

Global...

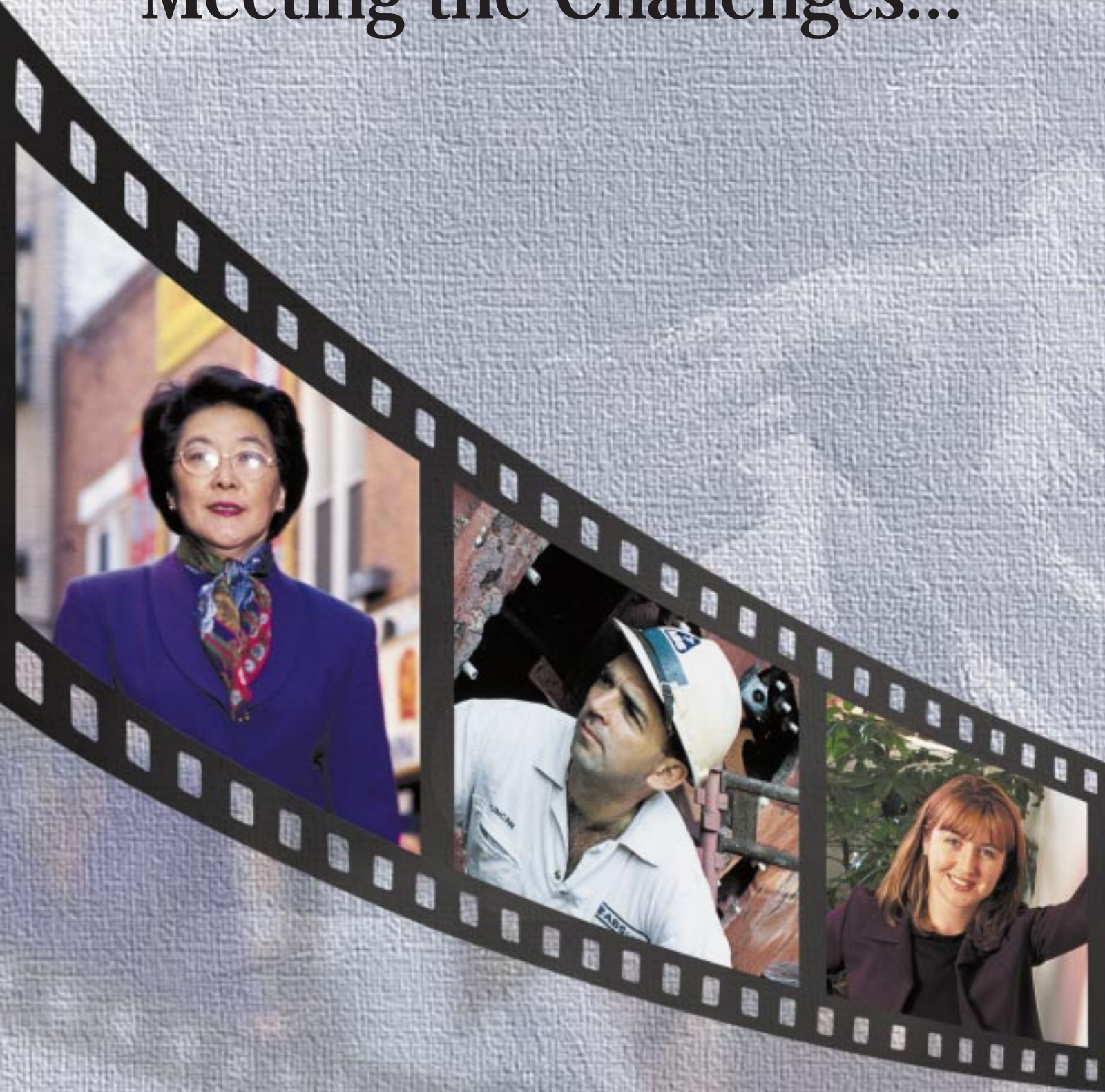
Diversification...



ABS[®]

1998 ANNUAL REVIEW

Meeting the Challenges...





of a Changing World.

American Bureau of Shipping

1998



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

It is the policy of ABS 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.**



Mission

The mission of ABS Group of Companies and its operating subsidiaries is to assist its clients to improve the safety of their operations, to enhance the quality of their services, and to minimize the environmental impact of their activities.

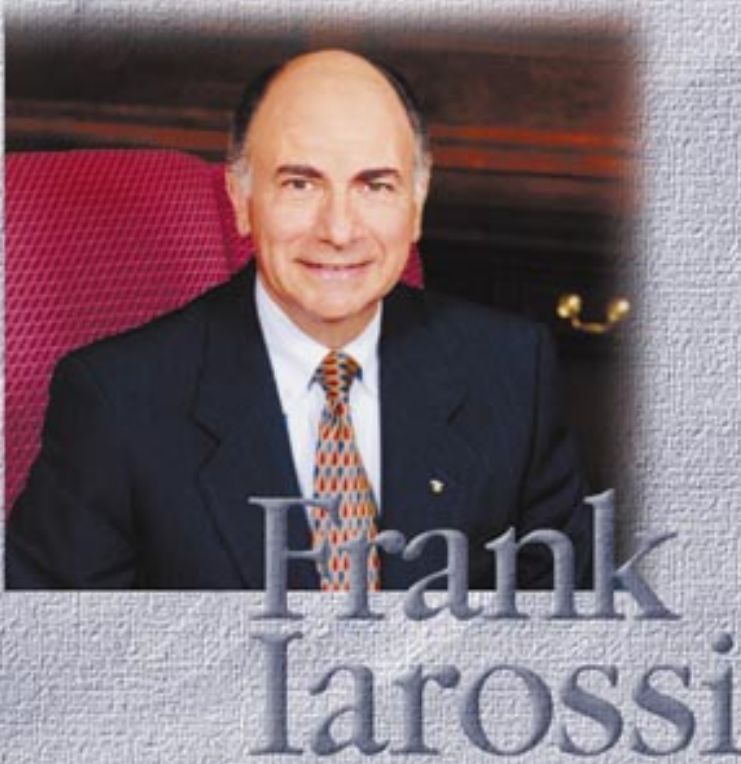
ABS Group pursues this mission by offering integrated services related to awareness, evaluation, training, implementation, verification and certification.

Quality

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.

Diverse Services to Meet the Challenges of a Changing World



Frank J. Iarossi
Chairman

A handwritten signature of Frank J. Iarossi in black ink.

The renewal of ABS began in the summer of 1990. It followed a severe recession in the maritime industries, which nearly sank our classification society. That fundamental renewal was aimed at ensuring the financial stability of ABS by streamlining our management processes, decentralizing our operations, and diversifying our resources, services and markets. At the same time that renewal was intended to reinforce the dedication to our historic mission of promoting the security of life, property and the environment.

Our progress over the past eight years has been steady, but the outward results of this renewal have never been so pronounced as in 1998. ABS experienced one of the best years in its 136-year history. Classification revenues benefited from robust activity in the shipbuilding and offshore industries, rising 15 percent over the previous year to a record

\$238 million. The total tonnage under ABS classification increased 5 percent to reach the 100m gross ton level. At year end a 22.5 percent share of all tonnage under construction or on order, was slated to be built to ABS class, most bearing the unique ABS SafeHull notation.

The diversification of ABS also began to return meaningful dividends in 1998 as its non-classification activities produced \$69 million in revenue from services to a wide range of industries. The total investment by ABS of \$23.5 million over the past eight years in the formation of the ABS Group of Companies, Inc. produced \$5 million in after-tax income for the year. This noteworthy result represents 7 percent profitability and a 22.5 percent return on the ABS investment. Through the acquisition last year of two companies, one specializing in environmental training and the other in risk assessment, as well as the formation of a joint venture software company, ABS Group positioned itself for further growth on a broad front. The Group's vision is to become a premier global organization dedicated to improving the safety, enhancing the quality and minimizing the environmental impact of its clients' activities.

As ABS plans for the new century, we continue to pursue two concurrent strategies: to strengthen our role as a leading classification society, while diversifying our activities through the continued growth of ABS Group. Both strategies are predicated upon sustained dedication to our mission — promoting the security of life, property and the environment — through the development and provision of diverse services to meet the challenges of a changing world.

The renewal of ABS and the development of ABS Group have given us the opportunity to greatly expand our employee base from 1,400 to almost 2,300 over the past eight years. Our employees represent a wide range of knowledge, experience and talent. Their diversity will be our continued strength. This annual review is dedicated to their story.

A B S Group

Diversifying for Global Success

Frank J. Iarossi
Chairman and
Chief Executive
Officer
ABS Group

History will show 1998 to have been a watershed year for ABS Group. It marks the point at which the growing activities of each of the subsidiaries of the ABS Group of Companies came together in a unified, integrated strategic direction.

This transition is reflected in the financial performance of the Group, which posted new records in every measurable category. That is an achievement in which every employee can take pride. But the greater accolade belongs to every member of the ABS

opportunities that confront our clients, and first prepare ourselves to meet them.

The changes affecting modern business come from many directions. Technology is evolving at breathtaking speed. Business practices are subject to constant amendment. Traditional relationships are no longer secure. Regulatory impacts can be bewildering. To succeed within such a dynamic environment requires a clear vision, decisive action and a willingness to be an agent of change, not a follower.

The vision of ABS Group is clear. It is to provide integrated services to our clients which assist them in improving the safety of their operations, enhancing the quality of their services and minimizing the environmental impact of their activities.

We implement this vision by developing integrated services that focus on developing an awareness of the issues that will affect the safety, quality and environmental actions of our clients.

From this awareness we are able to evaluate the adequacy of those actions and develop pro-active strategies which will not only ensure short-term compliance but also assist the client to implement safety, quality and environmental management systems that will encourage continuous improvement.

We verify compliance, provide certification when appropriate, and offer information management systems that will facilitate continuing compliance.

We pledge to provide these services while maintaining the highest levels of integrity and expertise. And we have developed a strategy to deliver these services through a global network of safety, quality and environmental professionals.

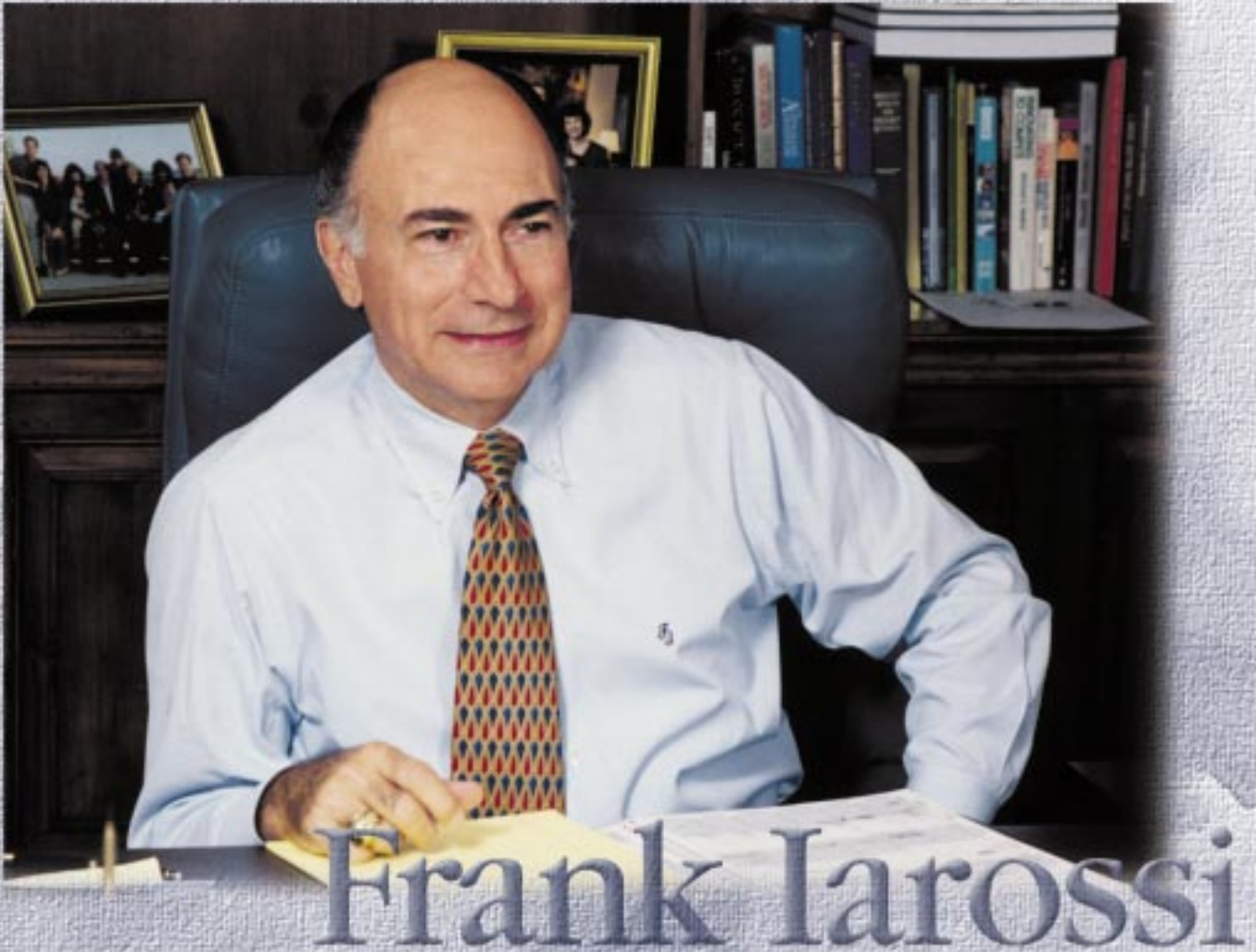
This vision and strategy resulted in an aggressive corporate reorganization and expansion in 1998. By year's end, the various subsidiaries of the ABS Group of Companies were brought together as a single operating unit, ABS Group Inc., delivering a portfolio of fully integrated safety, quality and environmental services to clients worldwide.

During the year we enhanced our capabilities through a strategy of

“The vision of ABS Group is clear. It is to provide integrated services to our clients which assist them in improving the safety of their operations, enhancing the quality of their services and minimizing the environmental impact of their activities.”

Group staff for the manner in which they have lived with change.

This ability to anticipate and adapt to a rapidly changing business environment will secure our future. Change is the medium of opportunity and growth. ABS Group has taken the opportunity to anticipate the changes that will impact our client's activities. In 1998 we responded by changing ourselves to meet that challenge. We cannot lead unless we have a clear vision of the challenges and



carefully structured joint ventures and acquisitions. As a consequence, ABS Group is poised to become the premier global training and consulting company within the areas of safety, quality and environmental management.

ABS Group is poised to become the premier global organization offering advanced analysis, consulting and training services dedicated to reducing the risk and improving the reliability of our client's activities.

ABS Group is poised to become the premier global enterprise promoting a fully integrated approach to safety, quality and environmental certification.

And ABS Group is poised to institute a global information network designed to acquire, store and analyze information related to safety, quality and environmental management systems.

Few companies have the experience or structure to function effectively in the global marketplace. It requires a

multicultural workforce and familiarity with differing laws, customs and business practices. Few companies have the financial resources to invest in a global network, able to respond quickly to the needs of every client. Few companies have the management expertise to think, act and operate globally.

ABS Group has each of those resources. We are an affiliate of the American Bureau of Shipping, a near 140 year old organization which offers comparable services specifically tailored to the international marine industry. ABS Group has the perspective, the experience and the international infrastructure to deliver a diversified suite of services to our clients wherever they, or wherever their activities, may be located.

We believe change favors industry leaders. They are most accustomed to anticipating and adapting to the dynamics of the business environment. ABS Group is such a leader. We stand ready to serve.

Committing to the Environment

Patricia Fitzgerald
Program Manager
ISO 14000
ABS Quality
Evaluations

Speaking five languages helps Patricia Fitzgerald establish common ground when working with her worldwide list of clients. The environmental management system certification process is as much about communication as it is about verification.

“My work takes me around the world, dealing directly with clients and auditors,” says Patricia, Manager of the ABS Quality Evaluations ISO 14000 Environmental Certification Program. “Maintaining and improving the quality of the environment has become a global concern for many

companies. Today’s premier organizations are more aware of the environmental impacts of their activities, products and services and of the associated business advantages than ever before.”

Established in 1996, ISO 14001 is an internationally recognized and accepted environmental management system standard. ABS Quality Evaluations, Inc. is a leading global registrar in certifying companies to the ISO 14001 Standard.

“The certification process examines a company’s environmental practices,” Patricia explains. “Our assessment verifies the organization’s commitment to a systematic approach to business operations and to continuous improvement of the Environmental Management System (EMS).”

“Our goal at ABS is to supply our clients with a highly trained audit staff that understands not only the intent of the standard, but can also make a fair evaluation of a company’s commitment to environmental performance.”

“Maintaining and improving the quality of the environment has become a global concern for many companies.”





Evan Michaelides

Managing Information

Evan Michaelides
Vice President
Product
Development
ABS Nautical
Systems

Information can be a curse or a blessing. The difference lies in how it is managed. Competitive advantage accrues to the company that is able to capture, integrate, analyze, store and retrieve information in the most effective manner. Doing so is a challenge. And that is the reason Evan Michaelides is so enthusiastic about his responsibilities with ABS Nautical Systems.

As Vice President Product Development, Evan heads a team of industry and computer experts who work with clients to develop the integrated

software modules that lie at the heart of SafeNet. That software addresses every major operational expense associated with the technical and personnel management of a ship or oil rig, including machinery maintenance and repair, purchasing, inventory, crewing, crew payroll, and structural maintenance, among others.

Evan came to ABS Nautical Systems in late 1998 from its joint venture partner, Nautical Technology Corp. "As part of ABS Group, our product has been immediately enhanced through its integration with ABS SafeNet," he says. "But the real excitement is that we are now able to service clients on a global basis, something we could not do effectively as a small independent systems developer."

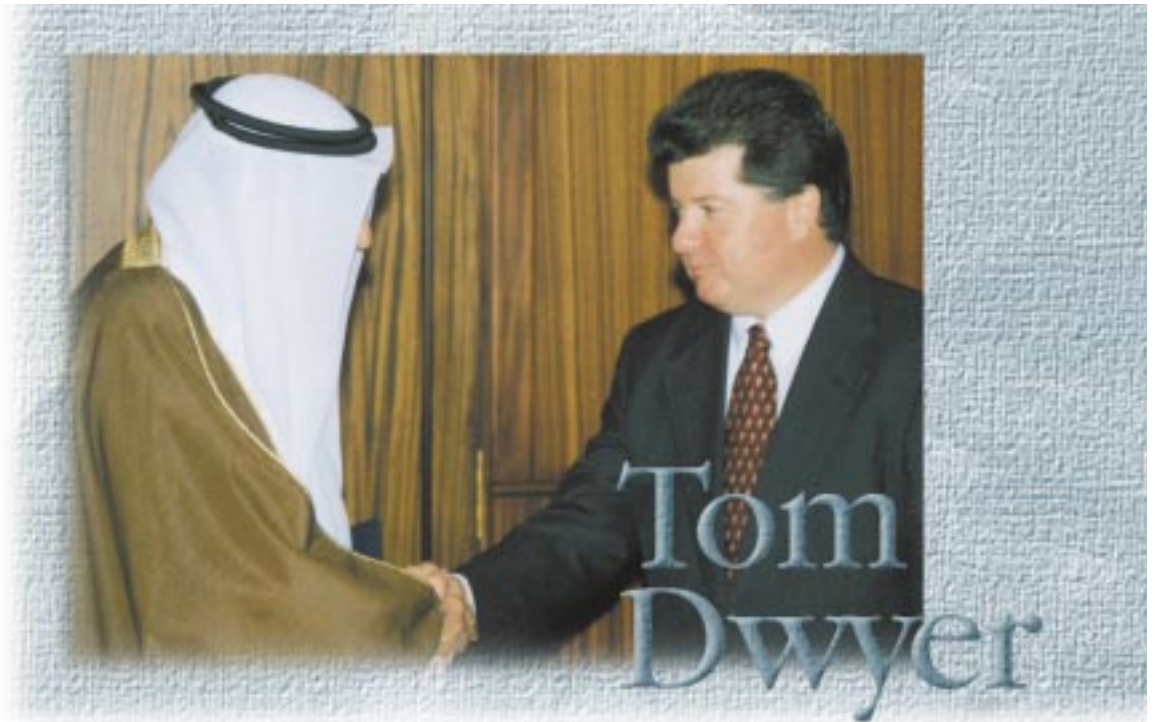
ABS Nautical Systems helps a company simplify the management of a single vessel or an entire fleet. "SafeNet is a totally integrated management system," Evan explains. "Data need only be entered once to be accessible through any of the management modules. A sophisticated replication manager means that every ship within an operator's fleet, every office, every warehouse has access to the same, constantly updated data. The result is that our clients have found they are dealing with much reduced paperwork and reduced administrative and operational costs," he says.

For the moment the principal challenge facing the Nautical Systems team is its own success, Evan reveals. "Since the marriage of the ABS and NTC programs, the growth has been phenomenal," he says excitedly. "We have established a global sales and support network, developed new management modules and signed on a significant number of new clients. This really is the start of something big."

"SafeNet is a totally integrated management system. Data need only be entered once to be accessible through any of the management modules. The result is that our clients have found they are dealing with much reduced paperwork and reduced administrative and operational costs."

Fielding Technical Support

Tom Dwyer
General Manager
ABS Group
Saudi Arabia



“ABS Group people in Japan, the Philippines, and Europe are all contributing to this job. Together, they act as the eyes and ears of the owner to make sure the plant is built to specifications.”

Water is a valuable commodity in the desert. A desalination plant capable of converting 25 million gallons a day is quenching the thirst of a desert refinery in Al Khafji. Tom Dwyer, ABS Group’s General Manager for Saudi Arabia, is overseeing the provision of third party engineering verification for that desalination plant.

“We provide worldwide procurement inspections for all the valves and piping,” Tom says. “That’s the advantage of being a global organization. ABS Group people in Japan, the Philippines, and Europe are all contributing to this job. Our on-site team includes civil, mechanical, electrical and instrumentation engineers, plus a diver. Together, they act as the eyes and ears of the owner to make sure the plant is built to specifications.”

The project is an example of ABS Group’s diversification and global strategy. It isn’t that the type of work is different, it is the way the work is being conducted. “We are using a wide variety of engineering, inspection and verification expertise,” Tom explains. “We’re doing everything on this one project. As a company, that’s the direction we want to be heading.”

Determining Risk

Michelle Johnson
Senior Engineer
Risk & Reliability
ABS Group

The city was already abandoned because of contaminated soil. But when the emergency exhaust system for a hazardous waste incinerator, designed to clean the soil, failed, the public was in an uproar.

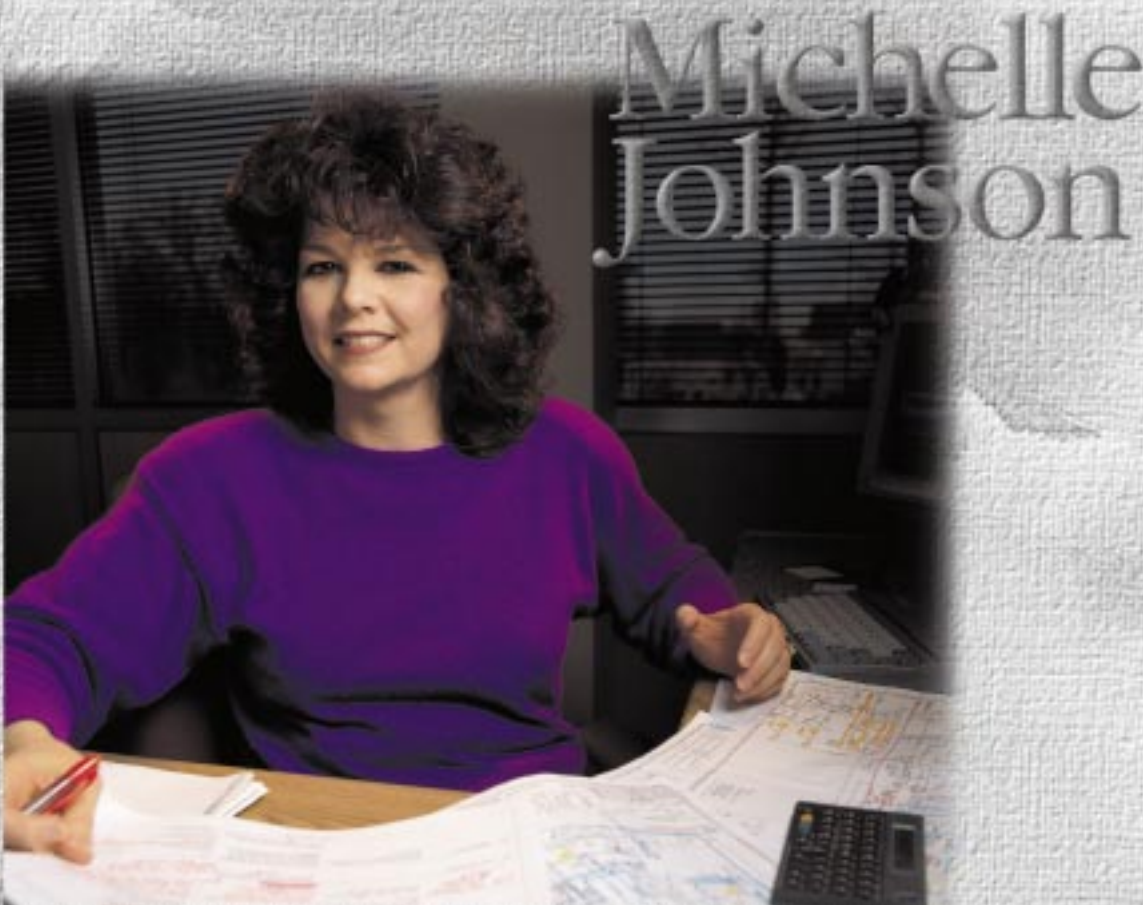
"People were worried: 'I'm going to be sick. My kids are going to be sick. My cows are going to be sick,'" recalls Michelle Johnson, a Risk and Reliability Senior Engineer with ABS Group. "Issues often become emotional and scientific-based assessment is needed to provide data to complete the full picture."

Michelle was called upon to provide the details. "They needed to know if their new system was going to be reliable and they needed to know right then," she says. Using qualitative tools, Michelle and her colleagues reviewed all the components of the system to identify not only what could fail, but what could be done to fix the weaknesses.

"We prepared a list of recommendations," Michelle recalls. "I helped them select the right techniques

because I knew the methods. But the client knew the system." Such teamwork with clients is a common approach used by ABS Group experts. "A lot of times the client has what is needed to solve their own problems, we just help them. It is a case of marrying our knowledge of the tools with their knowledge of the process."

"They needed to know if their new system was going to be reliable and they needed to know right then."



1999.1 ● TOPICS

TOPICS

“セーフ・ネット”をグローバル展開 ABS、ノータイカル計画を起動



Julie Hong

船の“安全”をただひたすら追求—
その精神が凝縮された“セーフ・ハル”で
世界的に市場開拓したABS(海運船機
協会)。大船運国あるいは大造船国に生
まれ、相当な基盤を持っている他の船機
協会とは異なり、何も無い水国からアジ
ヤの船機協会へと大きく成長して



Delivering Global Training

Julie Hong
Program Manager
Training &
Consulting
ABS Group

To be successful in business in Japan, it is essential to understand the differences in culture, philosophy and practices.

When Julie Hong, a Program Manager for ABS Group, began preparing a seminar for a Japanese company, she started with research. She made sure she was aware of key cultural differences that she would encounter in dealing with her clients. She learned a few Japanese phrases to greet them upon arrival in Yokohama. She learned to present her business card with both hands as a sign of respect.

“I think it is important to know as much as you can about the people with whom you will be working if you are to build solid and successful relationships in the global marketplace.”

“We took a lot of time to familiarize ourselves with the culture,” Julie explains. “I think it is important to know as much as you can about the people with whom you will be working if you are to build solid and successful relationships in the global marketplace.” Her homework paid

off. “Our Japanese clients were very pleased,” she beams. “Participants told us they felt the course had been tailored specifically for their needs. We were able to introduce many innovative and emerging technologies.”

On this occasion the client was one of the largest environmental engineering firms in Tokyo. The firm had become aware of the environmental training courses offered by ABS Group through its many instructional books.

Julie’s proactive approach turned a request for information into a comprehensive, on-site, customized seminar. She worked closely with the client in developing the program agenda. “We helped them identify the most common, successfully implemented, remedial technologies,” Julie explains.

Under Julie’s supervision, a four-day “Site Remediation and Restoration Seminar” was prepared for presentation in Yokohama to a team of top engineering experts with technology design experience. Presentations covered subjects such as soil vapor extraction and feasibility studies.

Although all the participants spoke English, Julie also used a translator to make certain there were no communication problems, particularly with the technical information. “We were very well received,” Julie says. “The very high feedback scores we received confirmed that success.”

She is confident ABS Group succeeded in fostering new relationships with more than just this one company. “Word of mouth carries a great deal of weight in this tight knit industry,” Julie notes. “We got our foot in the door. It is up to us now to build on this exposure. Going global is really exciting.”

Applying Technology to Expand the Market

John Krousouloudis
Vice President
Europe and
Middle East
ABS Group

"Our client's own customers require proof that a ship is in good condition," says John Krousouloudis. "That is why the shipowners come to us."

From his London headquarters John and his team of marine survey and engineering experts is busy working on a contract with one of the largest shipping companies in

Scandinavia. It represents a significant expansion of ABS Group's marine business.

"It's significant because it's for a Scandinavian-based shipowner," John notes. "ABS Group carries out projects all over the world. But a large marine contract in Scandinavia is like winning a game away from home."

ABS Group is applying leading edge technology to evaluate the structural condition of about 50 vessels in the company's fleet. It is providing an industry recognized rating and, in some cases, also projecting the expected lifespan of key structural components.

"We work very closely with clients to minimize the disruption in their operation," John explains. "We are aware of the business implications of taking a ship out of service but we must also adhere to our mission of safety."

John views personal service and advanced technology as the keys to success. "Our vessel condition assessment programs are being used as bench marks to evaluate others in the market. You cannot receive a better compliment than that in this business."

"Our vessel condition assessment programs are being used as bench marks to evaluate others in the market. You cannot receive a better compliment than that in this business."



Integrating Services

Shari Petrash
Proposal Manager
Cantarell Field
Project
ABS Group



**“ABS is multi-dimensional...
we are able to provide the wide
range of services demanded
by the client.”**

“The Cantarell Field project has pulled talented people from all over the company,” says Shari Petrash, ABS Group Proposal Manager for the project. Cantarell is the site of Mexico’s largest oil field. PEMEX, the state-owned oil company, has embarked on a multi-billion dollar project to modernize and expand the field. ABS Group was chosen to participate.

“ABS is multi-dimensional. That’s why we are able to provide the wide range of

services demanded by the client. Where we add value is by fully integrating these services,” Shari adds. “For us, the Cantarell Field project has involved staff and offices in the Americas, Pacific, and Europe. It has drawn engineers and inspectors from our Engineering & Facility Verification team, called on quality auditors from our Certification & Compliance group, tapped into our marine and offshore expertise, and it has relied on the classification expertise of our parent company, ABS.”

Cantarell is an important milestone for ABS Group, marking the future direction of the company. “We are constantly seeking ways to integrate our full range of services to provide total solutions to the safety, quality and environmental management system challenges our clients face,” says Shari. “Cantarell brings all these services together under the umbrella of safety and certification. That is a real partnership.”

Kristen Alves



Fairplay 24th September 1998

ABS muscles in Class gets into management software

I WAS a sweeping statement: "The future of fleet management will never be the same again," said ABS chairman Frank Larossi last week. It was hype, of course, but he may be right.

Class societies are getting ever more closely involved in ship operations — especially with the ISM Code and ISO 9000 before that — but the latest move by ABS goes beyond what any society has done before. In short, it has taken over a management software company — Nautical Technology Corp (NTC) — and combined its suite of programs into the ABS SafeNet system.

Strictly speaking, it was not ABS that took over NTC, but InfoLink Inc, part of the ABS Group, which exists to develop non-classification business. A new group member has been created, called ABS Nautical Systems, but it is

the ABS SafeNet system that it will be marketing.

As far as Fairplay is aware, only once before has a class society linked up with a software company, and that was at the end of last year when BV put its name to a program developed by Trident Software Developments to release its ISMManager. But that was cooperation for a specific purpose. This is a take-over; NTC has ceased to trade as a separate entity. In return, said NTC's chairman Kostas Douzianos, NTC has a minority stake in the new company and his customers are "ecstatic".

What they can now use is a combination of the SafeNet reports and the NTC management modules. Larossi promised that there would be more modules to come, but already the merger has taken



The payroll module is just part of the expanded SafeNet the society's software into new areas such as inventory management, crew payroll and code compliance.

ABS needs to diversify. Unlike for most societies, classification work represents 80 per cent of its workload, "and we've decided that's a dangerous place to be in the long term," said Larossi. So he has gone into head-on competition with software companies, predicting consolidation in that sector as a result. "Our competition see this as a threat," he said.

Responding in an Emergency

Kristen Alves
Program Analyst
Marine Casualty
Response Center
ABS Group

It's an unpredictable job. Weeks go by with ships and their crews on passage and trouble-free, leaving the team at ABS Group's Marine Casualty Response Center (MCRC) to focus on routine tasks. But about once a month, MCRC is called into action to assist a client with a ship in peril.

The Oil Pollution Act of 1990 requires tankers entering United States waters to have a designated person in the US ready to respond to emergencies. ABS Group offers two emergency assistance programs, the Rapid Response Damage Assessment (RRDA), a worldwide service, and the Qualified Individual (QI) Program, as required by OPA 90. "We are on call 24 hours a day," says Kristen Alves, Program Analyst with MCRC.

Kristen's colleagues deal directly with a ship in distress. When they do, however, it is her meticulous work in writing the vessel's oil pollution contingency plan that directs their actions. "I deal with what the ships need to do in emergency situations," Kristen says. "The key is preparation. You never know when we will be called into action."

When the alarm is sounded, a highly trained team of ABS Group marine veterans responds. Within the hour, the MCRC team will have assembled to begin developing the required technical response. Regardless of the casualty, whether an oil spill, collision, grounding, fire or explosion, these early minutes are vital.

RRDA, available to clients' vessels worldwide, requires a computerized model of each ship to be built and stored with the Houston-based response team. "It is crucially important to have access to the full technical specifications of the ship," Kristen stresses. "Our naval architects and engineers are able to draw on this information to develop the most effective technical response."

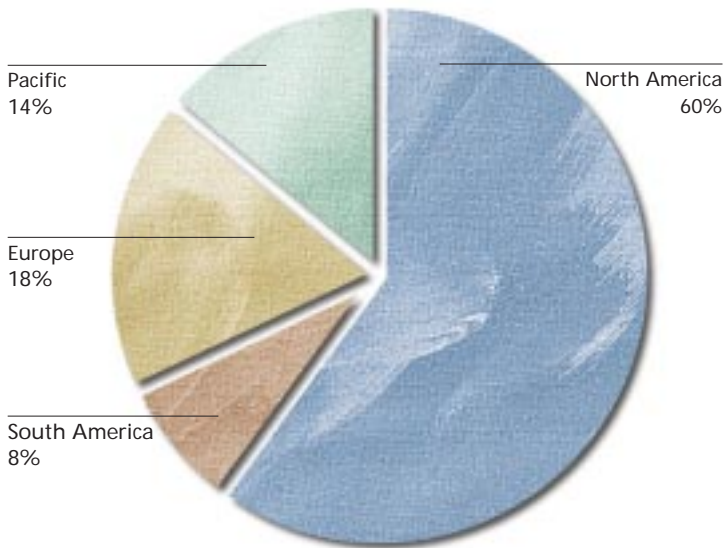
In many instances the quicker the technical response, the higher the probability of either limiting oil outflow or of preventing further damage or even the complete loss of the vessel. "We can load the model and use it to provide rapid guidance on complex stability or structural problems," says Kristen.

"Our clients are really the best ones to tell our story," she adds. "I'm just one of the team. When we come together, we are focused on saving life and property and protecting the environment in which we all live."

"Our clients are really the best ones to tell our story, I'm just one of the team. When we come together, we are focused on saving life and property and protecting the environment in which we all live."

1008 ABS Group Year in Review

REVENUE BY REGION



Record revenues, a successful program of acquisitions, strong operating income, and a strategic reorganization were the hallmarks of the most successful year in the history of ABS Group of Companies.

The pattern was established early with the successful completion of the acquisition of Government Institutes Inc., located in the Washington DC area. Established 25 years before, the company held a pre-eminent position as a provider of training courses relating to safety, quality and environmental issues. GI also publishes regulatory and legal texts, books and electronic information products.

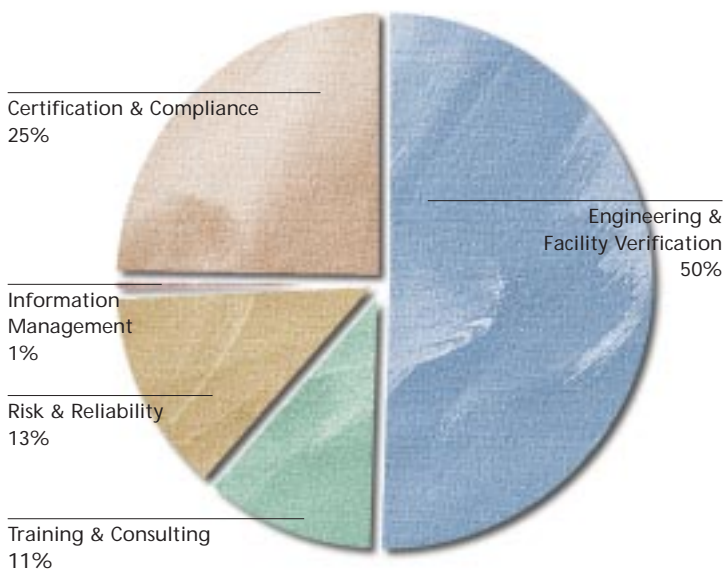
ABS Group's aggressive expansion strategy continued with the acquisition in June of JBF Associates Inc. of Knoxville, Tennessee, a prominent firm of system reliability and safety engineering consultants. The company specialized in analyzing engineered or management systems to assess risks and develop appropriate risk mitigating solutions for the nuclear, chemical manufacturing, and oil and gas processing industries. The acquisition strengthened ABS Group's ability to offer a full range of services addressing safety, quality and environmental management.

JBFA also offered a substantial portfolio of related training courses, offered through its Process Safety Institute and System Reliability Institute, further strengthening ABS Group's burgeoning training and consulting activities.

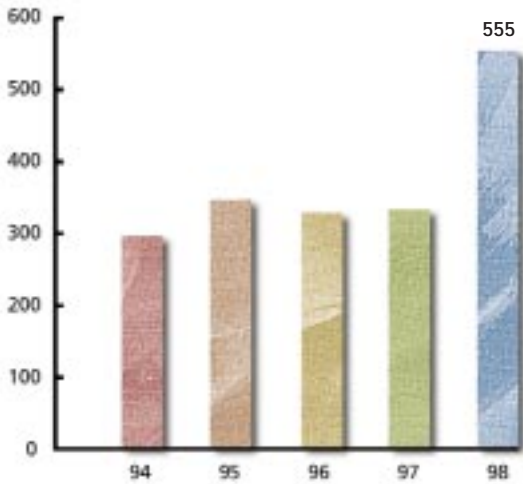
As the year progressed, a strategic reorganization of ABS Group's activities was undertaken to maximize the expanded range of services stemming from these successful acquisitions. Existing activity within the fields of verification and certification was reviewed. As a result, services were allocated to four principal business lines: Risk and Reliability; Training and Consulting; Certification and Compliance; and Engineering and Facility Verification, which includes the Group's traditional strong business within the marine and offshore sectors.

In concert with this reorganization, a review of the ABS Group's global network of offices was undertaken to improve the

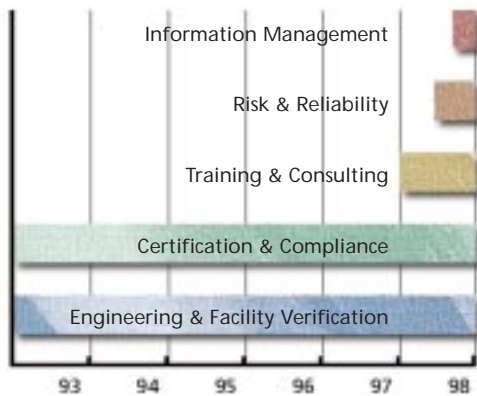
REVENUE BY BUSINESS LINE



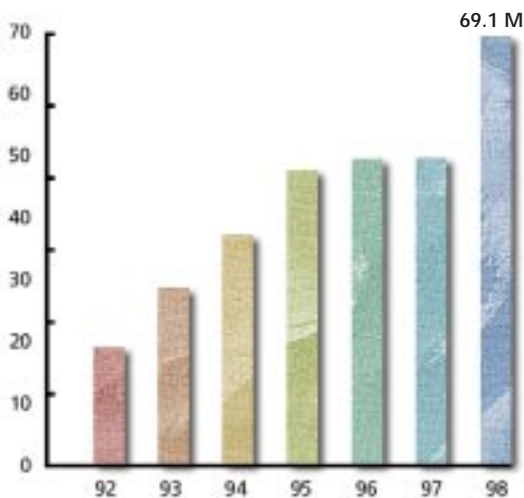
ABS GROUP EMPLOYEE GROWTH



EXPANSION OF BUSINESS LINES



ABS GROUP OPERATING REVENUE



delivery of services.

A further expansion of ABS Group's activities occurred in September with the establishment of a new joint venture company, ABS Nautical Systems LLC in which the ABS Group subsidiary, ABS Infolink Inc. took a majority holding. Partnering ABS Group in this new venture is Nautical Technology Corp. of New York, which contributed its successful suite of NTC Ship Manager software to the existing ABS SafeNet fleet management program.

The new alliance created the most comprehensive, most advanced and most practical fleet management program available to the maritime and offshore industries. Marketed under the ABS SafeNet product name, the expanded suite of information management programs received immediate support within the industry resulting in an influx of new orders during the fourth quarter.

This dramatic series of acquisitions overshadowed steady performance in each of the existing areas of ABS Group activities — quality management system certification, non-classification marine technical and consulting services, industrial verification, and offshore engineering, inspection and consultancy. Contracted services were provided around the world, with significant engineering and verification contracts being undertaken in Singapore, Mexico and the Middle East among others.

A principal area of ABS Group activity throughout the year continued to be the services provided to PEMEX relating to the modernization of the Cantarell offshore oil field. The multi-year contract, awarded to ABS Group in 1997, remains the single largest individual contract ever undertaken by ABS or any of its affiliates. It is representative of the completely integrated safety, quality and environmental management services which the Group is structured to provide as part of major industrial projects.

The end of 1998 marked the opening of a new chapter in the history of ABS Group. With a clear vision, a defined strategy, expanded expertise and a global network in place, the company is positioned for further success in 1999 and beyond.

ABS

Safety is Not Negotiable

Robert D. Somerville
President and Chief Operating Officer
ABS

Safety. Standards. Service. Three words stand at the center of ABS. Together they ensure the ongoing success of this organization. It is our belief that when every maritime organization embraces these three principles, the industry will be rid of many of the problems that confront us all.

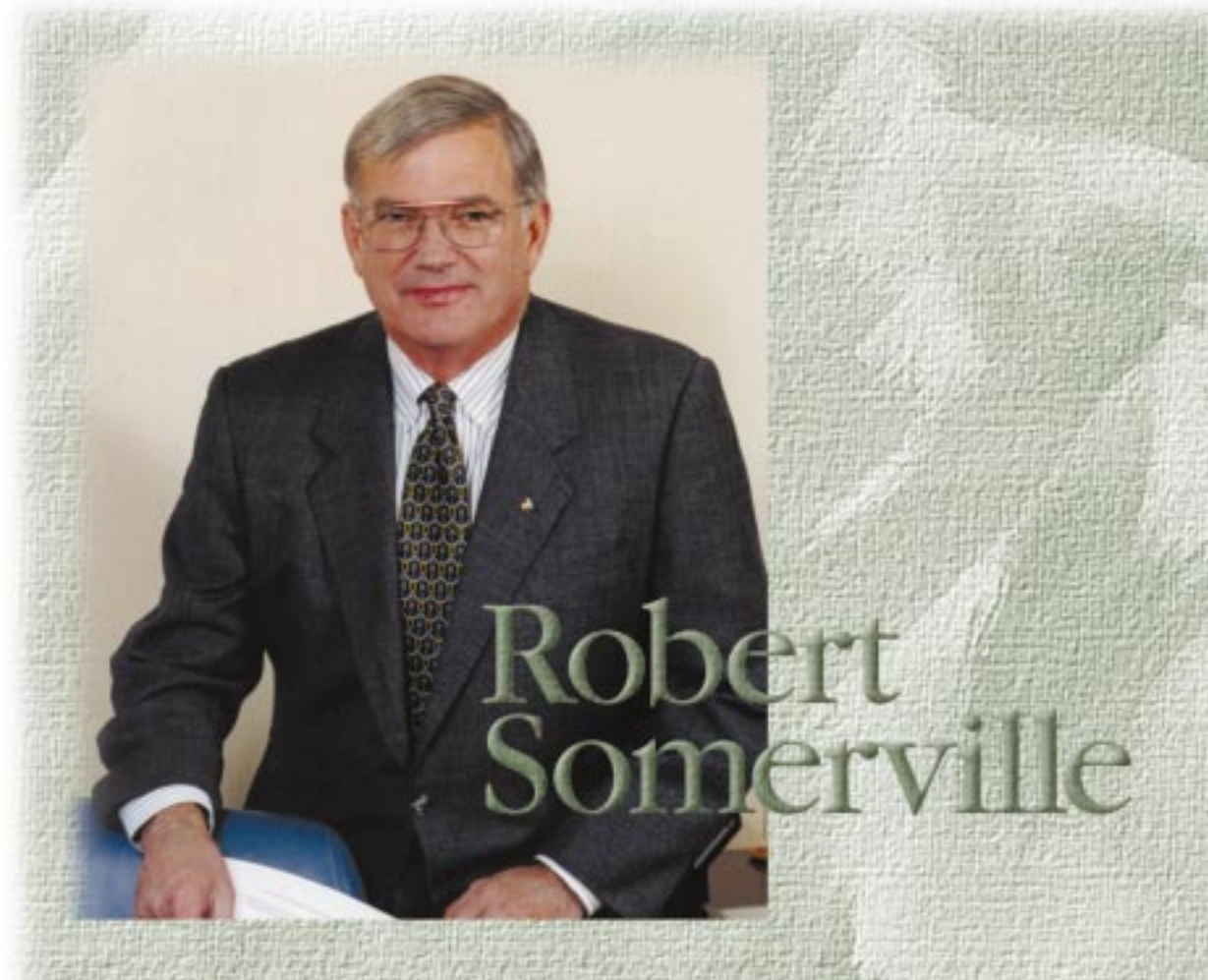
Safety should be the paramount consideration. Too often too many within the industry indicate by their actions that safety is considered no more than another business expense. Such operators will find no tolerance for their actions within ABS. Human life is not negotiable. Yet press reports continue to reflect evidence that a small, yet significant number of operators have a very low regard for seafarer safety.

Those that ignore safety for perceived incremental commercial advantage have failed to understand that, by improving

the safety of their operations, they will reap even greater financial benefit. Other industries, which have a more progressive approach to modern management, have clearly shown the positive returns spawned by the adoption of comprehensive safety and quality management systems.

The establishment and application of standards have been the core activities of ABS from the time of its foundation. Governments also play a significant role, establishing standards through regulation.

Many owners argue eloquently that shipping is an over-regulated industry. Most of these complainants are reputable, responsible operators who understand the importance of safety, standards and service. Looked at in isolation, their argument is valid. Unfortunately they do not operate in isolation. The term 'sub-



standard', whether applied to a ship, an owner or a manager will not soon be erased from the maritime lexicon.

These sub-standard elements are a plague on the industry, destabilizing what should be a free and fair market, jeopardizing the lives of seafarers and endangering the coastlines of the world.

At ABS we constantly review those standards for which we are responsible, our Rules, seeking ways to make them more current, more practical, less onerous and more effective. We support similar

legislation often serves only to penalize the responsible operator.

Effective implementation is the more appropriate response. We accept that we must start the process by reviewing ourselves. During the last year we have taken swift, remedial action whenever we have found ourselves to have fallen short of the standards we expect of others.

The shipping business is a service business. We each exist to serve another. At ABS we never lose sight of the needs of our clients. That does not mean we compromise either our commitment to safety, or our responsibilities in developing and verifying standards. It means listening to our clients, developing practical solutions to their problems, responding promptly and professionally whatever the requirement and wherever the need, and charging fairly for the services rendered.

Safety. Standards. Service. We measure our success by these three criteria. Certainly, financial success is essential to ensure survival and growth. Together, these principles provide ABS with the financial resources needed to underwrite our future.

But there are other indicators of success. A steady reduction in the number of ABS classed vessels subject to Port State detention for class-related deficiencies, and a steady reduction in the number of damage incidents to which our surveyors are called, provide examples.

But the greatest satisfaction comes from the knowledge that we are not alone in promoting these core principles. After years of widespread apathy, there is clear evidence that a growing number of participants have recognized that a proactive approach to safety and standards will benefit the entire industry.

Change takes courage and we applaud those that have dared to confront the unacceptable practices and practitioners within the maritime community. Together we are drawing the safety net more tightly around the activities of the sub-standard operator. We should not rest until the task is complete.

**“Safety. Standards. Service.
Three words stand at the
center of ABS. Together they
ensure the ongoing success
of this organization. It is our
belief that when every
maritime organization
embraces these three
principles, the industry will be
rid of many of the problems
that confront us all.”**

initiatives being undertaken by a handful of flag and port states to improve the regulations that already exist, rather than continue to attempt to legislate the sub-standard elements into extinction. Such

Investing in the Future

Don Birney
Vice President
Human Resources
ABS

Don Birney carries a mental atlas inside his head. It includes the location of the more than 200 offices scattered across the globe that represent ABS or one of its affiliates. Each of those offices must be staffed with appropriately trained employees. As ABS Vice President, Human Resources, it is Don who is father to this diverse, yet united family.

"More than half our staff now comes from countries other than the US," says Don. "We have found the best way to

serve our clients is to have someone who is familiar with the country, the customs and the language as their first point of contact."

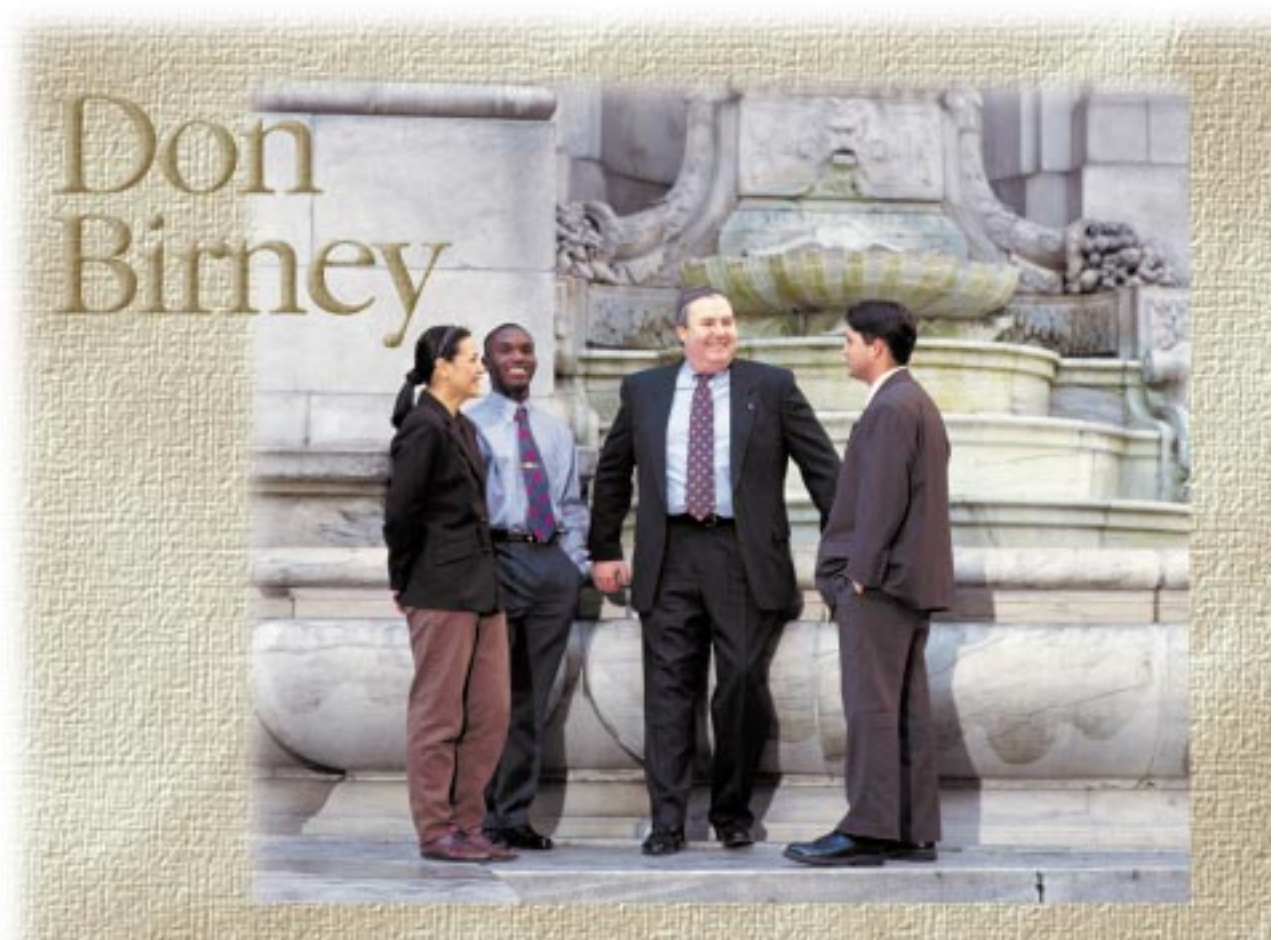
Don is proud of ABS' recent efforts to invest in many of these countries through an expanded, international program of educational scholarships.

A snapshot of the program today shows students from many countries — China, Japan, Korea, Greece, Italy and the United Kingdom, among others.

ABS established the scholarships to encourage talented students to pursue careers in naval architecture, marine engineering and ocean sciences.

"Everything we do at ABS is founded on the bedrock of maritime safety," says Don thoughtfully. "This gives us an opportunity to cultivate the marine industry's future leaders, no matter what country they call home."

"More than half our staff now comes from countries other than the US."



Cooperating for Commercial Success

Duncan Peart



Duncan Peart
Surveyor
United Arab
Emirates
ABS Europe

In the tanker business, time is money. An owner wants to keep his ship moving. Idle time means it is not earning. A classification society, however, needs time to conduct the periodic inspections required to keep the vessel in class.

"We recognize the commercial pressures our owners face," says Duncan Peart, an ABS Surveyor stationed in Dubai. "What we try to do is work with them to develop a strategy so that the surveys can be carried out with the minimum disruption to the vessel's operation. All it usually takes is communication and cooperation. Provided the owner realizes that we cannot compromise our standards, both sides can come away happy."

As evidence Duncan cites a recent survey he conducted on a 25 year old vlcc.

"I worked with the Owner's Superintendent to draw up a strategy for the tank examinations," he recalls. "To minimize the inspection time, I flew to Cape Town to join the ship on the ballast voyage back to the Arabian Gulf. The Owner's Super joined me on board and we carried out all the close-up surveys using inflatable rafts. That gave us the advantage of also being able to complete the hydro-testing of the tank bulkheads at the same time."

This cooperative approach allowed Duncan to complete the survey while 'riding ship' in 16 days. "ABS Dubai is able to respond to owners' requests for surveys on very short notice," Duncan says. "Even if we need to fly a surveyor to join a ship in Singapore or South Africa, we are ready."

Breaking Down Barriers

Ken Okabayashi
Country Manager
Japan
ABS Pacific

In a country that holds trust and relationships in the highest regard, there is no better person to represent ABS than Ken Okabayashi. Ken has forged a unique rapport with Japanese shipyards and owners. His efforts have established ABS as the alternative classification society in Japan.

In so doing he has earned the title of “respected businessman”, something that takes many years to earn in this traditional society.

“The biggest challenge has been

building relationships with the shipyards and the owners,” he says. He is undaunted. He is a formidable competitor who is serious about his business development role. “We are positioning ourselves with SafeHull, SafeNet, and new construction,” he says firmly.

“Everyone knows about SafeHull,” he continues “but I must explain the cost benefit of using SafeHull — explain the business benefits of safety. Yes, it can cost a little more, but I can make a strong business case for using it.”

It is easy to understand why he is so successful. Ken applies the “golden rule” daily. “We work as a team here in Japan. I have about 115 people. They all work very hard. So my story is really the success story of all of these people.”

“My story is really the success story of all of these people.”





management

Faith Lee

...to the
owners and
ABS and NTC

...partnership
...based clas-
...technology
...comprehen-
...Entry into this sector by
...already supplying management software.
The new joint venture is called ABS Nautical
Systems and it will market the new fleet management
network, with all former NTC software products being
marketed under the ABS SafeNet brand, including the
NTC Ship Manager program modules, ABS Group,
through ABS InLink, is the majority shareholder in the
new venture but all former NTC staff will be transferring
to the joint company. President of NTC, Kostas
Doutinas, is a principal in the new company. The
venture will be based at the ABS office in Houston and
a European office in Ploese.
ABS chairman Frank Iarossi commented: "This new
alliance creates the most comprehensive, most advanced
and most practical fleet management program available
to vessel owners and operators. It brings together the
technical expertise of ABS and the operational experience
of NTC in a single, fully integrated information
network which addresses every element of a fleet

manager's day-to-day operations, from survey
machinery-planned maintenance to crew payroll.
Mr Iarossi told Ocean Voice that ABS had evalu-
ated a number of potential partners providing management
programs to shipowners before settling on NTC. He
said that NTC was the "technology leader in its field and
the most practical, operationally oriented management system available and a perfect fit
for SafeNet."

Mr Iarossi said that the origins of this integrated
concept go back to his days at Exxon Shipping when an
integrated computer-based management system was
developed, although with relatively primitive tech-
nology. This generated significant savings in terms of
shore-based support requirements.

Spreading its wings

ABS SafeNet was first launched in 1996 as a software
system mainly providing Survey Status and other infor-
mation relevant to the classification role. According to
Mr Iarossi it had about 1,000 clients at the beginning of
September. The new joint venture means that ABS has
now spread its wings to take in a full range of shipman-
agement functions. A new version of SafeNet is being
launched incorporating both ABS' and NTC's software
products into a single system.

- The main modules are:
 - Survey status - giving up-to-date information on all class and statutory surveys;
 - Vessel drawings - updated details of all ship structures which are scanned into electronic form and stored on CD-Rom;
 - Marine information - a database directory of ship-

Building Bridges

Faith Lee
Technology
Transfer Director
ABS

She is known as “Guan Jie” at the shipyards in China. Faith Lee’s affectionate title translates to “Sister Kuan”. In Chinese culture, the “Sister” title, coupled with her maiden name “Kuan”, connotes respect laced with a comfortable familiarity. The near 30-year ABS veteran’s work relationships allow her to blend friendship with business. She marries technical credibility and the all-important human element to create a uniquely individual ABS service.

The business side of her relationships in China start at the shipyards. “I was visiting the Chinese shipyards and their design centers,” Faith recalls. “We were introducing the yards and their designers to SafeHull. At each shipyard I started a training course. After each course we

maintained these relationships so that we could exchange information.”

After all, Sister Kuan is the Technology Transfer Director at ABS.

As a result Faith began to develop a unique relationship between ABS, the Chinese designers and SafeHull. This relationship spurred the development of a Chinese language version of SafeHull. And it led to the establishment of a dedicated SafeHull training center as part of the Marine Design and Research Institute of China (MARIC) in Shanghai.

More recently Faith has been working with the Dalian University of Technology and the China Ship Scientific Research Center at Wuxi. ABS is sponsoring research projects at both institutions.

“We are planning to offer short courses and training classes in the universities, and we continue to develop courses on topics that are requested by the shipyards based on their needs,” Faith adds. “All the major yards have also made requests to send their engineers to the ABS New York office to gain valuable experience.”

“Addressing the needs of our clients is an on-going priority of ABS’ technology team,” Faith emphasizes. “All of our work is targeted towards making sure the needs of our clients are being met.” It was for that reason that ABS established a full technical office in Shanghai.

“It means we are not just offering leading technology. We are able to provide responsive, local service too. We no longer need to forward plans or problems to Japan for approval or solutions. We have brought ABS closer to the customer. That’s the purpose of diversification.”

“Addressing the needs of our clients is an on-going priority of ABS’ technology team. All of our work is targeted towards making sure the needs of our clients are being met.”

Forging Relationships

J.C. Pacheco
Country Manager
Brasil
ABS Americas

Mutual respect has enabled ABS Brasil to become a principal provider of classification services to state-owned oil major, Petrobras. "The company is involved in some of the most exciting new technology currently being developed for the offshore sector," says J.C. Pacheco, ABS Country Manager, Brasil.

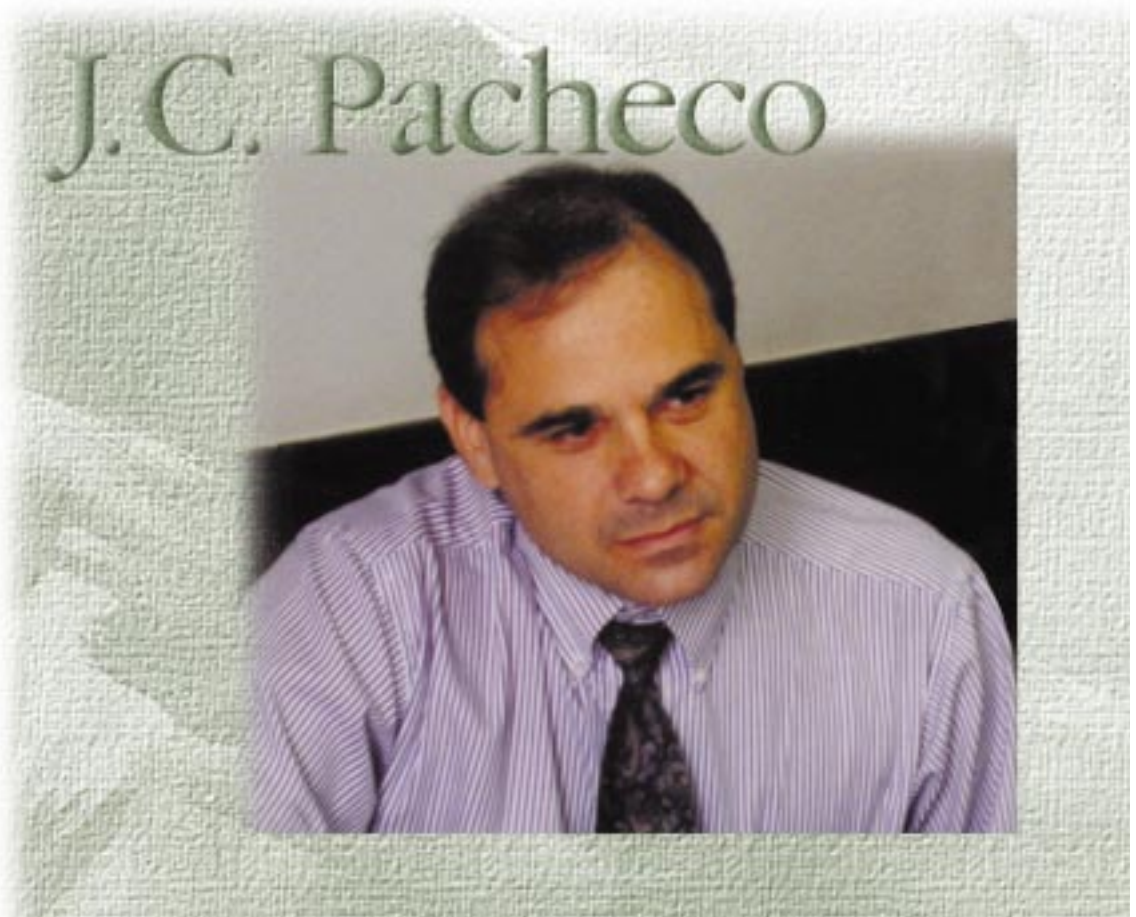
"The amount of money being invested in developing the huge Campos Basin, deepwater fields is enormous," he explains. "The risks are equally great. It contains the largest oil reserves in the country. But the technology needed to find and produce oil from the field is in

advance of the leading edge. That is why ABS has been selected to assist with so many of these projects. Trust in our abilities is essential. Respect for the technical skill we bring to the projects is what secures the business.

"The technology development, driven by our client, has prompted ABS to respond with either new standards, such as our *Guidance Notes for Synthetic Moorings*, or for updated standards that properly address these developments." ABS has played an important role in identifying these technologies. We have been able to make significant contributions to our own technical expertise in the process."

Pacheco is quick to point out that teamwork has been a key to success. "When you listen, respect, and respond to the client, the business relationship becomes more long-term. And long-term relationship building is what it's all about in South America."

"Respect for the technical skill we bring to the projects is what secures the business."



Responding Locally



Dimitri Houliarakis
Vice President
Eastern Region
ABS Europe

"ABS has maintained a full engineering office in Piraeus for many years," says Dimitri Houliarakis, Regional Vice President. "It allows us to respond quickly to any technical problem a local owner may have." When the office recently reviewed 51 bulk carriers for local Greek clients against new structural criteria, the importance of a local full-service office was strongly revalidated.

"On the bulk carrier issue, we were able to initiate direct discussions between an owner's technical staff and our engineers. That way there were no misunderstandings over the requirements or their interpretation. We were able to quickly detail the work that needed to be done, and then worked with owners to minimize any disruption to a vessel.

"Being Greek, in Greece, assisting Greek owners means that we have a far better understanding of their concerns," he explains. "I know many of our clients personally from my university years or my time in the Navy or at the shipyard. Many of my staff have developed similar relationships during their professional careers. It means that we are able to give our clients the individual attention they deserve.

"In shipping everything has to be done yesterday," he adds. "So it's not only the trust, but the speed of response that owners need." He takes the day-to-day pressures in stride, referring to them only as opportunities. "My work in Greece is intertwined with who I am. It is much more than just a job."

Today's class is general studies

ABS moves to corner another market

BY taking over Nautical Technology Corp and combining it with ABS InfoLink to create a new company, ABS has put itself in head-on competition with its former management software partner. The move, which now extends beyond technical details of shipbuilding affairs, check the codes are concerned (page 25). ABS is right when he predicts that the move will provoke consolidation in the industry.

It has become a challenge for ABS in January. Fairplay put the cost of their technology more to it than that they can make much money. The bulk of their income comes from other sources. So that is why

ABS knows from experience that shipping. Back in the 1970s, when the industry was in decline, the society was not. Without the upturn in the industry, it would have found it hard to remain buoyant, it has always wanted to be ready for when the industry has to face a question

Fairplay 24th September 1998



Ken Nelson

Changing Attitudes Towards Safety

Ken Nelson
Head of Safety
and Environment
System
Certification
ABS

“The maritime world is changing the way it thinks about safety,” says Ken Nelson, Head of ABS’ Safety and Environmental System Certification. “For the first time in its history the industry has begun to deal with the fact that most accidents involving ships and pollution are actually caused by human error.”

If, as a result, the maritime industry “truly develops a safety culture,” he contends, “it could change the current inspection regime.” That is an enticing carrot to dangle before an industry which frequently complains that it is over-regulated. “To make that case there would have to be a demonstrable improvement in loss ratios, casualty incidents, Port State detentions and other accepted measures,” Ken warns. “Those results could provide the backing the maritime industry needs to make a compelling case for more self-regulation.”

“The maritime world is changing the way it thinks about safety. For the first time in its history the industry has begun to deal with the fact that most accidents involving ships and pollution are actually caused by human error.”

The term ‘safety culture’ has yet to penetrate deep within the industry’s conscience, even as the first foundation for such a culture, the ISM Code, is being assimilated into many operators’ management practices. The first phase of the Code entered force on 1 July 1998. It is the first step towards addressing the human component, the way in which ships are operated, and the people who are involved. “Both the people associated with the ship and its structural integrity are of equal importance,” says Ken.

As with every other maritime safety initiative, there have been a small number of operators who view the ISM Code as an impediment to the manner in which they prefer to operate. The majority of operators could best be described as reluctant adopters of the Code. “Initially, many of them complied with the new certification simply because they had to,” Ken admits.

“What is encouraging is that, now that they have had time to adjust, many of them are describing it as a helpful tool. They’re telling us how they’ve gotten benefits — some tangible some not so tangible,” he recounts. “After all, it is difficult to measure the impact and the cost of the accident you didn’t have.”

Safety is difficult to measure, but dangerous to disregard. The ISM code is the first step towards a safety culture. ABS has recognized this new direction and has adopted a leadership position, developing an integrated Safety, Quality and Environmental (SQE) standard.

This activity is a far cry from the traditional engineering-based responsibilities of a classification society. “There is a revolution taking place,” says Ken. “Most of the players in the industry are not aware of it. Yet it has already changed the way we at ABS think and act.”

Speeding Development



Oreste Del Conte
Country Manager
Italy
ABS Europe

Who but a visionary would ever have conceived a fleet of 11,000 gt, 40 knot passenger/car ferries? Italian ingenuity, coupled with ABS technical expertise turned that dream into reality for the ferry operator, Tirrenia, during 1998.

"ABS Italy has been a partner in this challenge from the beginning," says Oreste Del Conte, ABS Country Manager.

"Our Rules are in a constant state of evolution."

"Classing these new vessels has been a wonderful experience for our engineers and surveyors. They have been given the chance to further extend our technical knowledge in this area. We were already the leaders in developing and applying

technical standards for the new generation of high speed, high capacity mono-hull car ferries. This project has allowed us to extend that lead."

The owners and shipyards chose ABS because of its technical capabilities and experience Oreste explains. "The designers asked for our participation right when they started the project." These ferries are the first craft to be designed under the new ABS *High Speed Craft Rules*. The project has thus provided an opportunity to further refine them.

"They represent a perfect example of how ABS develops new technology, in concert with industry, so that previous barriers can be safely broken," says Oreste proudly. "Our Rules are in a constant state of evolution. They must always reflect the latest technology, and embody our entire store of technical knowledge."

Keeping Pace with Our Clients

William Sember
Vice President
Western Region
ABS Europe

ABS has always understood the importance of having a local presence when working with clients. When some of those clients moved into the new frontier, oil boom area of the Caspian Sea, ABS moved right alongside them. "We looked at the area and decided we had to have a presence," says Bill Sember, ABS Europe Vice President, Western Region.

The icy waters of the Caspian Sea may be daunting, but they hold the promise of huge oil reserves that are, as yet, largely untapped. ABS has staked its claim. "We're bringing in experience, and we're making sure quality standards are being met," Bill stresses.

Although oil prices are at an all time low, and some fledgling players in the high stakes Caspian game have pulled

out, "we believe in the potential for growth in the region," says Bill. "Our clients continue to believe in that potential and we are committed to our clients."

The remoteness of the area is posing some unique operational and technical problems. ABS has the skills to provide valued assistance to the offshore operators, struggling to develop equally unique solutions to these problems."

"With our new office in Baku we have a better feel for what's needed," Bill adds. "We are able to maintain direct, open lines of communication with our clients. We do the listening. This is a developing area. Everything is fluid. It is the sort of situation that brings out the best in ABS. It's a very exciting time."

William
Sember



Improving Safety with Technology

Gary Horn
SafeHull Manager
ABS

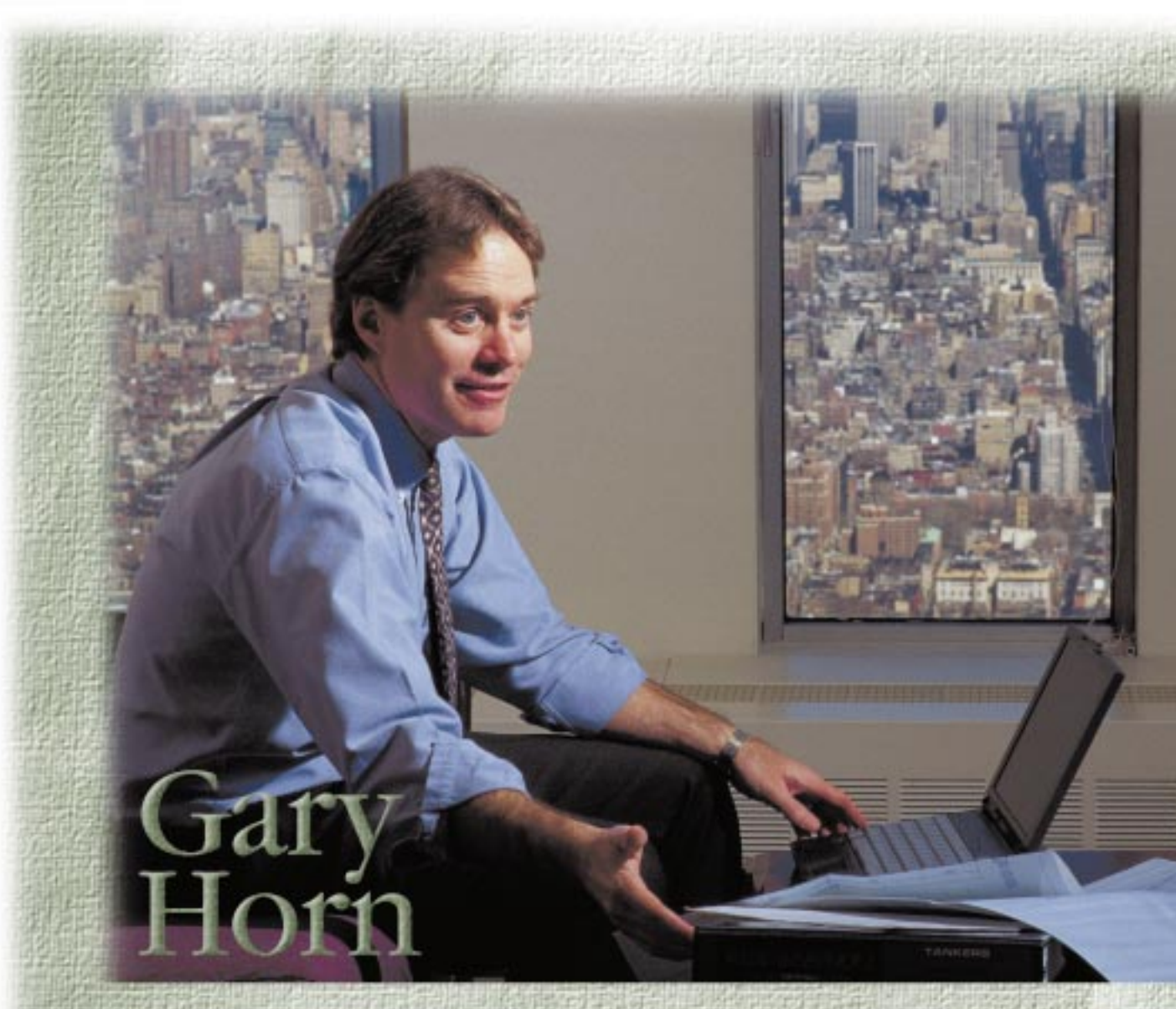
“When a ship is being designed there is always a trade-off between vessel strength and the amount and weight of the steel that goes into its structure,” says Gary Horn, Manager of the ABS SafeHull program.

“A designer certainly doesn’t want to add excess steel as it will detract from the vessel’s cargo carrying capabilities. Equally, too little steel can create costly, and potentially dangerous, structural problems, such as cracking and fatigue-induced failure over the ship’s life. SafeHull gives designers a tool to better balance these

issues. By applying SafeHull, the designer can maximize vessel strength by placing material where it is needed most.

Gary explains, “What SafeHull does is clearly indicate where steel needs to be added in the highly stressed areas, and where less steel may be acceptable because of the low stress values.”

“In developing SafeHull, we did not ignore all the accumulated wisdom and experience we had gained from applying the more technically simplistic, prescriptive Rules to vessel design,” Gary stresses. “But SafeHull has provided an infinitely more



advanced, more analytical and more accurate method of evaluating the design.”

In essence, SafeHull brings the same engineering principles of the Dynamic Loading Approach (DLA), to the task. While not as complete an analysis as DLA, SafeHull offers a much faster approach, suitable for all but the most complex structures.

As removed from personal interaction as all this may sound, Gary reassuringly points out the personal touches ABS provides as part of the SafeHull package. “My department is

heavily involved with providing technical support and training to our clients, particularly the principal shipyards in Asia,” he says.

“We have stationed SafeHull experts in each of our principal engineering offices. Clients are in contact with these engineers in our local offices. Using modern communications we are all able to electronically trade information on the designs, and then use SafeHull to analyze these ships. SafeHull provides owners with stronger, safer ships than was previously possible.”



Creating Leading Technology



“We need to be always looking ahead so that we can improve our Rules and provide sophisticated technical support to other departments within ABS, and to outside clients,” says Dr. Yung S. Shin. He is one of the most senior researchers in the Technology department of ABS. “Our efforts have laid the groundwork for many pioneering and successful projects — including SafeHull.”

His specialty is the determination of the impact of waves, and the loads these place on a ship or offshore rig's structure. Analyzing environmental data, mainly wind, wave and current, Shin calculates how a ship will respond at sea to determine if the strength criteria applied to the evaluation of the design is adequate.

Some of the topics assigned to him and his team include: Dynamic Loading Approach Using 3D panels (DLA3D); High Performance Ships Analysis (SESS, SWATH, Trimaran); wave impact due to bottom slamming and bow flare; and Offshore Structure Analysis System (OSAS).

His research is evaluated, using models, in some of the world's leading hydrodynamic laboratories. He is more than a theorist; he tests his conclusions and makes decisions that will affect future ships not yet on a designer's drafting table.

“I believe our R&D efforts improve the reliability of ships and offshore structures, and ultimately enhance the safety of life, property, and the marine environment,” Shin says. “What we do speaks to the heart of the ABS mission.”

Dr. Yung S. Shin
Staff Consultant
Research and
Development
ABS

1998 A Year of Accomplishment: A Time of Change

Each year poses different, often unique challenges to ABS. 1998 was no exception. Economic uncertainty buffeting Asia and threatening the global economy, falling oil prices and marshmallow rates in the principal shipping markets erected a triple barrier to growth for the marine and offshore industries.

There were some notable financial casualties as a consequence. Many others sought survival through retrenchment, consolidation and equipment lay-up. Caution became the watchword.

ABS was not immune to these forces. Responsiveness was our mantra. Persistence and flexibility shaped our actions. Success was our reward.

As a result 1998 proved to be a record year for ABS as past policies of efficiency improvement and technical innovation bore fruit. Responding to the precarious market conditions confronting many of our owners, ABS was able to maintain its fees at the same level first imposed four years earlier, in January 1994. It has not been easy to create and pass on to our clients such a significant financial benefit. That we have been able to do so is directly attributable to sweeping, and ongoing changes in the manner in which we approach our own administration and operations.

With each improvement in efficiency we have been able to offer more complete,

more responsive service, and improved technology and products to our clients. We have been heartened by the market recognition that has been accorded these actions, particularly in 1998.

Fleet Growth

Technical innovation led to the development of SafeHull, still the most advanced ship design and structural evaluation method available to the industry. Shipowner and shipyard acceptance of SafeHull propelled the fleet of ABS classed vessels past the 100 million gross ton mark by year end. This is the first time that the ABS fleet has exceeded this figure in more than a decade.

More importantly, owner demand for SafeHull approved new vessels pushed the ABS orderbook to 11.9m gross tons, thereby re-securing the future of the organization. These orders included contracts for the largest containerships yet conceived, designed and evaluated using SafeHull.

Owners have come to understand that a SafeHull ship is a stronger, safer ship, unlikely to exhibit the same pattern of structural cracking which affects many large vessels approved to traditional prescriptive rules. As a result, ABS received a predominance of the new vlcc tanker tonnage ordered in 1998, and experienced significant growth in our orderbook for bulk carriers.

This upsurge in the ABS classed fleet has cemented our position as the third largest classification society in terms of tonnage. ABS has long been the dominant classification society in total number of vessels classed, with a fleet of more than 11,000 vessels.

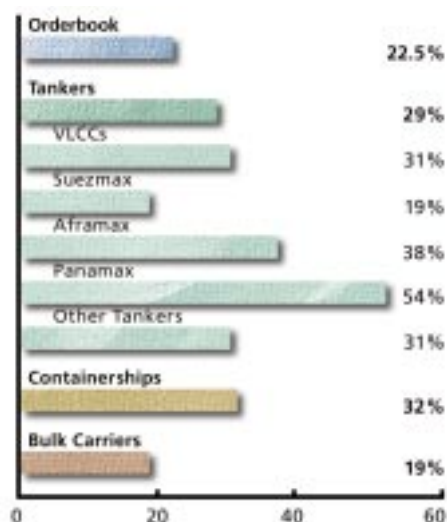
Offshore Successes

Comparable success was achieved in the offshore sector during 1998. Although ABS continued to invest in new technology, such as developing the new *Guidance Notes for Synthetic Mooring Lines*, it was our dedication to service delivery that proved most effective in building client loyalty.



Designed for service in waters up to 10,000 ft deep, *DEEPWATER PATHFINDER* is the first of a four ship series of 56,000gt dynamically positioned, deepwater drill ships building to ABS class at Samsung.

ABS SHARE OF NEWBUILDING CONTRACTS





Many owners of large containerships are asking for SafeHull approved designs. Operators of smaller vessels have also recognized the technical and operational benefits of classing with ABS. Cosco, Wan Hai, Kien Hung, A.P. Moller and MISC are among those who placed contracts during the year for containerships in the 8,000-18,000 gross ton range, such as the 1092 teu MAERSK AHRAM.

As the leading classification society serving the dynamic, fast moving and technically innovative offshore industry, ABS has developed engineering and survey services tailored to meet the unique demands of the offshore operator. A well-orchestrated recruitment and training program throughout the year allowed us to offer responsive, professional support to each of the multitude of projects brought to ABS.

Notable achievements during the year were recorded in the deepwater drill ship sector, which remained largely impervious to the downturn in oil prices. These successes included the 'super' drillships delivered to Conoco/Reading & Bates by Samsung, a 73,000gt drill ship under construction at Samsung for Saipem, and a 41,000gt drill ship building at Harland & Wolff for Global Marine.

ABS activity remained strong in other offshore sectors, particularly conversion work involving FPSOs, upgrades of existing units, new self-elevating MODUs, and OSVs. ABS provided classification for the first TLP to enter service in the Gulf of Mexico, and also participated in a complex and demanding contract to convert and prepare a former Arctic production rig for service off eastern Russia.

Responding to offshore client needs, ABS also expanded its presence in the Caspian Sea region and West Africa, the two most important new exploration areas. In April, ABS opened an exclusive office in Baku, Azerbaijan, on the Western Coast of the Caspian Sea. Staffed by two

Bulk carrier owners were confronted with exceptionally tough market conditions in 1998. Nevertheless, ABS received classification contracts for 44 new bulk carriers, totaling 1.7m gt, during the year, almost half of which are for panamax vessels such as MISC's recently delivered BUNGA SAGA ENAM built by Sumitomo HI.

experienced surveyors, this office provides a full range of offshore services to companies working in this area. Service to clients operating in West Africa was heightened with the addition of new staff in the region and increased support for activities in Angola.

And an important expansion of ABS responsibilities within the offshore sector came with the US Coast Guard's recognition of ABS to act on its behalf under the Alternative Compliance Program (ACP) for mobile offshore drilling units (MODUs).

Safety Management Systems

No recent event has imposed greater change on the maritime industry than the 1998 implementation of the ISM (International Safety Management) Code. For the first time the management of both the ship, and the administrative office responsible for the ship is now required to meet specified standards, established as part of the SOLAS (Safety of Life at Sea) Convention.

No one pretended that the application of these new requirements within an inherently conservative industry would occur without difficulty. In the period leading up to the effective date, ABS allocated considerable financial and





During 1998, six vlccs were brought into ABS class including the 300,155 dwt *GOLDEN VICTORY* built to SafeHull criteria by Hitachi Zosen for Golden Ocean.

people resources towards assisting our clients understand, prepare for, and comply with the new standards.

Despite widespread predictions to the contrary, implementation proceeded relatively smoothly. ABS is proud of the part it has played in this critical improvement in ship safety.

The importance of ISM cannot be downplayed. It forms one of the three legs of the developing new approach to safety standards for the industry. In the future, successful shipowners will base their operations on the safety, quality and environmental management standards established by the ISM Code, the ISO 9000 Quality Management System standard, and the more recent ISO 14000 Environmental Management System requirements. ABS, together with the ABS Group, is now able to assist with the implementation of all three standards.

Research and Technology

1998 research activities focused in four areas: wave loads and ship motions, strength of ship structures, human factors and formal safety assessment, and offshore technology.

The ABS wave database has doubled with the addition of five years of hindcast wave data, covering the Northern and Southern hemispheres. This information has immediate applicability to site-specific structures, such as FPSOs, where localized information on wave loads is needed. Non-linear ship motion analysis procedures at ABS have been enhanced to better account for impact loads due to bow flare and bottom slamming. This technology is being applied to SafeHull as well as DLA analysis of ships.

Detailed studies have been completed on bulk carrier double bottom structures and torsional strength of ship hull girders. To support recent activities within the

IMO, ABS has identified enhancements needed to the interim methodology for assessing tanker designs on the basis of probabilistic oil flow calculations. ABS has also studied the various technical considerations related to carrying out ballast transfer at sea in a safe and efficient manner.

Continuing the research which led to the 1997 issuance of the *ABS Guidance Notes on the Application of Ergonomics in Marine Systems*, studies are being undertaken addressing criteria for design of navigational bridge systems and engine control room configurations.

In the offshore technology area, emphasis was given to improving the understanding of problems associated with floating production systems and deepwater development. This involves the participation in a number of joint industry projects related to structural integrity, instrumentation, vibration in risers, anchors and foundations, synthetic fiber rope for mooring systems, and fatigue of studless chains.



The world's fastest monohull ferries, built at Fincantieri to ABS class for Tirrenia, entered service in 1998. These 11,400 gross ton passenger and vehicle ferries have a service speed of 41 knots.

1998 ABS At a Glance

Manpower Resources

ABS	1,692
ABS Group of Companies	.555

Government Authorizations

ABS has been authorized to act on behalf of many governments for the conduct of surveys and issuance of Statutory Certificates, either wholly or in part. These authorizations number as follows:

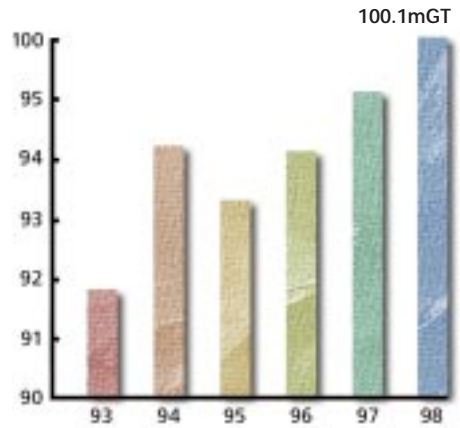
Loadline	101
Tonnage Admeasurement	.69
Safety of Life at Sea (SOLAS)	.91
Marine Pollution Prevention (MARPOL)	.73
ISM Code	.51

ABS Share of New Building Contracts* by Country

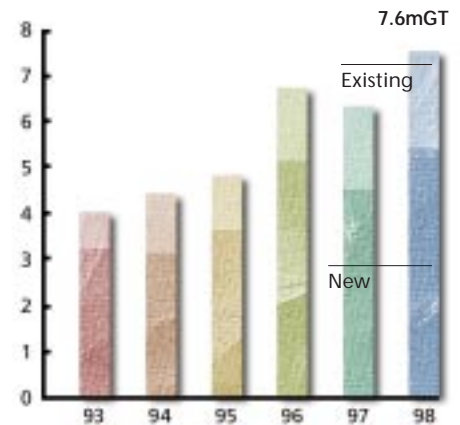
World	22.5%
Japan	.24%
Korea	.25%
Singapore	.60%
Denmark	.84%
Croatia	.32%
United Kingdom	.42%

* Orderbook based on GT

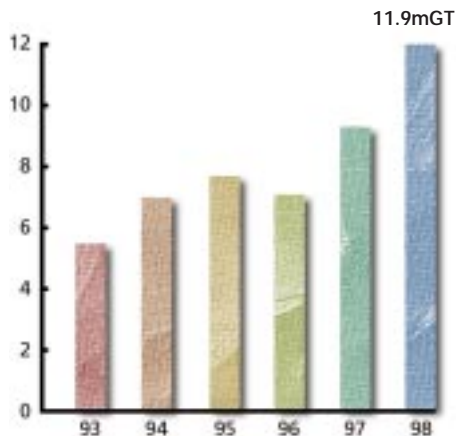
TOTAL TONNAGE IN CLASS



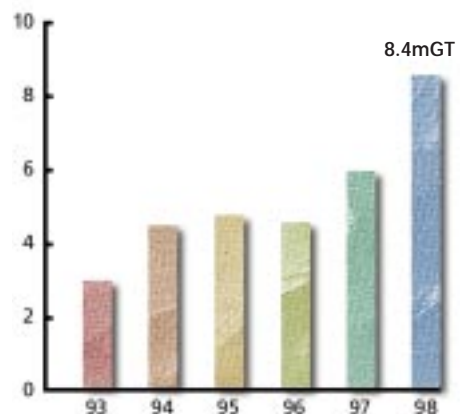
TOTAL INCOMING GT



ORDERBOOK



CONTRACTS RECEIVED



1998 Classification Activity

1998 proved to be a remarkable year for ABS as classification activity reached levels not seen in almost twenty years. Fueled by a strong influx of new contracts, the ABS orderbook rose steadily throughout the year, re-establishing ABS as a market leader. At the close, the ABS world orderbook market share, measured in gross tons, stood at a solid 22.5 percent.

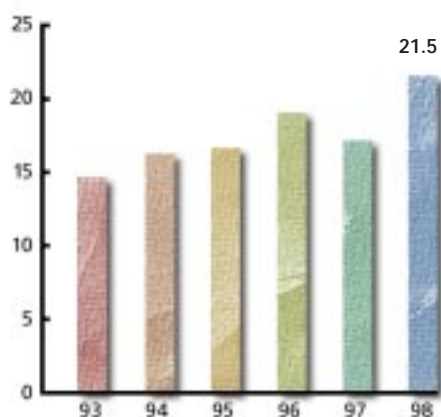
This performance was attributed to strong acceptance of ABS in both the shipowning and shipbuilding sectors, becoming the classification society of choice for owners domiciled in Greece, the UK, Taiwan and Singapore, with strong support also in Denmark, China, Italy and Poland, among others. Within the yards, ABS ranked second in both of the world's

shipbuilding powerhouses — Japan and Korea — with near 25 percent shares of the total gross tons on order in each. ABS also dominated the shipbuilding contracts placed with Danish, US, Singaporean and Taiwanese shipbuilders.

Totals for both new and existing vessels accepted into class also tallied sizeable increases over 1997 as the industry turned to ABS at an increasing rate. Recognition by shipowners that SafeHull approved designs result in stronger, and therefore safer ships, played a major part in the 1998 ABS success story. As a result, the ABS fleet of existing ships and offshore structures grew to over 100 million gross tons by year end — a level that had not previously been experienced since the end of the ship order boom of the 1970s through early 1980s.

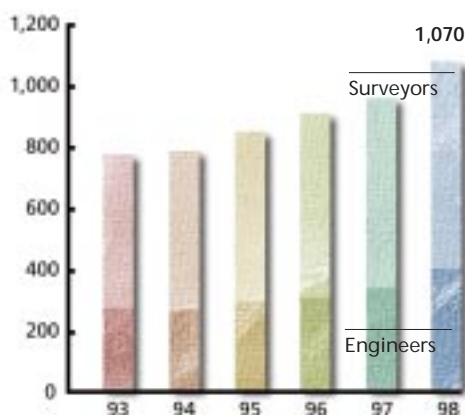
ABS PERCENTAGE OF WORLD DELIVERIES

Self-propelled vessels > 100 GT



SURVEYORS & ENGINEERS

Bureau – 43% Growth from 1993-1998



Vessels Classed

During 1998 ABS classed a total of 713 new and existing vessels aggregating 7.59m gross tons. This represented a 20 percent surge in activity over the strong 1997 performance. Of the total vessels classed, 405 of 5.27m gross tons were new buildings and 162 of 1.95m gross tons were vessels previously in the class of another society or unclassed. In addition, 146 more vessels that had been previously dropped from ABS class were re-instated following necessary survey.

Vessels Removed

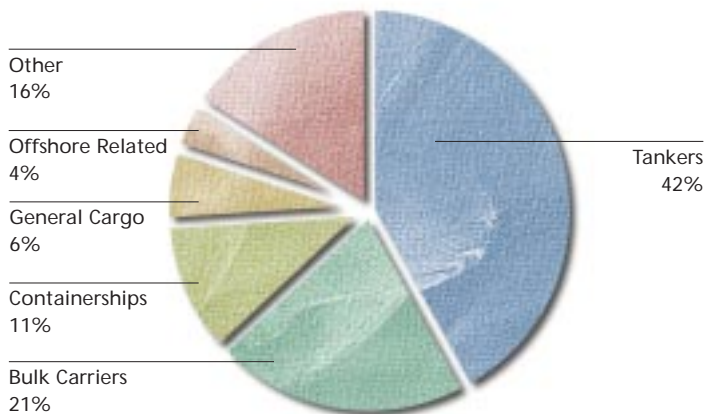
Removed from the ABS classed fleet during 1998 were 729 propelled and non-propelled vessels. Of these 66 were scrapped, 294 were withdrawn at the owner's request, and 369 were dropped for non-compliance with the ABS Rules. Among those dropped, 70 were ocean-service merchant ships, and the remainder small vessels and barges.

Classed Fleet

The positive net result of this activity propelled the ABS classed fleet to a total 11,298 vessels aggregating 100.1m gross tons at the close of the year. These vessels flew the flags of 95 different nations. This

ABS CLASSED VESSELS

end 1998, based on GT



robust growth saw ABS add almost 5m gross tons to the fleet compared to 1997, a year which itself represented the culmination of an unbroken four year period of growth.

New Contracts Received

A steady flow of new requests for ABS class throughout the year resulted in contracts totaling 8.4m gross tons being booked for the year. Once again, this represented a strong increase over the previous year's already healthy performance. A cumulative gain of 28 percent was registered over 1997 in the three major categories of tanker, bulk carrier and containership, as new contracts received during the year included 148 vessels of these three types.

Orderbook

At the close of 1998 there were more than 700 ships and offshore structures building or contracted to be built to ABS class totaling 11.9m gross tons. This represented a solid 8 percent increase in the number of vessels compared to 1997, and a jump of 29 percent in gross tonnage. These totals included orders for 99 tankers, 70 bulk carriers and 66 containerships.

Tankers

In 1998 ABS received formal requests to class 85 new tankers aggregating 4.8m gross tons, including 14 vlccs and 24 aframax vessels. This unprecedented surge of tanker orders — more than double the year earlier — is attributable to increased industry-wide demand for the application

of SafeHull technology to this vessel type. From the close of 1997 to the close of 1998, the tanker orderbook posted a significant increase to 99 tankers of 5.5m gross tons, up by 27 vessels and 1.4m gross tons.

During the year ABS also classed 48 new tankers of 2.4m gross tons, bringing the ABS classed tanker fleet to 891 vessels of 41.9m gross tons, an increase of 5 percent in number and 9 percent in gross tonnage over year-end 1997.

Bulk Carriers

ABS also showed solid growth in classification activity for bulk carriers during the year. Contracts were received for 44 new vessels — almost half of which are to panamax dimensions — totaling 1.7m gross tons. This represented an almost twofold increase in the total gross tonnage contracted compared to the prior year.

This surge in new orders helped drive the ABS orderbook for new bulk carriers to 70 vessels totaling 2.3m gross tons by the end of 1998. This represented increases of more than 15 and 25 percent respectively from prior year figures. During the year 31 bulk carriers were classed, adding 1.2m gross tons to the ABS fleet. At the close of the year the ABS classed bulk carrier fleet stood at 780 vessels totaling 21.5 m gross tons.

Containerships

Indicative of the continuing success of ABS within the containership sector was the acceptance into class of the *SVENBORG MAERSK* and *SINE MAERSK*. At 91,600 gross tons, these are the largest containerships in the world. Designed to SafeHull criteria, and the subject of DLA, these ships have drawn on the industry-leading technology offered by ABS to containership owners.

For the year, ABS classed 28 containerships aggregating 789,600 gross tons, 10 of which exceeded 50,000 gross tons. During the year contracts were received to class 19 new containerships of which eight are over 65,000 gross tons. This activity brought the ABS containership orderbook, to 66 vessels of 2.5m gross tons by the close of the year, an increase of 300,000 gross tons over prior year figures. At the close of the year the fleet of ABS classed containerships numbered 360 vessels, totaling 11.1m gross tons, a substantial increase over 1997.

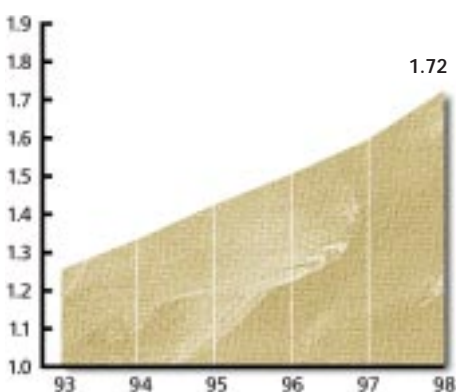
1998 ABS Activity

Type	As of 31 December 1998 Vessels in Class		As of 31 December 1998 Vessels on Order		During 1998 New Vessels Classed	
	No.	Gross Tons	No.	Gross Tons	No.	Gross Tons
Barge	4,587	6,850,262	110	258,084	124	263,633
Bulk Carrier	780	21,480,800	70	2,284,563	31	1,203,134
Combination (Dry/Liq)	21	759,305	-	-	-	-
Container Carrier	360	11,092,041	66	2,479,659	28	789,571
Dredge	47	114,372	3	2,790	-	-
Drill Ship	16	170,341	4	226,193	-	-
Dry Cargo	582	5,605,552	1	4,990	13	172,498
Ferry/Passenger Cargo	118	545,089	11	187,889	5	75,975
Fishing Vessel	41	42,740	12	7,668	1	725
Launch/Crewboat	191	21,133	32	4,124	14	3,054
Liquidfied Gas Carrier	68	2,568,331	4	190,800	4	88,242
Mobile Offshore Unit	524	3,488,072	23	183,214		
Other	320	483,369	47	104,324	26	13,721
Passenger (Cruise) Vessels	85	720,280	13	17,883	2	43,578
Platform (Fixed)	101	7,572	-	-	-	-
Research/Survey Vessels	122	215,924	11	10,027	5	6,539
Single Point Moorings	27	-	6	688	3	0
Supply & Tug/Supply	898	567,037	58	84,706	26	37,582
Tanker (Liquid Cargo)	891	41,884,669	99	5,457,694	48	2,429,828
Tug	1,065	311,701	58	23,683	37	12,565
Underwater Vehicle	59	383	9	282	-	-
Vehicle/Barge Carrier	105	3,069,515	8	315,868	6	271,667
Yacht	290	63,906	64	20,057	23	3,570
TOTAL	11,298	100,062,394	709	11,865,186	396	5,415,882

BUREAU DIRECT LABOR

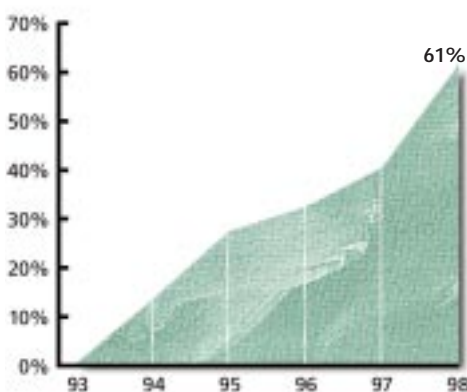
(Surveyors & Engineers)

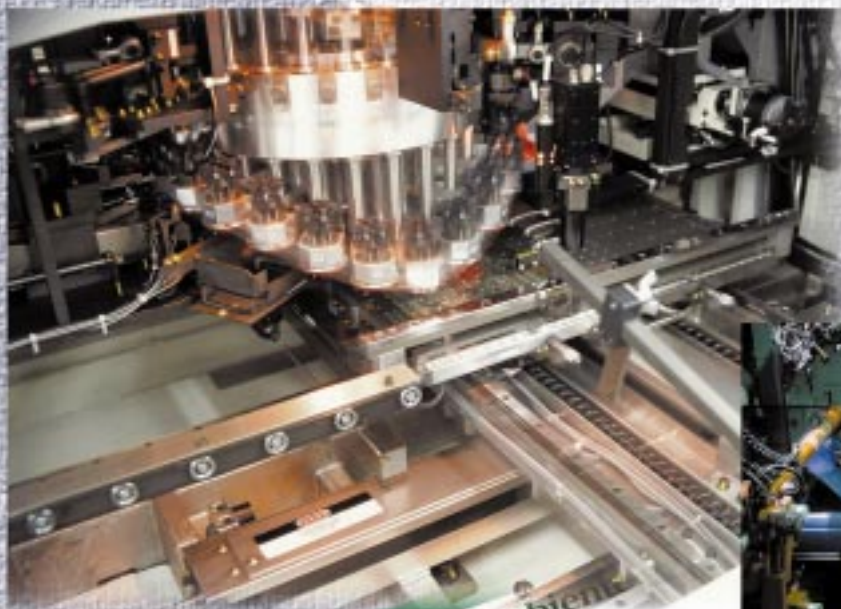
Ratio to Management & Support Staff



BUREAU OPERATING REVENUE GROWTH

Marine Class Business Relative to 1993





Medio Ambiente

El Presidente de ABS destaca la importancia del medio ambiente

de seguridad es fundamental. Además, que "ya son dependientes tres millones argentinos, en materia industrial el código ESI, las reglas ISO 9000 y las normas medioambientales. Asimismo, el cumplimiento ISO 14000."

En este sentido, el presidente destacó que el cumplimiento de estas tres reglas será la base para fomentar la cultura de responsabilidad organizacional, y además destacó cuáles son los pilares del desarrollo que otorgan la certificación de cumplimiento de esta normativa.

ABS tiene un papel líder en la promoción y el desarrollo de la aplicación de estas normas, tanto en el sector público como en el privado. En este sentido, el presidente destacó que el cumplimiento de estas tres reglas será la base para fomentar la cultura de responsabilidad organizacional, y además destacó cuáles son los pilares del desarrollo que otorgan la certificación de cumplimiento de esta normativa.

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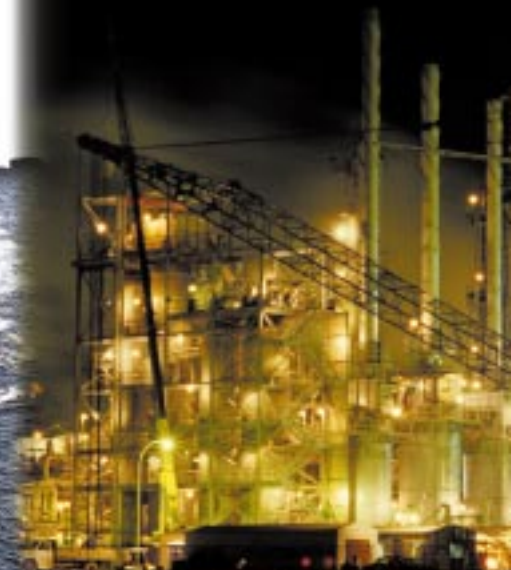
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Integrated Services Approach




Information Management
Certification
Verification
Implementation
Training
Evaluation
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