritime safety issues at the forefront of legislative activity, particularly in Europe. As has happened so many times in the past, the net of blame was cast wide by those most deeply affected. Inevitably the legitimacy of the classification profession was called into question. There has been a growing expectation by regulators and the media that class is, or should be, the industry's policeman with powers that far exceed its actual authority and responsibilities.

2001 is the year in which the responsible classification societies, with ABS in the vanguard, vigorously fought back against such allegations in an effort to reinforce classification's position as the mechanism by which the marine industry is able to regulate itself. By year's end a very wide range of initiatives had been successfully undertaken by ABS to further strengthen classification standards and maritime safety.

Amidst the tragedy, challenges and opportunities, 2001 proved to be one of the most successful years in the history of ABS, for both the Bureau and ABS Group. Once again our employees rose to the occasion as has become their trademark.

The coming years will continue to be challenging, dynamic and exciting for all of ABS. We are an immeasurably stronger organization than in the past. Through a policy of very focused diversification we are able to offer our clients an unparalleled range of safety, quality, environmental and risk management services. The demands that are being placed upon us by society, by governments and by our clients have never been higher.

Our ability to respond has never been greater.



Frank J. Marossi  
ABS Chairman & Chief Executive Officer

**P**rotecting life is an awesome responsibility. Yet no other description more clearly captures the essence of everything that we do at ABS. Our people, throughout our organization, are dedicated to something far more important than commercial business success. Whether it is on land or sea, our goal is constant: protecting life.

ABS Consulting structural engineers design buildings to withstand hurricanes. Its risk management experts help our clients develop safer processes, and train their staff to better implement them. ABS technical experts establish and validate conformance with industry standards for the safe design, construction and operational maintenance of ships and offshore rigs, able to withstand the elements and protect their crews.

From assessing and mitigating the risks associated with a terrorist attack to evaluating the structural fitness of an aging super tanker, ABS and its employees remain focused on protecting life as their guiding principle.

## Public Accountability

Classification and Port State Control are two key links in the maritime safety chain. There is no better, nor more public, assessment of the Bureau's efforts to protect lives than the annual statistics issued by the world's Port State Control authorities. These statistics are a core element in our internal tracking of our surveyors' performance. They also form a critical part of the matrix used to help ABS identify vessels within our classed fleet that may not be properly maintained. It is the goal of ABS to have zero detentions of ABS-classed vessels for class-related deficiencies. Although we have reached this target within specific jurisdictions, we will not rest until we have achieved and are able to maintain this target worldwide.



## A Commitment to Training

The more than 600 ABS field surveyors are our front line troops as the Bureau strives to create a safe environment for the thousands of seafarers who crew ABS-classed ships. Judgment and experience, attributes developed on the job, are key aspects of the ABS surveyor's professional character. But those attributes must be applied in a constantly changing technical and regulatory environment. There is a steady flow of new international standards, formulated at the IMO. And the *ABS Rules for the Survey of Vessels After Construction* are constantly updated to reflect operational experience. This means that every surveyor must return to the classroom at frequent intervals. Only through a commitment to continuous training can we ensure they are adequately equipped for the responsibilities placed upon them.



## Defying Terrorism



International terrorism has become a sad and sobering reality of modern life. Governments and business must now identify and assess the potential threats that our cities and industry face within this changed environment. Skilled teams of risk management experts from ABS Consulting have been called upon to assist in this battle. They have developed sophisticated software to predict the spread of chemical agents. They have undertaken detailed engineering analysis of the consequences of an aircraft impacting a nuclear facility. They have unparalleled experience in risk assessment and mitigation that is being applied to the formulation of a comprehensive package of anti-terrorist services that can assist in making this new world a safer place to live.



## Protecting the Public



Every catastrophe offers up lessons for the future. One of the consequences of the devastation wrought upon the New York World Trade Center in September will be stronger, safer high rise buildings. They will be better able to withstand the type of catastrophic impact to which the Twin Towers were subject, and better able to protect the lives of those living and working within them. Senior members of the Structural Engineering Division of ABS Consulting were invited to serve on the panel that has investigated the structural collapse of the Towers. Their investigative work will provide critical information for the establishment of new industry standards. And their unique experience will translate into more-informed technical services that we are able to offer to our clients for strengthening existing buildings and designing safer buildings in the future.

## A Role in International Defense

As the world's most powerful nation, the United States armed forces carry a wider responsibility than protecting their own borders. That protective umbrella extends across the oceans of the world to all corners of the globe. ABS has a small but vital role in the development and maintenance of a fleet of naval vessels charged with supporting the military wherever it may be deployed. A series of large, highly sophisticated, roll-on roll-off troop support vessels have been developed to *ABS Rules* and have taken up station at critical points around the world. New Rules for a much wider range of naval vessels, from high speed support craft to combatants, are being developed in close cooperation with the armed forces. We have a mutual goal – to create and maintain the most advanced fleet of tough, flexible and dependable naval vessels possible to secure the peace.



## Limiting Blast Damage



Shards of flying glass and tumbling debris can wreak devastation following an uncontrolled blast. ABS Consulting's blast experts have supplemented their explosion modeling capabilities with the development of a cost efficient method to test for and reduce the hazard from glass and structural debris. Working with the United States Army Corps of Engineers, ABS Consulting has applied this new technology to test the blast resistance of buildings, providing a rational method for the development of responses that can protect assets and life.

## Greater Scrutiny of Aging Vessels

Casualty statistics clearly show that older vessels are at greater risk. The safety of the thousands of seafarers who man these ships depends upon each vessel remaining structurally sound. As one of the leading classification societies, ABS plays a critical role in assessing the condition of these aging vessels. In 2001, new survey requirements were adopted that extend and reinforce the Enhanced Survey Program that applies to bulk carriers, tankers and chemical containers. Tighter monitoring of hull thickness measurements, tougher Intermediate Surveys and the assigning of two surveyors to specified vessels of 15 years of age and older will mean closer scrutiny and increased safety.



**S**afety should never be taken for granted. It never is at ABS. For the last 140 years, safety has been a core element of the marine classification services offered to the world's shipowners by ABS.

More recently the organization has extended that commitment to safety to a wide range of land-based activities, from nuclear power generation to the shop floor. Our worldwide team of risk management and process safety experts work with our skilled engineers, surveyors and auditors to assist our clients in providing safe working environments that minimize the risks associated with their operations.

At ABS we are intolerant of safety short-falls. We are dedicated to the development, introduction and application of safer standards and practices.

## Developing Brasil's Oil and Gas Safety Regulatory Model

Brasil's Agencia Nacional do Petroleo (ANP) selected ABS Consulting to develop the country's *Operational Safety Regulation for Exploration, Production and Downstream Operations* citing the organization's experience, and the competence of key staff as the differentiating factors in making the selection. The contracts called for the development of a comprehensive regulatory model to address all aspects of operational safety throughout field life for Brasil's offshore exploration, production and downstream activities. The downstream contract also covered development of a model for onshore pipelines and terminals facilities. The ABS affiliate's extensive experience in the regulatory arena, and its global expertise with floating production units and onshore facilities, made it uniquely suited to frame Brasil's new safety regulations.



## Managing Nuclear Risks

Nowhere is safety of greater importance than in the construction and operation of nuclear facilities. ABS Consulting has conducted a comprehensive range of risk assessment and risk management programs for the nuclear industry in the US and around the world. Recent projects included the application of probabilistic methods to determine the seismic vulnerability of the firewalls separating redundant safety systems at a large Scandinavian nuclear power plant; and an accident sequence precursor analysis of operational events for commercial nuclear power plants in the US, including the estimation of the conditional probability of core damage. ABS Consulting's highly-skilled risk professionals have helped the nuclear industry satisfy regulatory requirements and develop industry guidelines that adhere to the highest safety standards.



## Safeguarding a Nation's Coastline

The United States Coast Guard is never off-duty. Its motto is *Semper Paratus, Always Ready*. Its activities extend from saving lives to protecting property and enhancing the flow of commerce. New technologies have enabled the agency to achieve gains in its productivity and enhance its mission performance. The ABS organization has played a small, yet vital, role in helping it achieve these improvements. ABS acts as a recognized organization for a variety of statutory inspections, including the Alternate Compliance Program. And ABS Consulting has developed an integrated risk management and decision making process that enhances the agency's ability to maintain a high level of protection with limited resources.



## Maintaining Safer Ships

Practical application of the most advanced information technology has resulted in the release of ABS SafeShip to the marine industry. Developed as a total safety concept, ABS SafeShip replaces the voluminous paper files of the past with a single, fully integrated electronic life-cycle approach to the design, construction and operational maintenance of the latest generation of tankers, bulk carriers and container-ships. Bringing together the power of ABS SafeHull, the most advanced method for evaluating ship designs, and extending the power of ABS SafeNet to cover the life-cycle maintenance of the vessel's hull, ABS SafeShip introduces a rational approach to efficient, cost effective operational decision making.

# Safeguarding the Environment

**I**t has been said that we never truly own the land. We are merely temporary guardians, protecting it for future generations. ABS serves this public interest through a comprehensive portfolio of environmentally related programs, developed to help our clients manage the delicate balance between human progress and protection of the environment.

Our management system consultants provide guidance for organizations wanting to incorporate the positive benefits of an ISO 14000 environmental management system into their operations. Our marine experts have developed new environmental standards and notations through which our shipowning clients can demonstrate their commitment to operating in an environmentally sensitive manner.

And our global team of experienced engineers stand ready with computer aided design tools and sophisticated modeling to provide rapid response solutions should a system or structural failure threaten the air, the land or the oceans of the world.





## Designing for Energy Efficiency



Energy conservation was a primary performance standard established by California's San Luis Obispo County for its Administration Office Building. Thinking beyond conventional HVAC design methods, ABS Consulting's structural engineers developed a unique solution to the challenge by using the thermal mass of the concrete structure to assist in regulating the building's temperature. The novel approach greatly reduced the HVAC and electrical demands thus satisfying the county's desire to show its support for environmental concerns by having one of the most energy efficient facilities in the region.



## Protecting Mexico's Air and Water

The largest environmental management contract ever awarded by a Mexican company was placed with an ABS Consulting affiliate by the state-owned oil company PEMEX (Petroleos Mexicanos). The contract called for the preparation, implementation and certification of an ISO 14001 Environmental Management System that covers all PEMEX onshore and offshore drilling units within the country. The scope of the project included assessments of water, soil, sound and air quality testing for compliance with applicable local and international requirements.

## Shipboard Environmental Safety



Public intolerance of marine-related pollution is spreading. It is no longer limited to oil fouling extensive stretches of coastline following a major casualty but includes antipathy to the debris washed up on pristine beaches and to the fumes pumped into the atmosphere by the ships plying a nation's coasts and entering its ports. Responsible owners have been given a means of demonstrating their adherence to the highest standards of environmental responsibility with the development of the ABS class notation ES for Environmental Safety. The notation is reflective of the environmentally-safe design, construction and operation of an ABS-classed vessel or marine structure. To receive the notation, the vessel must meet a comprehensive suite of regulations addressing issues as divergent as shipboard incinerators, sewage pollution prevention, emissions and ballast water management.

**A**ll activity, even the most mundane, carries an element of risk. Within the business environment the identification, analysis and mitigation of risk are fast becoming essential elements if an organization is to develop a rational strategy, designed to protect its assets and ensure business continuity.

These same factors also form the basis of modern safety standards, whether for future classification Rules for the marine industry, or safety management systems applicable to any business activity.

Whether establishing risk-based criteria for the inspection and maintenance of the most modern floating production, storage and offloading vessels, developing business continuity strategies, or assessing the risks associated with NASA's space program, the professionals at ABS and ABS Consulting are dedicated to helping their clients develop practical and effective risk management solutions.

## Catastrophe Management

Wind, floods and earthquakes can decimate towns, cities or entire regions and lead to ruinous claims for underwriters that have not properly assessed their exposure to these hazards. ABS Consulting's EQECAT division, already a leader in the provision of catastrophe modeling software to the insurance and financial industries, set out to build a new generation of models, optimized to today's computing environment. The result, WORLDCAT enterprise™ has set a new standard that uses high resolution stochastic event sets to provide a unique level of risk clarity for the most demanding policy underwriting. The model has the ability to analyze multiple perils and quantify risk for multiple countries in one analysis run, providing underwriters with real time information about risk volatility and with loss damage estimates that has been derived from billions of dollars of claims data.



## Champions for Risk Management



When Conoco considered unifying the various risk management activities that had been adopted throughout the organization, ABS Consulting prepared an online survey of the company's risk practitioners to clarify their approach to risk management and gain their perceptions of a corporate Enterprise Risk Management (ERM) program. The resulting report formed the basis for the proposed development of an ERM vision and corporate work plan that would guide implementation and champion the risk management function throughout the organization.



## Assessing Plant Risk

Disruption of production for a consumer products manufacturer can have serious financial consequences. With over 400 facilities in 95 different countries, many of them subject to natural hazards such as earthquakes, Colgate-Palmolive has a significant exposure to risk. ABS Consulting's risk assessment and structural engineering experts are helping the company to assess, rank and mitigate

the structural and seismic risks to each of those facilities. Both nonstructural and structural upgrade designs have been recommended and implemented as a consequence.

## A Rational Approach to Ship Design

The marine and offshore industries are seeking to reduce operational risk through the introduction of more focused safety standards. ABS pioneered this approach to ship design with the development of ABS SafeHull, a dynamic-based evaluation system which provides the first rational application of classification requirements to the evaluation of new designs. SafeHull also provides a rational method for the assessment of the remaining fatigue life of an existing vessel's structure. It is only through the use of scientific, rather than prescriptive criteria, that an accurate assessment of the cumulative effects of corrosion and fatigue can be made, providing a solid decision making platform that considers the risk to which a vessel's structure will be subject over its service life.



**Q**uality is part of everything we do at ABS. The commitment starts at the highest level of management and permeates all our actions, from finding ways to continuously improve our own processes to assisting our clients improve the quality of their products and services.

These beliefs are embedded in the internationally recognized ISO standards. We live up to those standards within ABS and we assist our clients to understand them and to implement sensible ISO-compliant quality management systems that challenge them to improve their operations.

We offer these services to industries and organizations of every type, from school districts to manufacturing plants, from small businesses to internationally trading ships that must meet the International Safety Management (ISM) Code's quality standards. Our clients look to us to assist them in developing a quality culture that will enhance their activities and improve their business performance.



Adopting a Quality Culture

SUPLEMENTO COMERCIAL EL NOROCCIDENTE

# Empresas y Negocios

EN EXPANSIÓN

Campaña Visa / 2  
Empresas y Servicios / 12

## Obtiene Tuberías Visa certificado ISO 9000-2000

**Sección F**  
Lunes 20 de Noviembre de 2001  
Número 100000  
Circulación: 400,000 ejemplares/mes  
Contacto de ventas:  
Tel: 52-562-2247 / 2248 / 2249





**Gracias a lo más exitoso que tenemos: nuestro personal, y al buen equipo de trabajo que formamos, se ha logrado uno de nuestros objetivos principales para satisfacer las necesidades y requerimientos de nuestros clientes: la certificación ISO 9000-2000.**

**Luis Javier Soto**  
Gerente General de Tuberías Visa



**Mario A. Rodriguez**  
Gerente de Operaciones y Director del Sistema de Calidad ISO 9000-2000



**Gracias a esta certificación, Tuberías Visa ofrece la confianza y seguridad de que sus servicios y producción cumplen con las normas y estándares de calidad que se requieren para mantener la competitividad de las empresas.**

**El 23 de noviembre se realizó en la oficina del certificador ABS Quality Evaluations, en Tuberías Visa, el acto de entrega de la certificación ISO 9000-2000 a Tuberías Visa. El acto estuvo encabezado por el gerente general de Tuberías Visa, Luis Javier Soto, y el director general de ABS, Subalterio Fariñas. También asistieron el gerente general, Gerardo Rodríguez, y el gerente de Operaciones, Mario A. Rodríguez. El acto estuvo encabezado por el gerente general de Tuberías Visa, Luis Javier Soto, y el director general de ABS, Subalterio Fariñas. También asistieron el gerente general, Gerardo Rodríguez, y el gerente de Operaciones, Mario A. Rodríguez. El acto estuvo encabezado por el gerente general de Tuberías Visa, Luis Javier Soto, y el director general de ABS, Subalterio Fariñas. También asistieron el gerente general, Gerardo Rodríguez, y el gerente de Operaciones, Mario A. Rodríguez.**

**Perfil y trayectoria de la empresa.**  
Tuberías Visa se dedica a la manufactura de tuberías, válvulas y componentes auxiliares y de instrumentación. Fundada el 23 de julio de 1984, actualmente cuenta con 400 empleados y oficinas en Monterrey y Toluca.

**Alcanza los mercados industriales de construcción, al brindar un servicio de calidad con normativas internacionales. Tuberías Visa, valvulería y componentes que se producen a sus oficinas, con la máxima calidad garantizada por medio de sistemas organizacionales y operativos documentados con sus procedimientos y fabricaciones.**

**Además, la empresa ofrece a sus clientes el servicio de entrega y distribución en toda la República Mexicana con apoyo de transporte propio o a través de firmas de logística conexas que son de confianza.**

**También cuenta con servicios de diseño e implementación de proyectos.**

**Tuberías Visa mantiene sistemas de normativas internacionales y procedimientos que cuentan con certificación ISO-9000. La garantía por cumplir lo que se le agrega a los productos de la empresa por un año es una muestra de confianza en los clientes, especialistas y con la máxima confiabilidad, calidad, y servicio después del cumplimiento de las normativas, contra defectos de manufactura y fabricación. La garantía por cumplir lo que se le agrega a los productos de calidad los productos a entregar a sus clientes, usuarios y distribuidores.**

**Principales productos que ofrece Tuberías Visa**

- Tuberías de acero dulce
- Tuberías de acero
- Tuberías de hierro fundido
- Tuberías de acero inoxidable y de aleación
- Tuberías de PVC
- Tuberías, accesorios de fierro galvanizado
- Tuberías de acero forjado
- Tuberías de acero forjado
- Tuberías de bronce
- Tuberías de tubo de material compuesto
- Tuberías de valvulería metal
- Tuberías con control remoto de mano y otros fluidos
- Tuberías de hierro
- Tuberías de aluminio

**“No me gustaría ser la primera empresa en recibir esta certificación ISO 9000 norma versión 2000”**

**Rafael E. Garcia**  
Gerente de Comercialización

**“Lo que empezó como un proyecto, se convirtió en una meta bien definida y hoy se cristaliza como un gran éxito. Además, la certificación es una gran responsabilidad que nos compromete a alcanzar lo mejor de un gran mundo visible en todos los mercados relacionados con nuestra actividad”**

**“En un mundo tan competitivo, es esencial que una empresa se certifique y que se acredite como un gran éxito. Además, la certificación es una gran responsabilidad que nos compromete a alcanzar lo mejor de un gran mundo visible en todos los mercados relacionados con nuestra actividad”**

**Tuberías Visa se ubica en: Los Angeles 3003 Ote., Fracc. Industrial Benito Juárez, Monterrey, N.L. Tel. 8126-7900 con 30 líneas. Fax 8311-5432. Correo electrónico: ventas1@t-visa.com.mx • ventas2@t-visa.com.mx • ventas3@t-visa.com.mx • visat@tvisol.net.mx Página en Internet: www.tuberiasvisa.com.mx**



**Personal de la empresa**



**El personal de gestión de calidad, con el apoyo de sus proveedores y distribuidores, representa un gran éxito en la respuesta para obtener la certificación ISO 9000-2000.**

**Principales mercados industriales de Tuberías Visa:**

- Alcantarillas
- Cimentación
- Construcción
- Hidráulica
- Instrumentación
- Minería
- Petróleo
- Refinerías
- Saneamiento
- Trazado
- Tuberías
- Tuberías de acero inoxidable
- Tuberías de bronce
- Tuberías de hierro
- Tuberías de PVC
- Tuberías de tubo de material compuesto
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- Tuberías de hierro
- Tuberías de aluminio



The globalization of trade demands the application of international standards for quality control. The increasingly rapid spread of the ISO 9000 management system standard provides manufacturers around the world with a simple, accepted method of demonstrating their commitment to quality. ABS Consulting provides guidance on how to implement an effective management system to companies embarking on the process of ISO compliance. And ABS Quality Evaluations Inc, a member of the ABS Group of Companies, is a leading international registrar, providing audit services and

ISO certification. Tuberías Visa, a pipe, valve and controls distributor, located in Monterrey, Mexico, is an example of the type of energetic, expanding organization, positioning itself within a wider market, that has turned to the ABS organization for assistance in achieving the latest, internationally-recognized standard of ISO 9001-2000.

## Applying Quality to Environmental Concerns

Within the ABS family of affiliates resides one of the world's leading global registrars, ABS Quality Evaluations, Inc. It provides certification to ISO quality and environmental management system standards. When world-wide marine construction company J.Ray McDermott wanted to strengthen its commitment to quality by gaining certification of its Morgan City, Louisiana, offshore platform fabrication facility to ISO 14001 environ-

mental standards, it called ABS QE. Since the yard stands within a residential neighborhood and fronts an environmentally sensitive bayou, the management system needed to address a very wide range of practices. The adopted procedures establish operational targets that minimize air, water and land pollution and specify the efficient utilization of resources available on site.



## Teaching Beyond Compliance



the central issues and take them a step beyond compliance to the adoption of a system-wide safety, quality and environment culture throughout their organization.

A commitment to help clients achieve excellence in the areas of safety, quality and the environment was the stimulus for the creation of the ISO 9001: *Transition Workbook*. Published by the Management Systems Division of ABS Consulting, it acts as a comprehensive guidance manual for organizations seeking to comply with internationally accepted quality standards. For clients unable to attend one of the ABS Consulting training courses, the manual can be supplemented by an extensive program of email and telephone support. This distance learning course will guide clients through all

## Improving the Quality of Life at Sea



The application of human factors engineering to the shipboard environment can make a substantial contribution to the comfort and safety of the crews aboard ships and offshore vessels. As a leader in the application of technology to the marine and offshore industries, ABS has developed the first Guidelines that address this critical element of operational performance. The standards set out in the Guides are aimed at enhancing human performance and, as a result, reducing the likelihood of human error. Improved quality and enhanced safety go hand in hand.

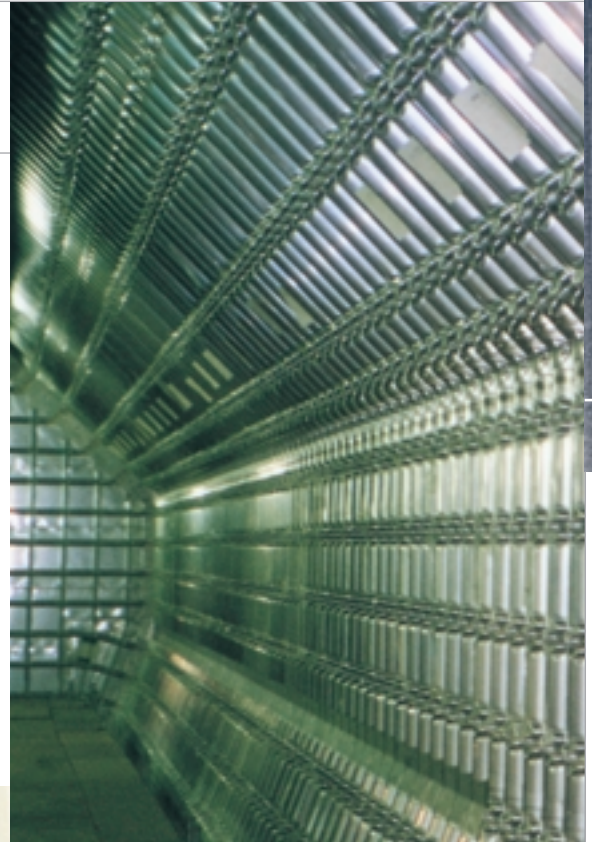
**E**ngineers are the bedrock upon which the world is built. Establishing sound, rational standards as a foundation, and then developing an innovative and creative framework that supports the growth of our society, is the job of the engineer.

ABS is an organization that is dedicated to engineering excellence. The more than one thousand skilled engineering professionals within the organization come from every conceivable engineering discipline, from marine engineers and naval architects to civil, structural, mechanical, chemical and electrical engineers among many others.

At ABS we look at things differently. By so doing we have developed an acknowledged technical leadership in the services and products we provide. We challenge ourselves to provide sound, pragmatic and effective business solutions to clients all around the world. It is our engineering expertise that underpins our efforts and shapes the results.

## Safer Ships for Carrying Gas

Liquefied natural gas (LNG) carriers have been in service for many years. Production and consumption requirements established a transportation pattern characterized by full loads on point to point voyages. Changes in these traditional patterns are expected to fundamentally alter the gas transportation market in the coming years with spot charters and partial loads predicted to become commonplace. Adapting the unique power of the ABS SafeHull dynamic-based design evaluation system to the consideration of LNG carriers, ABS approved the first design of a membrane LNG carrier for partial loading. The power of ABS SafeHull also allowed ABS engineers to assess and approve the design for a 40-year fatigue life, offering cost savings and life cycle efficiencies to the owner.



## Solving Structural Vibration



Converting the 1996 Olympic Games natatorium into a multipurpose gymnasium posed a series of unusual engineering design challenges. At their core was determining how to reduce vibration in the very large unsupported floor of the new gym, constructed over the existing swimming pools. ABS Consulting structural engineers devised a unique design of post-tensioned concrete slabs, beams and columns. By structurally designing the conversion to minimize vibrations, athletes, participants and spectators are exposed to minimal interference with their sports experience.



## Critical Telecommunications Tower

The 900-foot Sutro Tower, the tallest structure in the San Francisco area, serves as a critical link within the region's telecommunications network. It also serves as the base for antennae owned by local radio and television stations. When a heavy digital TV antenna was to be installed in the structure, ABS Consulting engineers were called in to evaluate the seismic adequacy of the tower to handle the additional weight, considering its location in such close proximity to the San Andreas Fault and the Twin Peaks topographical effects. Using proprietary software, a nonlinear analysis and detailed finite element model were developed to assist in the design of appropriate seismic structural upgrades to the tower.

## New Generation Spars

Innovative thinking and advanced technology have been essential components of the offshore oil industry's drive into ever deeper waters. In 1996, the concept of the production spar turned into reality with the installation of the first such unit in the Gulf of Mexico. 2001 saw the evolution of that concept into the truss spar, a shorter, less costly, version able to support a higher payload while offering comparable stability.

ABS provided classification services for the first spar and retained its lead in the understanding of this new technology by classing the first series of truss spars. Designed for operation in more than 3,000 ft of water in the Gulf, these engineering marvels are being considered for every deepwater operating region of the world.



## Providing Engineering Support

Shipbuilders need comprehensive, knowledgeable support from a classification society during the process of preparing a new design. The provision of advanced technology, such as ABS SafeHull, must be backed by responsive technical advice and clear interpretation of requirements if production targets are to be met. ABS provides this support through a network of engineering offices in the key shipbuilding nations. As an example, over the past year ABS engineers in Yokohama worked closely with their counterparts at both the Sasebo and Imabari shipyards in Japan to assist them in developing successful new designs for the market.





## Giant Floaters for Brasil

ABS' global experience, combined with in-country expertise with Petrobras' marine activities, led to its selection for the classification of one of the world's largest FPSO projects. ABS is providing classification services within the multi-year project to convert two very large tankers to floating production,



storage and offloading units for Petrobras' giant deepwater development in the Barracuda and Caratinga Fields offshore Brasil. The vessels will operate in waters ranging from 670 meters to 1,200 meters deep. The two FPSOs are each capable of storing circa 2 million barrels and processing 150,000 b/d of crude oil. Each of the two projects require 900 days from project's start to commencement of operations. ABS engineers in Houston, Singapore and Rio de Janeiro are helping Petrobras develop practical solutions to the complex challenges posed by the conversions.

## Tight Expansion for Utah State



The design of a new chemistry and science learning center on the campus of Utah State University provided a structural engineering challenge for ABS Consulting. The work included an intricate orchestration of construction around nearby buildings, with the closest facility only six inches away. Several other significant design issues included designing the floors to control vibration for the sensitive lab instrumentation, working with a curved shape building design that was torsionally irregular for seismic design and paying particular

attention to the construction sequence so as not to disturb existing buildings. The new Widtsoe Laboratories are state-of-the-art and provide the University with a competitive edge in the recruitment of faculty and students.

# Maintaining Assets

**M**anaging the integrity of an expensive asset over its lifetime is of paramount importance within a competitive environment. There is no profit in downtime. A ship taken off hire for repair, an offshore platform that shuts down due to mechanical failure, a manufacturing facility that cannot produce because maintenance has been let slide – each is a liability on the balance sheet.

ABS has more than one hundred years of experience in developing and implementing standards for the operational maintenance of ships and offshore facilities. That experience has given us an extraordinary ability to assess the condition of structures, machinery and production facilities. And we know what is needed to keep them in service with minimum disruption for expensive repairs.

At ABS our mission is to protect lives and property by assisting our clients to manage and maintain the integrity of their assets to the highest operational standards.

## Condition Assessment of Aging Tankers

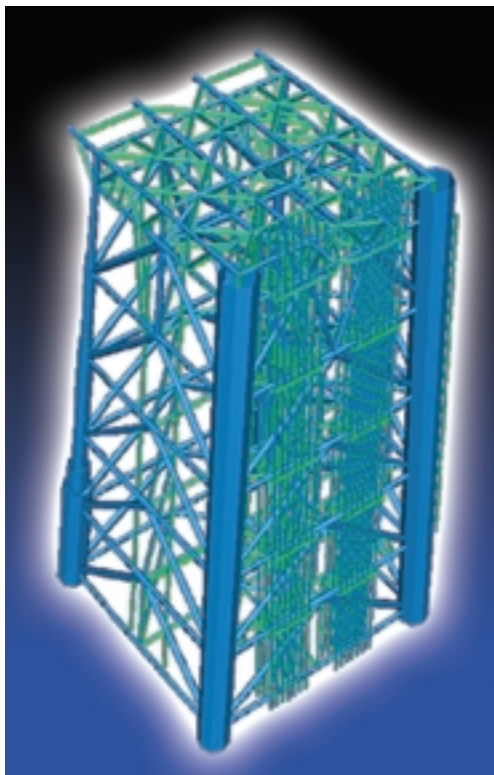


Older tankers must meet increasingly stringent standards if they are to find employment with the major charterers. The Condition Assessment Program (CAP) has been developed by industry to provide an additional, independent evaluation of a tanker's structural condition. Some charterers insist that such an assessment includes an analysis of the remaining fatigue life of the vessel. ABS is the only organization able to provide this enhanced level of assessment in a timely and cost effective manner by applying the unique capability of ABS SafeHull to assess the cumulative impact of fatigue and corrosion on the subject vessel. Offered under ABS Consulting's CAP service, the analysis provides the owner with a comprehensive evaluation of the condition of the vessel, and the charterer with the knowledge needed to make informed decisions when selecting the ships that will carry its oil.

## Enhancing Maintenance of Offshore Assets

A first-of-its-kind program is being developed by ABS Consulting for the Petrobras P-35 FPSO, operating in the Campos Basin offshore Brasil. The program, when fully implemented, will significantly enhance the effectiveness of the life-cycle maintenance of the vessel. It will reduce the potential for failure by pinpointing those areas subject to the greatest risk, focusing inspection and

maintenance efforts on the identified systems. The uniqueness of this project is the holistic approach it takes to the assessment of facility risk. Previous risk-based inspection (RBI) programs typically focused on individual mechanical or structural components of a vessel. This project creates a single comprehensive RBI program for the entire vessel. By applying leading-edge technology, coupled with extensive practical experience, ABS is providing a more precise methodology for the protection of the installation and the environment.



## Monitoring Structures at Sea

Offshore structures operate in some of the most hostile environments in the world. This is especially true for the North Sea. Scientifically monitoring the response of structures to these forces provides operators with critical information for the establishment of more effective maintenance programs. ABS Consulting was commissioned to assess the feasibility of using continuous monitoring techniques for optimizing platform safety on 13 rigs of differing designs operating in the North Sea. Real time, continuous monitoring allows engineers to immediately determine if structural damage has occurred, allowing quick implementation of repairs to minimize the period at which the structure is subject to increased risk.

## Balancing Tradition and Technology

Trinity Parish Episcopal Church has stood proudly at the corner of Eighth Avenue and James Street in downtown Seattle, Washington, since 1892. With the assistance of ABS Consulting structural engineers it will continue to offer a safe, secure and comfortable place of worship for generations to come. The historic church suffered severe structural damage during the 2001 Nisqually earthquake. Embarking on what started as a structural restoration and

seismic upgrade, the project turned into a major preservation effort. ABS Consulting engineers had to balance the need to preserve the church's historic beauty with the complexity of the structural improvements. By being sensitive to the cultural and spiritual legacies of the building, they were able to incorporate the necessary structural changes while retaining a space that remains personally familiar to the parishioners.



**W**e pride ourselves on the quality of the products offered by ABS and its affiliated companies. Yet our success is founded upon our ability to understand and respond to the needs of our clients. Without exception, our clients look for partners prepared to support them in their business endeavors.

Providing dedicated project managers to coordinate the wide range of services we provide to a complex offshore development project is an example of this support. So too, is the issuance of type approval certification for a small manufacturer attempting to expand its market. And the sophisticated evaluations of the facility, catastrophic and business process risks that many of our clients face is another way we adapt our knowledge to assist our clients.

ABS, ABS Consulting and ABS Nautical Systems are skilled in providing practical, commercially-pragmatic business solutions that help our clients excel.

## Project Management Supports Deepwater Development



Complex deepwater oil and gas projects, such as BP's Thunder Horse and Holstein developments, must meet a host of government and industry regulations. Delays in the certification process can quickly translate into millions of dollars of lost production. ABS engineers have a comprehensive understanding of the US Coast Guard and Minerals Management Service regulations that govern the design and construction of the floating production units needed to exploit these deepwater fields. By creating project management teams dedicated to individual projects, ABS provides the client with a streamlined approach to the entire classification, verification and certification process, minimizing the chance of delay, duplication or confusion.



## Proving Consistency with Type Approval

Product Type Approval is a voluntary program used to prove eligibility for certification by demonstrating a product manufacturer's conformance to a specific standard or specification. Manufacturers who can demonstrate the ability to produce consistent products in compliance with these standards are issued Certificates of Type Approval. Simply put, products that are ABS type approved demonstrate they have met quality assurance and quality control standards. In order to remain valid, the Certificate of Type Approval requires routine audits of the manufacturer, and continued compliance of the product with existing or new specifications. More than 1,000 clients worldwide manufacture products that are ABS Type Approved.

## Diagnosing Health Facilities Risk

Loma Linda University Medical Center is one of the largest healthcare facilities in southern California. It is renowned for its research in cancer treatments and organ transplants. It is also sited in close proximity to two of the most active fault lines in the world, the San Jacinto and San Andreas faults. The potential for extensive loss of service following a major earthquake led the Medical Center's administrators to call on ABS Consulting to undertake a comprehensive seismic risk assessment. Structural experts proposed a number of building upgrades that reduced the risk while also minimizing disruption to the continued provision of quality health care services.





## A Long Term Commitment to Cost Savings



A growing number of fleet operators are realizing the significant cost savings and administrative efficiencies that can be realized from reaching an agreement with ABS and its affiliates for a long term, comprehensive package of classification and related services. These range from Condition Assessments and Rapid Response services for tanker operators to oil testing services and the asset management capabilities of ABS SafeNet. Simplified accounting and documentation coupled with superior service enhance the benefits that can accrue from these master agreements.

## Improving Business Performance by Managing Risk

CEMEX, the third largest cement producer in the world, contracted with ABS Consulting to provide a risk management program for CEMEX's fleet of six deepsea ships, more than 10 coastal ships and barges, and 20 chartered ships. Mexico-based CEMEX also operates more than 40 marine

terminals. The project came as an outgrowth of earlier work undertaken for the company in which seismic risk studies were conducted on select cement plants throughout Latin America. When it was time to improve the business continuity of its marine operations through the introduction of an effective risk management program, CEMEX did not hesitate to turn again to ABS.



## Management Systems Enhance Offshore Efficiencies



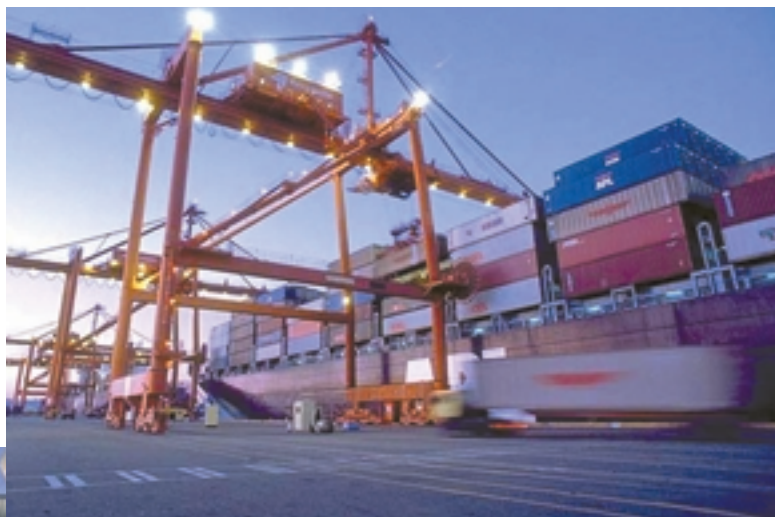
Many shipping companies that have adopted safety management systems in compliance with the International Safety Management Code report a decrease in lost time incidents, reduced insurance premiums and greater operating efficiencies. Leading international offshore drilling contractor GlobalSantaFe Corporation, which operates a diverse fleet of 59 offshore rigs, as well as 31 land rigs, did not wait for the July 2002 deadline

for compliance by MODU operators. It looked to ABS to assist the company in meeting the standards well in advance, receiving certification for its shore-based administration and self-propelled offshore rigs. The introduction of the management system has been so successful that the company is going beyond the specific requirements of the regulations by extending its application to the entire worldwide fleet of drilling rigs.

## Web-Based Support for Tank Container Owners

It is estimated that there are more than 100,000 tank containers in use worldwide. Used for the carriage of a host of liquids and gases, many of them harmful to human life and the environment, the integrity of their structure and systems is of paramount importance. To assist owners of these containers, ABS launched an electronic-based container information system (E-CIS) to provide them with immediate access to the latest inspection reports.

By using this system, clients can verify that a container has passed the required statutory inspections. The tracking capability feature records life-cycle tank container information, gathered from the periodic surveys, giving owners a comprehensive assessment of the condition of their fleet, including pressure relief valves, test pressures, corrosion and pitting. A further feature of the program allows for on the spot printing of reports for a specific unit.



# President's Message

## A Commitment to Professional Excellence

**N**othing is more important to the future of ABS than our integrity.

As an independent arbiter of classification safety standards it is essential that we are seen as trustworthy by our clients, by industry, by governments and by the public at large. We must earn that trust through our actions.

2001 saw the integrity of classification societies come under attack from two quite unrelated directions.

In Brussels, the Parliament and Council of the European Union progressed a wide range of maritime safety measures as part of its response to the pollution caused by the loss of the tanker *Erika* in December 1999. New requirements were adopted that allow for the suspension of Community approval for a classification society under certain circumstances. Clearly our profession had lost the trust of those legislators.

The new requirements were also reflective of what had become a steady drum beat of public criticism of class standards and actions by bodies as diverse as a major national shipowners' association, to the organization representing the families of those lost in the sinking of a large bulk carrier.

The perception that class was not meeting its responsibilities soon became the established reality that ABS, as one of the leading societies, had to face.

Our response was twofold. Where there was clear evidence that classification requirements, either for the



**ROBERT D. SOMERVILLE**  
ABS PRESIDENT & CHIEF OPERATING OFFICER

design and construction of new vessels, or the survey of existing vessels, could and should be raised, ABS acted quickly and decisively.

When necessary we acted unilaterally, amending and improving our Rules. Whenever possible we worked actively within IACS, and through IACS with the principal shipowners' associations, to develop a unified response, acceptable to all 10 members and industry. When needed we also collaborated with two of the other leading societies in a series of joint initiatives that, it was hoped, would speed the process of consensus within IACS while offering a degree of unanimity to the industry in our approach to critical issues. These ranged from survey requirements on older vessels, to the manner in which we establish basic design criteria.

And in those instances in which we felt the criticism to be unfair, we mounted a vigorous defense of the role

of class. We emphasized the limitations of our role, the often overlooked responsibilities borne by others, and the extraordinary amount of detailed technical investigation that continues to be undertaken by ABS and the other IACS members to further strengthen appropriate class standards.

In effect we moved to re-establish our integrity. Should we be unworthy of the trust that is placed on us, class is not the only loser. It will be the industry at large that suffers as government regulation inflates to fill the inevitable void that would be created.

Towards the end of the year, our integrity came under attack from a different source, one that lies outside the marine industry but which is perhaps even more powerful because of the degree of public visibility that it attracted.

The financial collapse of one of the world's largest publicly-traded firms placed the role of the independent financial auditor under scrutiny. Their actions were perceived by some to have fallen short of expected standards. As a result, that auditor's ability to survive has been called into question. And the regulatory environment governing the actions of all financial auditors will be tightened.

There is a close parallel between the role of the public accounting sector and class. We each exist to verify

compliance with established industry and regulatory standards. We each rely on professional excellence and impartiality for our continued acceptance as independent third party arbiters. The lesson to be learned from the auditing firm's failure to uphold those principles is how quickly industry and government acceptance can evaporate when that independent third party's integrity is compromised.

Our future viability demands an absolute adherence to principles that clearly demonstrate our integrity.

The reputation of class may have been battered in 2001 but that of ABS remained unsullied. It played a large part in our ability to record an outstanding operational performance.

Our continued success must be built upon a commitment to professional excellence. We are determined to maintain the long standing and trusting relationship that we have forged with our industry and governmental partners. From that solid foundation we can look forward to the future with confidence.



Robert D. Somerville

ABS President & Chief Operating Officer

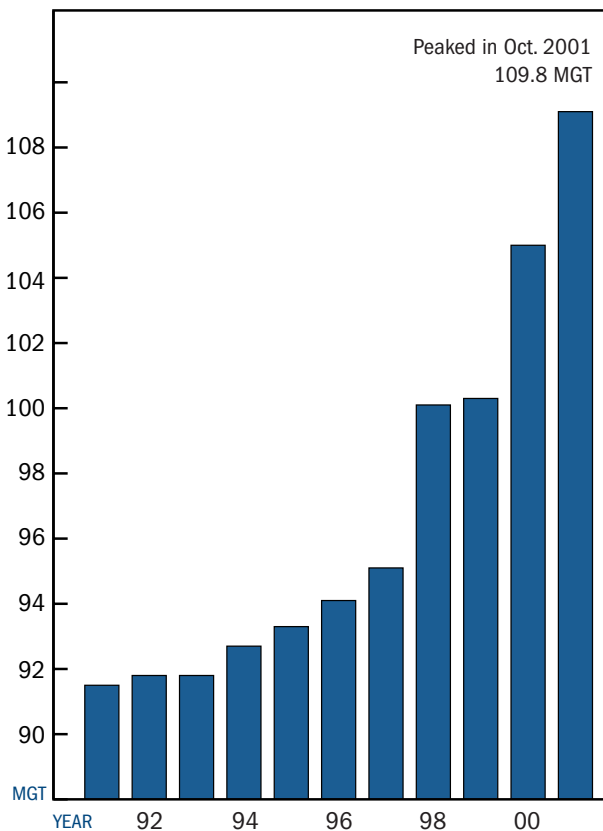
## 2001

was a remarkable year for ABS. Two events made it memorable. The first occurred on September 11. The terrorist attacks imperiled the Bureau's executive office in New York. Almost miraculously, all ABS staff members escaped unharmed but the office, voluminous records, and an irreplaceable part of the society's history were destroyed in the collapse of the World Trade Center.

Undaunted, the New York staff quickly re-established operations in the former ABS building in nearby Paramus and service to clients remained unaffected.

The second memorable event occurred in late October when the ABS-classed fleet reached 109.8m gross tons. This is the largest fleet ever, breaking the previous record of 109.4m gt, established in 1981 at the end of the last, great tanker-building boom.

### ABS Existing Fleet in millions of gross tons



### Fleet Growth

Once again it was newly-delivered tankers that helped propel the remarkable fleet growth of 4.8m gt experienced in the first 10 months of the year, although a year-end flurry of scrapping of older tankers did depress fleet size marginally from this record level.

At the end of the year, just over 47 million gross tons of tanker tonnage was in ABS class and a further 8m tons were on order. This accounted for a market leading 25 percent of the existing fleet and a remarkable 30 percent of all tankers on order.

Our strength spanned all types and sizes of tankers from a 26 percent share of the VLCCs on order, to 58 percent of all suezmaxes, to 20 percent of the contracted chemical carriers, a sector in which the ABS market share was in single digits just five years ago.

Much of this success can be attributed to ABS SafeHull. This dynamic based approach continues to set the standard for the technical evaluation of tanker, bulk carrier and containership designs.

Tanker owners have no margin for error. They need to be confident that the vessels they order are fit for their

intended purpose on delivery from the shipyard. And they demand sufficient scantlings, particularly in the critical areas subject to the greatest fatigue and corrosion, to offer years of trouble free operation if well maintained. SafeHull clearly identifies these high stress areas and determines scantlings that meet the most stringent operating criteria.

## Demand for Services

Also helping to fuel this remarkable growth in the ABS fleet size was a strong level of support for ABS services by Italian-domiciled owners. This support followed a change in Italian governmental policy that opened the previously restricted market for statutory services for Italian-flagged vessels to foreign class societies. ABS was the principal beneficiary of this change having been the non-national society of choice for the past 50 years.

Demand for ABS classification services remained strong worldwide. Traditional areas of support such as Greece, Taiwan and China were supplemented by significant new contracts received from owners in the Middle East, the Caspian region, Japan and Scandinavia.

These helped make ABS the most requested classification society for vessels ordered from Korean shipyards, and the leading non-national society for orders placed with Japanese builders.

A similar preference for ABS services was reflected in orders placed with shipyards in Croatia, Taiwan, Turkey, Indonesia and Denmark.

Notable contracts included: the first vessel to be built at the new Waigaoqiao shipyard in China; contracts for the first two purpose built FPSOs to be ordered from Chinese shipbuilders; a series of the largest containerships to be ordered; and a share of the influx of orders for new large gas carriers.

## Organizational Changes

This high level of activity spurred two organizational changes within the ABS Pacific Division. Administration of the Southern Region of the Division was moved from Singapore to Hong Kong to expand the services offered to ship owners and shipyards in China and Taiwan. This relocation was accompanied by a shift in the China Country Manager's location from Hong Kong to Shanghai to provide more responsive engineering and survey services to clients.



And in Korea, the location of the national headquarters was moved from Seoul to Pusan to strengthen the relationship with the shipbuilders.

Other organizational changes instituted during 2001 included the creation of new management districts for West Africa, the Black Sea, and the Caspian regions to better serve a growing number of clients in each area. A new office was also opened in Angola.

## Naval Contracts

Within the Americas Division, notable commercial contracts, including class on the series of new environ-

mentally sensitive tankers for the Alaskan trade, were strongly supplemented by an expanding relationship with the US government.

ABS is currently working with NAVSEA to develop Military Supplements for *ABS Rules* which address Naval Structures, Diesel Engines, Gas Turbines, Electrical Systems, Materials and High Speed Naval Craft.

In the interim, ABS has developed the Naval Vessel Certification Plan Approach and is currently applying it to the USCG DEEPWATER Cutter program. This approach has also proven of interest to governments of other nations and ABS continued to build on past successes in this area with the newest Indian Navy Landing Vessels and Egyptian Fast Missile Craft now under contract.

Other naval activities included materials certification work related to the new aircraft carriers, and heavy involvement in the latest US Coast Guard surface vessel acquisition programs. ABS class or certification is also being considered to some extent in every current US Navy surface ship program including JCC(X), AOE(X), DD(X), LCS and others.

## Offshore Activity

Throughout 2001 ABS continued to be the classification society of choice for the offshore industry.

To better serve our largest offshore clients as they embarked on some of the most complex developmental programs ever undertaken, such as the BP Thunder Horse and Mad Dog fields, new ABS project management teams were established to provide superior service, greatly facilitating these initiatives.

Through the extension of the US Coast Guard Alternative Compliance Program to offshore rigs, ABS was able to assist clients in meeting



all required certification standards more quickly and with less cost.

Significant offshore contracts secured during the year covered several FPSO and FSO conversions and newbuildings for European, Asian and American-based clients. These included the Barracuda and Caratinga conversions for Petrobras, the first purpose-built FSO to be constructed in China, and the first FPSO to be contracted from Dalian New Shipyard, also in China.

Other contracts included a series of fixed production platforms for Unocal Thailand, the first offshore platform for Vietnam's Rang Dong offshore development, monopod platforms for deployment in Australia, the first truss spars for Kerr-McGee, additional jackups for Rowan and GlobalSantaFe, a CALM buoy and SALM system, and a significant number of conversion and upgrades of existing MODUs.



ABS also continued to attract steady orders for new offshore support vessels, tugs and barges. These smaller craft are of great importance to the long term stability of the organization, comprising almost 50 percent of the 9,200 strong ABS-classed fleet in numerical terms, and accounting for almost 200 units currently on order at year's end.

A major service enhancement for offshore clients was provided in 2001. The Offshore Vendor Coordination Program provides a single point of contact for vendors and clients involved in a newbuilding or major upgrade project. The program also helps ensure that equipment arriving at the yard is ABS certified and is in compliance with the relevant Rules, standards and regulations, averting costly delays in construction.

ABS also pursued several other initiatives during 2001 that were intended to maintain leadership in the offshore sector. New *Guidance Notes* were published on the application of the SafeHull Dynamic Loading Approach for FPSO Systems. A separate volume containing *Guidance Notes on Spectral-Based Fatigue Analysis for FPSO Systems* was also released to industry.

A new *Guide for Building and Classing Subsea Pipeline Systems and Risers* was issued, and an update of the *Rules for Building and Classing Mobile Offshore Drilling Units* was published.

Human Factors Engineering issues affecting the offshore sector were also addressed with the development of the *ABS Guide for Crew Habitability on Offshore Installations*. This contains the first ever classification standards addressing such safety-related issues as noise, human whole-body vibration, indoor climate and lighting among other elements.

Towards the end of the year, ABS joined with a leading MODU operator to develop an offshore version

of its groundbreaking ABS SafeShip life-cycle fleet management program. Development efforts on this project will continue through 2002.

## Marine Technology

Detailed technical research was undertaken during the year on a very wide range of projects.

These included the development of ABS SHAFT, a computer-based program that can be used to analyze shaft alignment and evaluate tail shaft bearing condition using deflection data derived from the finite element modeling of the hull structure. The program addresses the problem that is being encountered with very large containerships, tankers and bulk carriers where the shaft stiffness has increased relative to the flexibility of the hull.

Another project developed new criteria for an ABS SafeHull evaluation of membrane LNG carriers. Not only does SafeHull for LNGs permit an accurate assessment of the dynamic loads that will be placed on the vessel's hull, it also offers a more accurate method of assessing a 40-year fatigue life of the vessel's structure, and of sloshing, particularly from partially-filled tanks.

Considerable effort was expended on the further integration of risk-based concepts within the classification Rule-making process. Research into the impact of hydrodynamic loads continued, as did studies on methods to improve bulk carrier safety and to assess the impact of greenwater on deck. Other projects considered technology as diverse as podded propulsion to subsea production systems.

A major project was the development of a completely new electronic database of *ABS Rules* and relevant regulations necessary to design, approve, construct, survey or operate ships or offshore systems. Due for release next year, the new system will make

the ABS Rules the most accessible and functional available to industry.

## Survey Activity

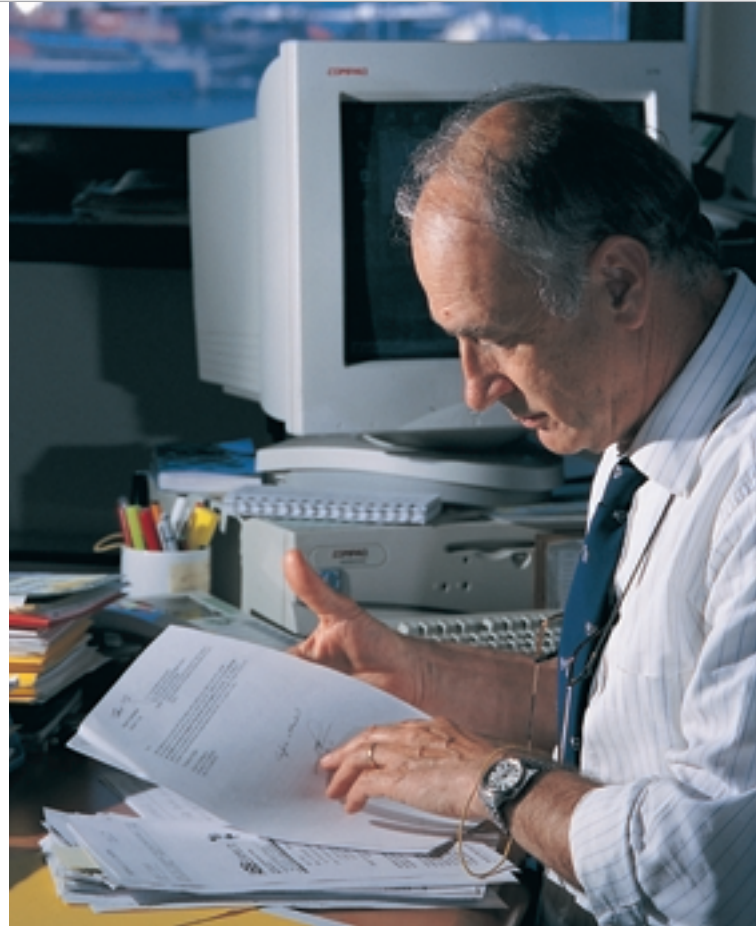
Continued emphasis was placed on the importance of stringent, yet fair, surveys throughout the year. Port State Control statistics place a public spotlight on a classification society's performance. According to figures released during the year by the US Coast Guard and the Paris MOU, both of which now clearly identify detentions for class-related deficiencies, ABS had the best record of all class societies with a 0.8 percent detention ratio. This compared to an overall ratio of 1.67 percent for all other IACS member societies.

Each detention of an ABS-classed vessel, and every casualty involving an ABS-classed vessel was investigated by the Chief Surveyor and his staff, and changes in procedures have been implemented as necessary. It is to be noted that no ABS-classed vessel was lost in 2001 due to structural failure.

ABS Survey requirements were also amended in line with new IACS requirements that entered into force on 1 July 2001. Several of these provisions had already been unilaterally adopted by ABS in advance of that date.

### US Coast Guard & Paris MOU Combined Class-Related Detentions *as reported in 2001*

Class Societies	US COAST GUARD		PARIS MOU		Combined Detention Ratio
	Distinct Vessels	Detentions	Distinct Vessels	Detentions	
ABS	941	3	792	11	0.80%
DNV	1,202	0	1,415	24	0.92%
GL	742	0	1,788	27	1.06%
NK	1,671	4	881	27	1.21%
LR	1,527	5	1,989	52	1.62%
CCS	125	0	103	4	1.75%
BV	618	0	1,386	40	2.00%
KR	164	3	101	3	2.26%
RS	180	4	955	38	3.70%
RINA	158	1	462	27	4.52%



The tougher requirements extended the Enhanced Survey Program by increasing the stringency of Intermediate Surveys on specified ships exceeding 15 years of age and including the requirement that such Intermediate and Special Surveys are to be performed by at least two exclusive surveyors.

Also addressed were the Transfer of Class Agreement, the closer monitoring of thickness measurements and new requirements for the inspection of certain ballast tanks on tankers and chemical carriers.

In a separate initiative, ABS, together with Lloyds Register and DNV, jointly agreed to additional requirements including the introduction of common standards for training and qualification of surveyors, increased transparency of information, and a common scheme for identifying, targeting and monitoring vessels that may not be maintained to an appropriate standard. These requirements also came into effect in July.

## Serving the Public Interest

The classification profession experienced a difficult year in 2001. It was a year in which maritime safety received a great deal of attention from governments, industry groups and the trade media, with classification being a favorite target for criticism.

On several occasions ABS spoke out publicly and forcefully in support of not just stricter standards, but also tougher enforcement of existing standards. Unilateral action to introduce new standards was taken when considered necessary.

However, it is recognized that a multilateral approach to the establishment of tougher standards is essential if those efforts are to be successful. ABS particularly identified the differing approaches to minimum initial scantlings and corrosion margins between the leading societies as a critical element that needs to be addressed in a concerted fashion, and took an active part in studies as to how this could be achieved.

An issue that will significantly impact ABS activities over the next few years was the agreement within IMO to changes in the regulations for the phase out of aging single hull tankers as contained in MARPOL 73/78 13G. Introduced in response to the loss of the tanker Erika in late 1999, the new regulations will affect some 2,200 existing tankers, many of which will be forced into earlier retirement than is usual. As a result, there will be strong, continuing demand for double hull replacement tonnage to be built, creating opportunities for ABS to further position SafeHull as the preferred design evaluation approach for these vessels.

## Administrative Efficiencies

Throughout the year, ABS progressed multiple initiatives designed to improve internal admini-

## ABS Year End Statistics

(in millions gt)	Year		
	1999	2000	2001
Deliveries	6.50	6.80	7.83
Incoming Existing	2.10	1.80	1.34
Reinstated	0.40	1.90	0.60
<b>Total Incoming</b>	<b>9.00</b>	<b>10.50</b>	<b>9.77</b>
New Contracts	7.80	9.40	7.04
<b>Total Outgoing</b>	<b>7.60</b>	<b>6.30</b>	<b>5.35</b>
Net Gain m gt	1.40	4.20	4.42
<b>Official Orderbook</b>	<b>12.40</b>	<b>15.56</b>	<b>14.88</b>

strative efficiencies, thereby enhancing service to clients while keeping a tight rein on expenditures.

Significant progress was made with the implementation of the new Global Enterprise Management System that vastly improves the efficiencies of the financial, human resources and project management functions. Similar advances were made with the very ambitious program that will apply the most sophisticated information technology to the global surveying process.

These initiatives, together with various other developmental programs, have been conceived and designed to maintain ABS' position as the lowest cost provider of quality classification services.

## Ready to Serve

One aspect of ABS activities that remained unchanged in 2001 was the organization-wide commitment to client service. ABS is dedicated to providing effective, responsive, client oriented service at all times.

That means applying the society's enormous reservoir of knowledge and experience to develop sensible, pragmatic solutions to clients' problems while never flinching from the mission and ultimate responsibility of every member of the ABS organization to protect life, property and the natural environment.

# ABS Classification Activity

## 2001

continued a strongly positive trend in classification activity, with the ABS-classed fleet reaching a new all-time record of 109.8m gross tons by the fourth quarter

ABS remained particularly strong in the core sectors of tankers, bulk carriers and containerships. It also maintained its dominance in the offshore sector with several notable contracts ranging from FPSOs to truss spars.

Aggregate gross tonnage contracted during 2001, while failing to match the very strong 2000 bookings, remained at a high level, sufficient to ensure continuing strong newbuilding classification activity for the next two years. The year-end orderbook for new ocean cargo ships stood at a very healthy 14.9m gross tons.

Tanker contracts continued to dominate the new construction orderbook. Both the contracts received and the year-end orderbook for new tankers yielded totals that were considerably ahead of the prior year. At the close of 2001, a market leading 30 percent of all tankers on order at shipyards around the world were to ABS class.

Throughout 2001, a number of new deepwater oil and gas exploration and production units were classed by ABS. In addition, several significant rebuilding projects provided a steady workflow. Indicative of its preeminent position in the offshore industry, year-end statistics showed that ABS maintained a more than 70 percent share of the worldwide mobile offshore drilling unit (MODU) fleet.

With the high level of demand for its services, ABS retained a leading position in the major Asian shipbuilding countries, particularly Korea, Japan and China. In terms of gross tons, the 2001 year-end



results showed ABS with a market leading 26 percent share of orders contracted with Korean shipbuilders. In Japan, ABS ranked a solid number two behind the national society.

Much of the continuing success of ABS within the newbuilding market can be attributed to the technical superiority of ABS SafeHull. Owners of larger vessels, particularly tankers, continued to demand the more robust approach of SafeHull to structural strength, particularly in the light of a small number of very high profile casualties of older ships.

## Vessels Classed

During 2001, ABS classed 509 new and existing ships and offshore structures totaling 9.77m gt. This included 335 newly built vessels aggregating 7.83m gt. A further 100 existing vessels of 1.34m gt, previously either classed with other societies or unclassified, and 74 vessels of 0.60m gt that had been previously classed with ABS were accepted into class.

The new vessels registered a jump of 15 percent in gross tons over the prior year but a fall off in number by 14 percent. As before, a major component of the new vessels classed were tankers, bulk carriers and

containerships aggregating 108 in number of 6.6gt – just below the number classed during 2000 but 11 percent more in gross tonnage.

## Vessels Removed

Removed from the ABS fleet of classed vessels during the year were 754 propelled and non-propelled vessels. Of these, 422 were withdrawn at the owners' request for various reasons – the majority of which were older LASH barges. 63 vessels were scrapped and 269 were dropped for non-compliance with the ABS Rules. Among those dropped were 16 oceangoing commercial ships. These numbers represent a decline in all three categories from 2000.

## Classed Fleet

Taking into account vessels classed and removed during the year, the ABS-classed fleet at the close of 2001 stood at 9,255 ships and offshore structures of 108.98m gt representing the flags of 99 different nations. In comparison to year-end 2000, this marks a gain of 4 percent in gross tons but a loss of 3 percent in number. This gross tonnage recorded at year-end is at the highest level since 1983. A late flurry of scrapping of large tankers saw the fleet size decline slightly from the all-time record of 109.8m gt recorded in October 2001.

The dominance of tankers, bulk carriers and containerships within the ABS fleet can be noted from their accounting for 83.4m gt of the total. This comprised 2,051 vessels and represented a slight increase from the 2,027 vessels aggregating 79.9m gt, in class at the close of 2000.

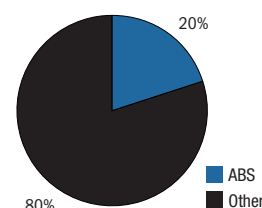
## New Contracts Received

Contracts for the classification of new vessels were received at a brisk rate throughout 2001. By year-end the final tally amounted to 421 vessels of 7.04m gt.

The number of vessels was similar to the prior year, although the gross tonnage figure did represent a decline from the previous year's high as the pace of new orders fell in the latter part of the year.

During 2001, ABS received contracts to class 119 new tankers, bulk carriers and containerships totaling 6.23m gt – compared with the benchmark year of 2000 when the figures were 166 and 8.66m gt. Despite the falloffs, the contract figures both for all types of new vessels, and for the subset of ocean cargo ships, remained well ahead of historic ordering patterns of the previous decade.

**ABS Share of Worldwide Orderbook**  
percentages based on gt



**ABS Share of Newbuilding Contracts by Country of Build**

Japan	17%
Korea	26%
China	11%
USA	82%
Singapore	92%
Taiwan	40%

## Orderbook

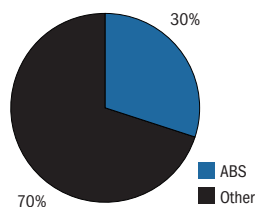
At the end of the year the orderbook of ships and offshore structures contracted to be built or building to ABS classification jumped to 803 vessels of 14.9m gt in shipyards of 36 countries around the world. This represents an increase over the year-end ABS orderbook of 2000 by 13 percent in number, though a decline of 4 percent in gross tonnage. Within these totals the mainstay of tankers, bulk carriers and containerships numbered 131 (8.08m gt), 65 (2.29m gt) and 73 (2.70 gt), respectively. In aggregate terms, these represented a modest increase over 2000 in number and a slight decrease in gross tonnage.

## Tankers

Orders for new tankers were received at an accelerated rate by ABS during 2001, partially driven by the

### ABS Share of Tankers Newbuilding

percentages based on gt



Tankers	30%
VLCCs	26%
Suezmax	58%
Aframax	32%
Chemical	20%
Product	11%

replacement needs for the upcoming regulatory phase-out introduced by IMO. In this period, ABS received contracts to class 77 tankers of 4.62m gt for a sizeable gain from the year earlier of over 50 percent in number and 14 percent in gross tonnage. Among the new tankers contracted: 12 VLCCs, 13 suezmaxes, 21 aframaxes and 21 product tankers. These new contracts contributed to a year-end orderbook of 131 tankers of 8.08m gt for a surge of 40 percent in number and 15 percent in gross tons from year-end 2000.

During 2001 ABS classed 41 new tankers of 3.56m gt including: 14 VLCCs, 9 suezmaxes, 5 aframaxes and 9 product tankers. While the number falls considerably short of the tankers classed in 2000 the gross tonnage is almost the same. By the close of the year the ABS fleet of classed tankers numbered 920 of 47.22m gt for a growth of 2 percent in number and 5 percent in gross tonnage over year-end 2000.

### Bulk Carriers

The bulk carrier picture was the inverse of that for tankers with the existing classification figures outshining those for new contracts received. ABS classed new bulk carriers at a swift rate during 2001, a year in which 49 were classed of 2.04m gt bettering the results of 2000 by some 50 percent in number and gross tonnage. Among the new bulk carriers classed were: 8 cape-sizes, 22 panamaxs, 9 handymaxes and 8 handysizes. However, during 2001 only 13 contracts were received of 0.53m gross tons whereas 70 were received of 2.69m gross tons in 2000, mirroring

a temporary downturn in owner interest in the bulk sector at a time of very active tanker ordering.

At the close of the year, the fleet of ABS-classed bulk carriers stood at 737 of 22.8m gt, a level comparable with that at the close of the prior year. Because of the dearth of new bulk carrier contracts received in 2001 the orderbook declined to 65 of 2.29m gt at year-end 2001.



### Containerships

In 2001 ABS classed 18 new containerships of 0.98m gt. While this is five less than the year earlier, the gross tonnage is only slightly less as 13 of the vessels were post-panamax size, up to 91,000 gt. This is consistent with the reputation of ABS expertise in the classification of the larger-size containerships. ABS has classed 31 percent of all existing post-panamax containerships on a gross tonnage basis.

There was a drop-off of new orders received in 2001 indicative of the over-ordering that had characterized the previous two years, skewing the demand-supply balance for these vessels. Reflecting this, ABS received contracts to class 29 new containerships amounting to 1.09m gt for declines of 38 percent in number and 46 percent in gross tonnage from 2000.

Nevertheless, there was respectable growth by year-end in both the ABS fleet of containerships in class and the year-end orderbook. Containerships contracted or

building to ABS class at the close of 2001 numbered 73 of 2.7m gt for increases of 16 percent in number and 6 percent in gross tonnage; while the fleet of ABS classed containerships numbered 394 of 13.36m gt for increases of 2 percent in number and 7 percent in gross tonnage.

## Offshore

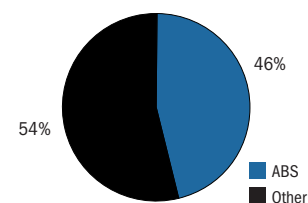
Within this period ABS classed 13 MODUS – including 4 super drillships, 7 column stabilized units and 2 self-elevating units – as well as 2 tension leg platforms and 2 fixed installations. In addition, while classification work was proceeding on these various units, ABS was involved in reconditioning and rebuilding work on a number of classed units for employment in hydrocarbon fields worldwide.

Throughout 2001 the vigorous rate at which the offshore industry enlisted ABS' services continued; contracts were received to class 21 major structures comprising 7 MODUs, 4 tensions leg platform type units, 3 floating storage units and 7 fixed

installations.

At the completion of the year the orderbook showed 17 MODUs, 9 fixed installations and some 50 offshore support vessels building or contracted to be built to ABS classification.

### ABS Market Share Offshore Production Units



TLP & SPARs	96%
FPSOs	43%
Production Semisubmersibles	50%
<b>Total Offshore Production Fleet</b>	<b>54%</b>

Year-end statistics showed that ABS remained well ahead of all other societies in the share of classed MODUs. These include a 49 percent share of semi-submersible units, 50 percent of all drillships and 84 percent of jack-ups.

At the year's end there were 529 MODUs (including 23 drillships) and 110 fixed installations in ABS class as well as over 1,000 offshore support vessels of various types – all gains over 2000.

VESSEL TYPE	VESSELS IN CLASS as of 31 December 2001		VESSELS ON ORDER as of 31 December 2001		NEW VESSELS CLASSED During 2001	
	NO.	GROSS TONS	NO.	GROSS TONS	NO.	GROSS TONS
Barge	2,459	6,186,968	125	427,548	94	255,640
Bulk Carrier	737	22,819,475	65	2,293,995	49	2,036,292
Combination (Dry/Liquid)	15	503,247	0	0	0	0
Container Carrier	394	13,356,314	73	2,697,738	18	981,740
Dredge	48	126,273	4	3,790	0	0
Drillship	23	581,665	0	0	4	218,807
Dry Cargo	490	4,712,132	1	1,200	4	24,100
Ferry/Passenger Cargo	104	718,007	11	184,172	8	167,177
Fishing Vessel	32	41,709	19	12,893	0	0
Launch/Crewboat	237	35,673	29	4,605	12	3,069
Liquefied Gas Carrier	66	2,687,744	5	285,800	2	139,100
Mobile Offshore Unit	529	3,834,581	17	126,223	13	209,347
Passenger (Cruise) Vessels	72	556,360	33	282,668	0	0
Pipeline	2	0	0	0	0	0
Platform (Fixed)	110	7,572	9	4,745	4	0
Research/Survey Vessels	122	196,739	2	5,180	1	867
Single Point Moorings	33	0	6	138	0	0
Supply & Tug/Supply	947	752,349	42	63,271	11	15,645
Tanker (Liquid Cargo)	920	47,224,236	131	8,082,491	41	3,556,078
Tug	1,060	334,821	49	25,142	26	9,873
Underwater Vehicle	52	450	6	66	3	110
Vehicle/Barge Carrier	107	3,622,511	5	198,432	4	188,367
Yacht	354	86,632	106	29,798	30	6,849
Other	342	592,965	65	147,527	11	19,791
<b>TOTAL</b>	<b>9,255</b>	<b>108,978,423</b>	<b>803</b>	<b>14,877,422</b>	<b>335</b>	<b>7,832,852</b>

# President's Message

## Developing Practical Risk Management Solutions

**A**BS Consulting established itself in 2001 as the premier risk management consulting company in the world. ABS Group Inc. and EQE International, Inc. consolidated around a single driving force, to be the recognized global leader in providing risk management consulting services that help clients protect their assets and ensure the business continuity of their operations.

ABS Consulting's strategy for 2001 was to maintain its focus on its core markets and existing geographic network and to expand market share by leveraging the synergies of the four business lines: Risk Consulting, Structural Engineering, EQECAT and Management Systems. As a result, ABS Consulting posted a solid financial performance in a tough global economic climate.

Revenues grew by seven percent to \$126 million and profits increased by \$3 million to achieve a respectable operating income return of five percent. Our employee team of 1,100 professionals, working in 32 countries around the world, can be proud of what we accomplished in a challenging business environment.

The breadth and depth of our knowledge encompasses the complete range of hazards from natural to man-made. Whether facility risk, catastrophic risk, or business process risk, our ability to handle the complete spectrum of risks and develop practical risk management solutions is what distinguishes us from our competition.



**CHRISTOPHER J. WIERNICKI**

ABS CONSULTING PRESIDENT & CHIEF OPERATING OFFICER

Our activities spanned the globe. In Latin America, we continued to strengthen relationships with PEMEX and Petrobras. Significant contracts to develop the next generation of offshore maintenance and safety standards have reinforced ABS Consulting's position as a leader in the application of technology to improve business performance.

In Europe, the organization captured a significant market share of Vessel Condition Assessments. Application of the award-winning ABS SafeHull technology proved to be a decisive market differentiator, as it is the only method currently available that can practically assess fatigue life using first principles.

In the Asia-Pacific region, ABS Consulting continued to push the risk frontier by developing an IT-based



disaster management system for a large real estate development project in Japan.

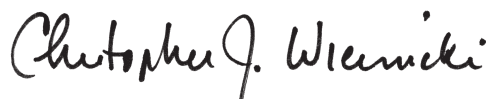
Activities in the United States were focused on the federal government, the insurance and nuclear industries and real estate development. Significant government contracts were secured to support the US Coast Guard, US Army Corps of Engineers, Federal Emergency Management Agency and Naval Facilities Command for enterprise risk management, blast technology and seismic hardening.

During 2001, ABS Consulting dominated the nuclear risk market. Our team of risk professionals gained contract awards ranging from a multi-year, multi-million dollar project for the Nuclear Regulatory Commission for accident prevention analysis, to reactivation assessments for power plants in Canada.

The introduction of WorldCat Enterprise, EQECAT's comprehensive catastrophic risk modeling software, has allowed both clients and insurance companies to more readily evaluate their portfolio risk from natural hazards and determine how to best manage, transfer or mitigate the potential loss.

ABS Consulting Structural Engineers continued to gain industry recognition as one of the top performance-based design practices in the United States, winning a series of notable contracts. Following September 11, senior ABS Consulting structural engineers served on a blue-ribbon panel to assess the World Trade Center building failures and to seek new ways to mitigate potential dangers in future events.

ABS Consulting's leadership in risk management is a natural extension of the ABS Mission. Our services are built on the bedrock of improving safety, enhancing quality and minimizing the adverse impact of operations on the environment. We are proud to use these capabilities to assist our clients in protecting their assets and support the continuity of their enterprises to meet the challenges of a changing world.



Christopher J. Wiernicki

ABS Consulting

President & Chief Operating Officer

# ABS Consulting Year-in-Review

**T**he mid-year merging of the two ABS Group of Companies subsidiaries, ABS Group Inc. and EQE International, created a powerhouse in the fields of risk management, management system consultancy and structural engineering, operating under the new ABS Consulting name.

Four business lines were established to present the company's capabilities in the most effective manner: Risk Consulting, Structural Engineering, EQECAT and Management Systems.

By bringing together the synergistic operations of the two former subsidiaries under a strong, single, market identity, the company positioned itself to both offer a comprehensive portfolio of risk and engineering-based services to clients, and to benefit internally from significant administrative efficiencies. As a leader in the provision of services designed to protect life and manage risk, ABS Consulting experts responded to the catastrophic events of September 11,



supporting both government and industry with structural engineering expertise and counterterrorism risk services.

## Risk Consulting

Within the US, the creation of the new Homeland Security position within the federal government afforded a focal point for the delivery of risk management services, including facility risk, to many branches of government and the military. A heightened sensitivity to port security led to expanded opportunities providing risk management services to the marine, offshore and transportation sectors.

The new uncertainties also encouraged private industry to take a wider view of the vulnerabilities to which it is subject.

Although the range of threats is broad, so too are the capabilities of ABS Consulting to assess and mitigate the associated hazards. These capabilities range from the assessment of risk due to blast, structural assault or the release of biological and chemical agents, to operational risks.

For example, ABS Consulting supplemented its already extensive blast and explosion hazard modeling



capabilities during the year with the development of a cost efficient means of testing for, and reducing the hazards associated with glass and structural debris. Working with the US Army Corps of Engineers, the company is using this new technology to test buildings for their blast resistance. And the technology is available to vendors of equipment designed for mitigating blast hazards, providing them with a rational and cost effective method of testing and proving their products.

These new challenges supplemented ABS Consulting's services that support clients in the management of the risks associated with their daily operations – those from natural catastrophes, human error and business processes.

An example of this was the IT-based disaster management system developed by ABS Consulting for the Harumi real estate development on an island in Tokyo Bay. The complex includes large office towers, residential buildings and commercial establishments. The disaster management plan and software included fully customized and integrated emergency response activities, information systems and real-time damage estimation. Training programs and exercises were used to test functionality in an actual disaster. Planning scenarios can be developed for a host of hazards including impacts to external infrastructure and disruption of lifelines.

ABS Consulting advisors worked with the World Bank on projects to develop emergency management plans for Turkey. Our consultant served as Task Leader for the Emergency Management component of the Meer Project, a comprehensive program to restructure the natural disaster emergency management system at national, provincial and municipal levels. ABS Consulting also provided technical assistance to the Turkey Emergency Management General Directorate as well as consultative advice on the nation's property insurance system.

Responsible industries have recognized that minimizing the risk to the environment of their operations is an integral part of their activity. In 2001, an oil major contracted with ABS Consulting to develop a risk-based inspection program for more than 200 offshore production platforms. By addressing the safety of the assets, the goal was to minimize the likelihood of an interruption in production, and of any associated environmental damage. Follow-up inspections will further analyze results and lead to a refinement of the inspection plan.





Such a project begins with a risk profile from which the inspection strategy is developed and implemented. The profile establishes how each component contributes to a system's hazards. By analyzing the likelihood of failure, and the likely consequences through systems modeling, a risk profile can be generated for a single unit or for the entire fleet.

A vital element of risk management is training. During 2001, ABS Consulting continued to expand its suite of training services. In particular courses were offered to process industries in the areas of HAZOP process safety management and incident investigation. This assists such companies to minimize human factors risk and to improve business process efficiencies. These courses are offered through ABS Consulting's Process Safety Institute.

## Structural Engineering

Performance-based design is what has earned ABS Consulting's structural engineers international recognition. Many significant contracts undertaken in 2001 highlighted this capability.

These covered a wide range of engineering challenges. In Atlanta, ABS Consulting's engineers developed a unique design of post-tensioning concrete slabs, beams and columns to solve vibrational problems in the conversion of the 1996 Olympic Games natatorium into a multi-purpose gymnasium and swimming complex.

ABS Consulting's on-site investigation of the Seattle (Nisqually) earthquake involved many of the company's structural engineers who conducted meticulous investigations of the damage to hundreds of structures.

Their reports provided valuable insight that has been used to better prepare clients, governments and industry to mitigate future earthquake damage through structural assessments and the development of emergency plans.

Another project undertaken during the year examined the potential consequences of an earthquake to the transportation corridor between Tacoma and Seattle in the northwestern US. The Port-to-Port Transpor-





tation Corridor Risk Analysis and Transportation Disruption Study modeled the disaster and provided critical information for the development of contingency plans.

Managing facilities' risk requires a thorough assessment of the vulnerabilities, and the application of performance-based design to manage the hazards effectively. ABS Consulting's structural engineers have achieved prominence for their expertise in retrofitting historic structures against the risks from natural and manmade hazards. Several projects during 2001 called for the application of these specialized skills.

Other projects undertaken included a review of the worldwide facilities of Colgate-Palmolive to analyze their vulnerabilities to earthquake perils and provide risk mitigation design recommendations for buildings

and equipment. And a study of the San Luis Obispo Administration Office Building addressed demands for energy conservation. ABS Consulting's structural engineers developed a system that used the thermal mass of the concrete structure to regulate the building's temperature.

Engineering projects for the US Naval Facilities Engineering Command covered the design of a new control tower and air traffic control facility, and the extension of an aircraft parking apron.

And ABS Consulting engineers played a central role on the blue-ribbon panel that was formed to assess the structural collapse of the New York World Trade Center towers, and develop recommendations for new standards in the design of high-rise buildings.

## EQECAT

ABS Consulting's EQECAT division is focused entirely on providing innovative risk management services to the insurance and financial services industries. Its staff includes experts in earth sciences, engineering, fire and process safety, the financial markets, insurance underwriting, actuarial statistics and software development.

Its catastrophe management software, of which the latest version, **WORLDCATenterprise™** was released in 2001, uses high resolution stochastic event sets that provide users with a unique risk clarity for pricing and PML measures, even for demanding site and policy level underwriting. The rigorous statistical methodologies used capture the uncertainty in both the hazard intensity and damage estimates, so that the volatility can be included in the decision making and pricing processes.

In 2001, EQECAT software and associated consulting services were provided to financial services

and insurance industry clients to assist them in analyzing and optimizing their portfolios, to support securitization, develop risk swaps, adjust claims and support rate filing.

And ongoing risk analysis undertaken on behalf of the California Earthquake Authority, using modeling software developed by EQECAT, has helped over 800,000 homeowners to acquire insurance against catastrophic loss.

## Management Systems

2001 saw steady progress of the company's Management Systems consulting activities. These remained focused on the education, transportation and government sectors, building on successes from the previous year.

Within education, projects were undertaken to assist several school districts, located across the US, move towards ISO 9001 certification through the adoption of a quality management system.

Building on the strong presence of the ABS organization within the maritime and offshore industries, the ABS Consulting division progressed several contracts for clients from these industries, including rig and vessel operators. And the division's environmental management system experts assisted a prominent US shipyard, specializing in construction for the offshore industry, to attain certification to ISO 14001 standards, the first US yard to do so.

Industrial clients also continued to seek assistance from ABS Consulting with a major chemical company contracting for wide-ranging assistance in evaluating and improving its quality system.

## Committed to Service

Throughout 2001, ABS Consulting staff continued their efforts to enhance the responsiveness and professionalism of the services they offer to clients. The new organizational structure and the introduction of new administrative systems provided opportunities to evaluate existing approaches and to introduce expanded product offerings and improved service delivery.

This commitment to service is ongoing. ABS Consulting is the largest provider of risk management services in the US, and a leader in the provision of these services to industry worldwide. Such a position carries significant responsibilities. The company is dedicated to assisting clients to improve their business processes by effectively managing risk, improving safety, enhancing quality and minimizing the adverse environmental impact of their activities.





**GARY A. LATIN**  
ABS INFOLINK INC. PRESIDENT

## Delivering Operational Efficiencies

**A**BS InfoLink serves as the Information Technology (IT) knowledge center of ABS. It brings together state-of-the-art technology with cost-effective solutions to satisfy the IT needs of the ABS organization, its affiliates and their clients.

A significant proportion of ABS InfoLink's activities, particularly developmental work, is carried out in India. In 2001, we consolidated our offshore operations in that country, bringing together our engineering, drafting and software programming personnel at the new Offshore Center. This strategy resulted in greater efficiencies to the direct benefit of ABS.

Major development efforts included ABS SafeShip, a through-life, vessel integrity management program offered by ABS to provide owners with the highest level of information available for operational efficiency

and ship safety. Preliminary work was also undertaken to develop a companion ABS SafeRig program that will offer similar benefits to operators of offshore drilling and production facilities.

Other projects included ABS SafeNet for the Web, a new approach to the established program that expands accessibility of fleet status information to owners and operators, and the ABS Nautical Systems product reengineering initiative.

ABS Nautical Systems (ABS NS), a majority-owned subsidiary of ABS Infolink, also made solid contributions to the success of the parent company in 2001, recording a remarkable 36 percent growth in revenue. This can be attributed in part to the continuing growth of its worldwide client base, which has more than quadrupled in the last three years.

The year also saw continued growth in ABS Nautical System's consulting activities. The company views ongoing training as a critical success factor if clients are to reap the full operational benefits offered by its product line. As a result, ABS NS has developed a comprehensive suite of training services for its clients, as well as audit services to evaluate the strengths and weaknesses of clients' current IT systems.

ABS Infolink ended the year with a full orderbook of projects that will continue to stretch our technical and service capabilities throughout 2002. It includes further development of the ABS SafeShip, ABS SafeRig and ABS SafeNet for the Web projects. And the Offshore Center will increase its capabilities to include software support for a host of legacy-system replacement applications being deployed throughout the ABS organization, each designed to improve administrative and operating efficiencies.

A handwritten signature in black ink, appearing to read 'Gary A. Latin', written in a cursive style.

Gary A. Latin  
ABS InfoLink Inc. President

# ABS Officers, Board & Council

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Chief Technology Officer

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President, ABS Americas Division

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Treasurer & Chief Financial Officer

James C. Card  
Senior Vice President

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Senior Vice President  
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President, ABS Europe Division

Thomas A. Miller  
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General Counsel & Secretary

Stewart H. Wade  
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St. Paul Companies

Richard T. du Moulin

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ABS

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Alexander S. Onassis Foundation

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Tidewater Inc. Pan Amer.

Dott. Alcide Ezio Rosina  
Premuda S.p.A.

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ABS

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Infrapart Consultants

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Dott. Aldo Grimaldi Grimaldi Group	Dr. Donald Liu ABS	Basil Scarvelis Trident Maritime Agency, Inc.
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K. H. Koo Tai Chong Cheang Steamship Co. (HK) Ltd.	Pericles S. Panagopoulos Magna Marine Inc.	Stewart H. Wade ABS
Robert E. Kramek ABS	Basil Phrixos Papachristidis Papachristidis Holdings Limited	Captain Wei Jia-fu China Ocean Shipping Group Co.
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Charles Kurz, II Keystone Shipping Co.	Constantinos P. Peraticos Pleiades Shipping Agents S.A.	

\*Emeritus Council Member

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Christopher J. Wiernicki  
President & Chief Operating Officer  
ABSG Consulting Inc.

Gary A. Latin  
President, ABS InfoLink Inc.

Sarah M. Barton  
Vice President  
General Counsel & Secretary

Reed C. Cook  
Vice President  
Treasurer & Chief Financial Officer

David L. Kelley  
Vice President, Strategic Planning &  
Business Development

James R. Wilson  
President, ABS Quality Evaluations Inc.

## Board of Directors

Dr. Victor L. Arnold  
University of Texas

Edward J. Campbell

Reed C. Cook  
ABS Group of Companies, Inc.

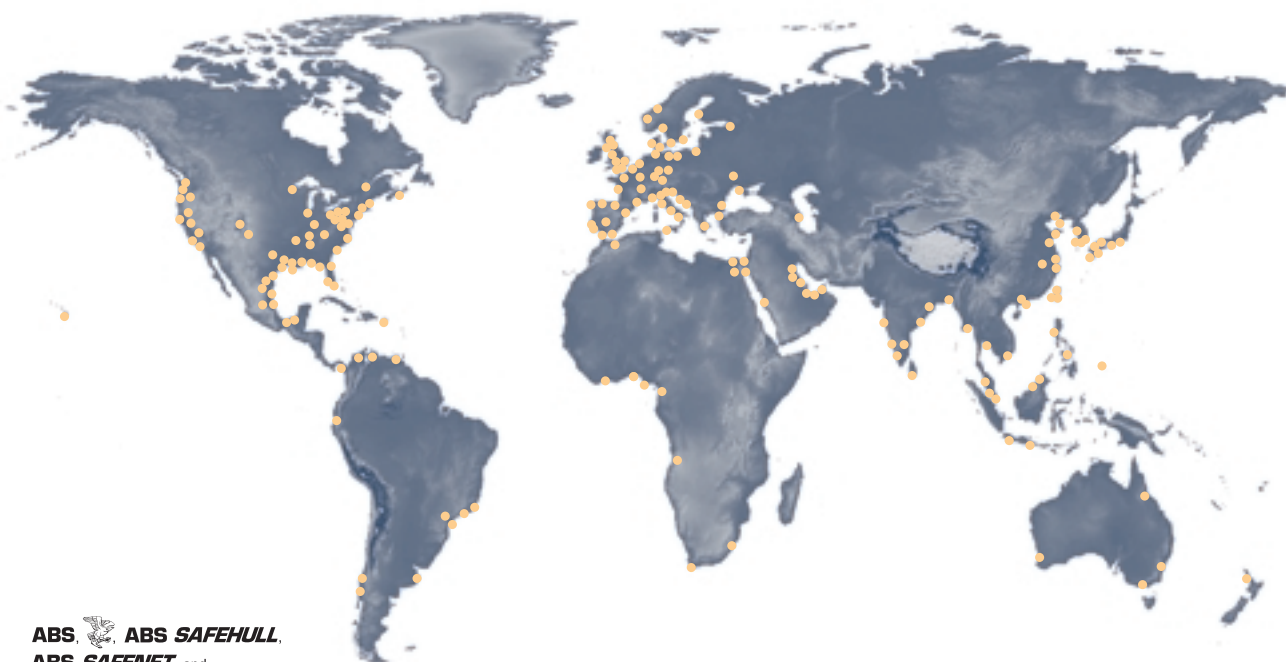
Frank J. Iarossi  
ABS Group of Companies, Inc.

Admiral Bob Inman

Peter Pappas

Christopher J. Wiernicki  
ABSG Consulting Inc.

## ABS and ABS Group Worldwide Office Locations



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*Lest we forget...*



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