Understanding and managing risk is of vital importance in all drives for improvement. Companies and organisations are changing in response to increased demands for efficiency and profitability. Expectations and requirements for improved quality, safety and environmental performance are growing in parallel to demands for cost reduction and enhanced production.

# long traditions – new methods

Onshore plants, offshore platforms and ships of today are optimised through use of modern design tools and engineering methods. As a result they have far less redundancy and tolerance to failure. The organisations that run these plants are characterised by use of fewer, multitasked people, operating at a high pace with advanced technical and complex management systems.

To do the right things first and to do them successfully are absolute requirements in an industrial environment where mistakes can easily lead to very high costs in terms of money, trust and corporate reputation. The key to success lies in prioritising among the tasks, operations and parts of the plants that yield the highest return per dollar spent. Attention must be applied to where the risk is highest – from both a safety and a business perspective. A crucial step is to select technologies and methods for design and operations such that these risks are managed in the most cost-efficient manner throughout the project life cycle. Risk management has

taken on a new importance and meaning in management of all industries in today's business environment.

For over 30 years DNV has used and developed risk management and analysis technology for effective management support and decision making. Our experience from thousands of assignments and the expertise of several hundred people working in this field is built into this technology. Strategic acquisitions, partnerships with our customers and extensive R&D have assured our position as a trend-setter in risk-based management. Today we merge risk management, materials technology, mechanical load and strength analysis. The result is a leading set of tools and methods with significant potential for improving and supporting the management of safety, design and cost-effective operations.

S ven Ullring



SVEN ULLRING Chief Executive Officer and Chairman of the Executive Board.

DNV's services fall into three categories: classification, certification and advisory services. Our markets for these services are four worldwide industry segments, maritime, process, offshore and general industries. This corresponds to the four business areas into which the DNV organization is divided.

# services services services services

#### Classification

is primarily targeted at the maritime industry, but also to the upstream and downstream process industries offshore. Our DNV Classification rules including IMO regulations are applied to ships of all types, High Speed Light Crafts, mobile and fixed offshore units as well as submarine pipelines. Classification and certification of materials, equipment and marine systems is also included in the classification service package, as is Safety Management Certification covering the International Safety Management (ISM) code.

#### Certification

are targeted at all our business areas. These services include certification of offshore installations and Accredited Quality System Certification to ISO 9000, QS 9000 and other standards, Accredited Environmental Management System Certification to ISO 14001 and EMAS. Also included is Accredited Contractor Safety Certification, product certifications, certification of materials and components for ships and offshore industry, as well as personnel certification. DNV is also a Notified Body in the regulated sector.

#### Advisory services

2

are targeted at all our business areas. These include life cycle services, technology development and partnership, environmental, safety and reliability analyses, cost optimisation analyses, verification inspection and testing, emergency response services, loss control management, training and competence building as well as facilitation of improvement processes.



Turnover per service category

**Maritime Industry** 

fication of ships

administrations

als and products

environement

Certification of man-

· Certification of mar-

agement systems for

safety, quality and the

itime education, train-

ing centres, crewing

• Supportive facilitation

• Technical advisory ser-

• Bunker fuel testing

• Risk and reliability

analyses

vices

and advisory services

agents and personnel

• Classification and certi-

• Authorised for survey

and certification by

more than 130 national

• Certification of materi-

# Classification Certification Advisory Services

Turnover per service category

• Classification of mobile

drilling rigs and float-

ing production units

tion of fixed offshore

• Certification/verifica-

• Life-cycle assurance -

decommissioning

advisory services from

concept evaluation to

· Certification of materi-

the offshore industry

• Risk and Reliability

Environmental Risk

• Risk Based Inspection

Technology developer

Verification, inspection

• Assessment, training and

safety, quality and environmental management

facilitation related to

• Technical analyses

Management

• Life-cycle services

and provider

and testing

systems

analyses

als and components for

installations and

pipelines

# Certification Advisory Services

#### Turnover per service category

#### **Process Industry**

- Certification of management systems, materials, products and personnel

- Technology developer
- and reliability analyses
- inspection and testing
- facilitation related to safety, quality and environmental management systems
- behaviour
- Risk based inspection
- Compliance with legislation

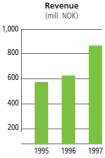


#### Turnover per service category

#### **General Industries**

- Accredited Quality System Certification to ISO 9000, QS 9000 and other standards
- Accredited Environmental Management System Certification to ISO 14001 and EMAS
- Accredited Contractor Safety Certification
- Product Certification; Accredited Certification; Notified Body in the regulated sector
- Personnel Certification
- Technical investigations. inspection and testing
- Assessment, training and facilitation for safety, guality and environmental management systems
- **Risk** analysis
- Environmental studies

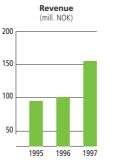
Revenue (mill. NOK) 1.600 1.400 1.200 1,000 800 600 400 200 1995 1996 1997

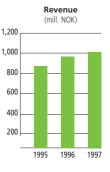


### **Offshore Industry**

- - Risk analysis
  - Technical advisory services
  - Risk-Based Management
  - Life-cycle asset integrity services
  - and partner
  - Environmental, safety
- Cost optimisation
- Technical investigations,
- Assessment, training and
- Materials technology and
- Inspection management
- and planning







Optimising asset performance is on top of the agenda of companies worldwide. At the same time concern is growing over safety, quality and the environment. Business and safety objectives are mutually supportive. DNV is devoted to assisting companies in managing risk, so increasing productivity and avoiding losses to people and property, and damage to the environment.

# business and safety mutually supportive objectives



WILHELM WILHELMSEN Chairman of the Board, Member of the Board 1982; Chairman of the Board 1994.Chairman of the Board of Wilh. Wilhelmsen Ltd. AS, Saga Petroleum and Wilhelmsen's subsidiaries; Member of the Board of Sponsor Service AS and Norges Investor; CEO Skips AS Tudor. DNV will apply its business idea to selected industries, and advance with them in sophistication and global reach. It is gratifying and inspiring to see the growing correspondence between awareness of safety, quality and the environment, and fundamental business philosophy. There is also an increasing requirement for companies to manage, promote and document a positive reputation and image in society's eyes.

1997 was an active year for Det Norske Veritas, with considerable growth in our principal areas of operation. Main products and services are ship classification and certification and advisory services. To maintain strategic focus, the Business Area function was reorganised under a single manager, with priority on four industry sectors. These are the maritime, upstream, process and general industry. The maritime industry's need for quality focus and improvements will continue. Offshore has for more than two decades been one of DNV's most important industries. DNV's risk based inspection services are well suited to the process industry, including downstream and process plants. Finally, many of DNV's certification and advisory services are aimed at industry in general, not restricted by specific business areas.

#### **Maritime industry**

Implementation of the International Maritime Organisation's International Safety Management (ISM) Code represents a major challenge to the shipping industry. It is a unique opportunity for the industry to implement its own recommended safety practices.

4

It is vital that flag states, port states, underwriters and the classification societies support IMO through a consistent enforcement of ISM Code requirements. If not, the shipping industry may fail to meet the international community's demand for improved safety through a more systematic approach, and the classification societies would lose credibility. More than 30 % of the DNV-classed fleet subject to meeting the Code requirements by 1 July 1998 have their ISM certificates, and a substantial number of ships are in the process of being certified.

DNV enjoys an increased share of the world's newbuildings. The 1997 orders total 6.94 million grt, representing 21 % of orders placed worldwide. South Korea is the most important newbuilding country for DNV. 28.3 % of all newbuildings at Korean yards are built to DNV class. At the close of the year, 14.7 % of the world fleet was classed by DNV.

During 1997 our new IT-based information and calculation system Nauticus has been tested in cooperation with major yards. Nauticus will improve the newbuilding approval process through easy access to advanced calculation tools, improved follow-up during construction, and closer dialogue with the owners and yards throughout the precontract, design and construction phases. Improved quality and shorter approval time are important results of the introduction of Nauticus.

Using Nauticus, the knowledge accumulated during a ship's construction will be carried through to its operational phase. By continuously updating the virtual model of the ship, both the owner and DNV can benefit from improved decision support and experience feedback. The owner or operator gains easy access to the updated ship condition and its damage history, and can better plan for maintenance and possible upgrading. Nauticus represents a new approach to classification, and to the latest state of the art in ship design verification and class systematics. Its implementation will continue throughout 1998.

#### Upstream

Oil and gas exploration and production projects have made major progress in both lead times and cost. In the North Sea the British CRINE initiative and the Norwegian NORSOK have led to substantial cost savings. DNV has been part of both initiatives. By using known technology in new ways, projects have achieved 25 - 40 % savings in time, and have reduced costs considerably without compromising safety.

Field developments in deeper water, and of more marginal fields, have encouraged interest in floating drilling/production/storage vessels (FPSOs). These represent a merger of the offshore industry's well-proved quality approach and the shipping industry's traditions and experience. The offshore industry has been through a phase of learning, identifying the best practices from both offshore and shipping in order to ensure better and more cost-effective offshore projects. Of the 13 FPSO newbuilding projects worldwide, nine are to DNV class.

#### **Downstream/Process industries**

The process industries, which include refineries and chemical plants, face considerable risks and the potential for serious accidents. DNV's Risk-Based Inspection is a useful tool for companies to identify, assess and manage their critical risks.

Cost-effective maintenance planning is imperative in an industry with many old plants and low profit margins. A risk-based approach enables the opera-



HÅKON LØCHEN Vice Chairman, Member of the Board 1986; Vice Chairman 1990. Supreme Court Attorney; Chairman of the Board Owens-Corning Fiberglass Norway AS; Chairman of the Board Coca Cola Norge AS; Chairman of the Board Norsk Alcoa AS.



JOHAN FR. ODFJELL Member of the Board 1983. Chairman of the Board Nycomed Amersham Plc; Chairman of the Board Hafslund ASA; Chairman Corporate Assembly SAS.



MORTEN SIG. BERGESEN Member of the Board 1989. CEO and Member of the Board Bergesen dy ASA.



JOHN G. BERNANDER Member of the Board 1996. CEO Assuranceforeningen Gard; Chairman of the Board Christianssands Bryggeri; Member of the Board Jiffy International A/S 1992. Skipskredittforeningens Stiftelse for Maritim Forskning. Member of the German-Norwegian Advisory Council for Ruhrgas Scholarships.



SIR JOHN JENNINGS Member of the Board 1997. Board of Directors Shell Company Ltd., Shell Petroleum N.V., The Shell Transport & Trading Company plc and others. Board Memberships Bechtel Corporation, Toyota Corporation, Exeter University Council Edinburgh University Development Trust.



ØYSTEIN ERLAND Elected by the employees of Det Norske Veritas. Principal Surveyor, Section for Experience Transfer, Division Technology and Products. Chairman of the Board, Det Norske Veritas Employee Association. Joined DNV in 1975.

tors to target their maintenance plans as rationally as possible.

Risk-Based Inspection includes both DNVs traditional technical competence and risk-based methodology. The main market for these services has so far been in the U.S.A., but there is now growing potential for the same services worldwide.

#### **General industry**

Accredited certification of quality systems according to ISO 9000 standards has grown considerably in 1997, and this growth is expected to continue in 1998. There is at the same time a need to develop the certification process further, and DNV is currently doing this in order to add more value to certification.

Environmental certification to ISO 14000 standards has shown a slower growth than expected, though towards the end of 1997 there was an increase in demand. In some markets the EU's environmental scheme, EMAS, has been more successful than ISO 14000. We still expect considerable growth in environmental certification, as well as in the market for product certification.

DNV assists and advises companies in a number of industrial sectors inimproving the safety, quality and environmental aspects of their operations. In particular, management systems services based on DNV's Loss Control Management principles are widely used in various industries around the world. Companies realise more and more the impact that efficient, effective management systems have on their performance and business results.

#### Finance

Throughout 1997 the level of activity was high in all parts of DNV. Total revenues increased by 13 % to NOK 3,735 million. Strongest growth has taken place in the Asian market. We continued to invest considerable amounts in research and development, as well as in information technology. An additional NOK 100 million over and above a normal year was budgeted for 1997 on IT investments This consequently affected our cost structure and profitability.

The operating profit of NOK 258 is somewhat higher than budgeted, but shows a clear drop from 1996. IT investments will remain at the same level for 1998. The operating margin for 1997 was 6.9 %, also somewhat lower than in 1996. After taxes of NOK 103 million, our 1997 net profit was NOK 160 million.

#### Organisation

At the close of 1997 DNV had 4,235 employees, an increase of 235 during the year, and representing 74 different nationalities Recruiting personnel with relevant competence is a major challenge for many of the DNV's regions. So is building bridges between different professional environments and between different cultures. The Board of Directors wishes to express its recognition of the work performed by all DNV staff.

DNV's own operations have little impact on the environment, and comply with requirements placed on us. Remuneration to the CEO and fees to the Board of Directors are noted in the financial statements (Note 2).

#### **Future prospects**

The economic turmoil in East Asia has considerable consequence for the countries involved. Lack of confidence in the financial institutions, lower consumption and production lead to economic and in some instance political instability. In the longer term it is fair to expect a gradual recovery in the region. Furthermore, it is not regarded as likely that the East Asian situation will have significant consequences for the European or U.S. economies.

In the short term, the growth of the global economy in 1998 will be reduced as compared to 1997, but still increase by approximately 2.5 - 3%. In ship newbuildings, and in oil and gas exploration, our contracts are long term, and so hardly affected by the slowdown. Reduced trade may lead to less call for our ships-in-operation services and certification activities than before the Asian financial crisis. Possible re-adjustments of currencies represent other exposure. In total, however, it is not expected that the impact on DNV's operating performance or financial situation will be substantial.

In view of the likely recovery of the East Asian economies, DNV will in future years selectively strengthen its position in some of these markets.

In the future, a competent staff and how this benefits the client will be the key issue. Efficient IT systems with information networks are just one qualification for this race. The way we make use of our systems, our office network and how competent the staff is will be the real test. The most critical factor in the years to come is to maintain and develop relevant and sufficient core competence within all our areas of activity.



MARIT OLSEN TORSET Elected by the employees of Det Norske Veritas, Personnel Manager. Organisational development and training. Corporate Management Staff. Joined DNV in 1981.



TRUDE HELGESEN Elected by the employees of Det Norske Veritas. Senior Engineer, Section for Material Technology, Measurement and Testing. Division Nordic Countries, Joined DNV in 1988

Oslo, 31 December 1997, 1 April 1998

Wilhelm Wilhelmsen Chairman

14 nullin

Håkon Løchen

Øystein Erland Marit Olsen Torset Trude Helgesen

John Fr. Odfjell Morten Sig. Bergesen John G. Bernander

Sir John Jennings

Sven allring Sven Ullring Chief Executive Officer

Shipping is one of the world's principal industries. The more than 70,000 oceangoing ships at sea today represent a vast amount of resources. Safeguarding these resources, be they in the form of human lives, property or the environment, is a sound business proposition, no matter what yardstick is used to measure it. DNV takes a holistic approach to safety at sea, incorporating both technical and human factors in the classification, certification and advisory services that the company provides. And this approach pays off – both for the industry in striving to obtain optimal risk management, and for DNV Maritime which experienced a substantial increase in business volume during 1997.

Profiting from a holistic approach to **Safety at Sea** 

The 37,000 dwt chemical carrier *Stolt Innovation*, the first in a series of seven sister ships ordered from Danyard by Stolt Parcel Tankers Inc., is one of the most technically advanced ships to be delivered to date. The involvement of DNV has been crucial to ensuring a high level of quality and safety. DNV-surveyor and naval architect Jørgen S. Højman (left) and Christian Nilsson, Stolt Nielsen, studying the drawings at Danyard in Frederikshavn, Denmark.











#### A year of growth for DNV

Globally there has been an increase in demand for new ships, and the DNV share of all newbuilding contracts awarded in 1997 amounted to 21 per cent. The growth has been especially strong in Asia, with yards in the Republic of Korea, Japan and China working to capacity. However, we have also seen shipowners in Asia, Europe and North America increase the number of contracts awarded to non-Asian shipyards. DNV has increased its classification activity substantially in Asia, Europe and North America.

In safety management services, DNV has issued more ISM certificates than any other class society. DNV is well positioned to assist shipowners required to meet the ISM certificate deadline of 1 July, 1998.

#### The need for a Total Approach

It is important to remember that the ISM Code, as well as any other international safety standard, is not an 'end result' but merely a tool in a neverending quest to enhance safety. To improve safety at sea, it is necessary to address the interdependence of the ship itself, the operations of the shipowner, and the performance of the crew manning the ships – as laid down in DNV's Total Safety Class concept. And much to DNV's satisfaction, this line of thinking is gaining momentum within the industry.

The shipping industry is continuously facing the challenge of implementing new or revised international safety standards. The ISM code is one example, the Standard on Training, Certification and Watchkeeping (STCW) is another. They both focus on the 'human element', which is clearly the most important factor in safe ship operation and environmental protection. Most casualties are the end result of a chain of events involving the 'human element', be it the personnel and their qualifications, or the organisation and management of an operation. Despite positive development towards including the human factor in the safety standards regime, there is still some way to go before we should be satisfied. In particular, the following are areas for improvement:

- Standard setting is too disciplineoriented.
- Clear safety goals and objectives should be set.

- A systematic and rational approach to the standard-setting process is needed.
- Cost/benefit analyses of new regulations should have stronger focus.
- Long-term effects of new regulations should be assessed and measured more thoroughly.

The application of Formal Safety Assessment (FSA) is one way to go, now on the agenda of both IMO (International Maritime Organisation) and IACS (International Association of Classification Societies). Clearly defining the goals and objectives of FSA can give benefits in the long run:

• FSA represents a systematic riskbased approach to safety.





#### Growth in Asia

The DNV share of all newbuilding contracts awarded in 1997 amounted to 21 per cent. The growth has been especially strong in Asia.



#### China, Japan and Korea

With 21%, respectively 28% of new orders at Chinese and Korean yards DNV has maintained a leading position in these two countries. DNV has also increased considerably from previous years in Japan with almost 20% share of the new contracts.



#### International

DNV has maintained the dominating postion among Nordic shipowners. One third of the DNV classed ships are operated by Nordic shipowners, and two thirds by shipowners from the rest of he world. More than 50 per cent of tonnage ordered by Middle East owners in 1997 was to DNV class.

- It permits addressing all issues pertinent to a safety problem.
- It permits cost/benefit evaluation of alternatives.
- It can encompass all factors of importance to safety.

DNV has worked with FSA in safety studies for many years, and has begun to adapt it for standard-setting purposes.

#### Contributing to bulk carrier safety

Increased safety for both new and existing bulk carriers has been on the agendas of the International Maritime Organisation and the International Association of Classification Societies for some time.

DNV has taken an active part in this work, and contributed its wide experience and expertise to the research and studies performed by IACS. The objective has been to provide







Upon selection of DNV class for Stolt's chemical tankers, Danyard initiated a dialogue with DNV, and a productive co-operation was started between the parties at an early stage. A project assessment was subsequently arranged at the DNV headquarters in Norway to identify critical areas of concern. This was followed by a period of preparation to ensure compliance with all applicable Rules and Regulations and to build quality into the ships. A DNV project team of five surveyors with different professional backgrounds was established at the Danyard site offices. In addition, a welding expert from DNV's head office took part.

the best possible basis for cost-effective measures to enhance the safety of bulk carriers. Extensive discussions have been taking place within the industry concerning the need for additional measures for existing bulk carriers, over and above strengthening the Enhanced Survey Programme. DNV welcomes the general support for the so-called 'IACS December 1996' decision on this issue. IACS' position was also supported at IMO's most recent Maritime Safety Committee meeting. Below follows a summary of the action taken by DNV in order to ensure the safety of bulk carriers and their crew.

- DNV additional class notation Enhanced Strength (ES) has been available from July 1997 and applies to specification of the IACS Unified Requirements for new bulk carriers of single and double skin design.
- DNV Report No. 97-P010

'Impact of IACS Unified Requirements on Bulk Carrier Design' supports the Rules and provides Guidelines on how the new requirements should apply, together with existing DNV class notations.

- The September 1997 release of DNV's 'Nauticus Hull' includes software supporting the requirements for new and existing vessels.
- DNV has amended the software used for longitudinal strength calculations to calculate global moments and shear forces in flooded conditions in a quick and efficient way.

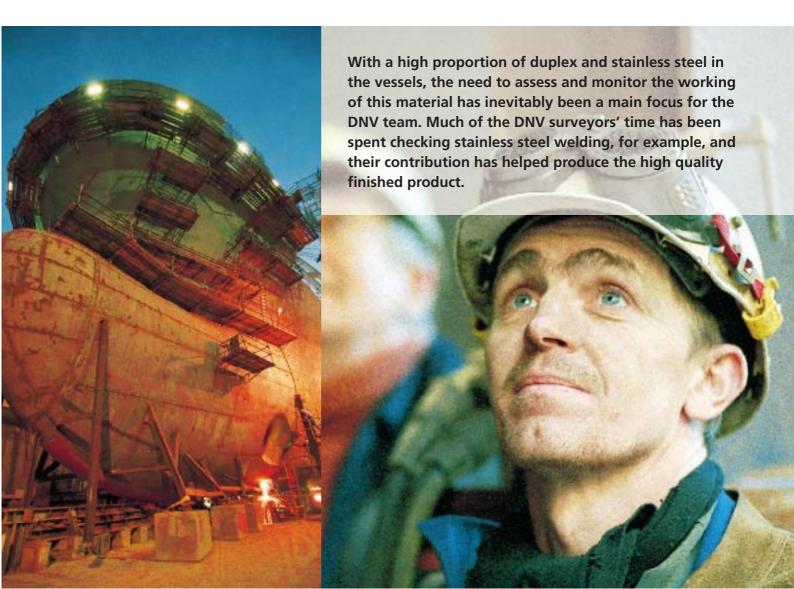
DNV supports shipowners and yards in their efforts to increase the safety of bulk carriers, and fully supports the IACS initiatives through its ongoing programme, the largest study ever undertaken by IACS.

#### Minimising Port State detention costs

The true value of a classification society will be demonstrated to shipowners if a vessel is boarded for Port State inspection. Short term, a shipowner may save some money by opting for classification based on lower quality standards than those of DNV. However, days idle in port detained by the local Port State may be a costly experience. Statistics show that shipowners with DNV class come out best. In recent years, DNV has consistently been the classification society with the fewest Port State detentions – a position we will work hard to retain.

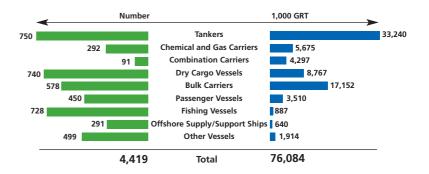
The United States Coast Guard (USCG) has developed a Boarding Priority Matrix, based on the following

five criteria: Ship type, previous history, owner, Flag and Classification Society. Points are allotted according to the estimate of risk, e.g: 7 points for a Flag State with a high percentage of proven substandard ships; one point for a tanker or gas carrier, two for a bulker; 5 points for the lowest-rated Class Society to zero points for the highest rated. All these points are totalled and each vessel given a Boarding Priority reflecting its score. DNV has been alternating between the best and second best rated on the USCG rating of classification societies for several years, thus aiding ships entering U.S. waters to achieve a low score. DNV is also toprated by similar schemes in some European countries.



#### Ships in safe operation

The DNV term for ships having left the yard and started their operational life is 'Ships in Operation' or SiO. For DNV, ships in operation is a main focus area. With the average age of the world fleet creeping upwards, the role of class becomes even more important. DNV puts much effort and resources into ensuring that the 15% of the world fleet operating with DNV class is safe, while at the same time turning in an acceptable business result to the respective owners. By the end of 1997, some 4,400 DNV-class ships were operating worldwide, and DNV serves them globally 24 hours a day, 365 days a year. More and more shipowners and operators find that DNV is the right solution to their



#### 25% and 53%

DNV was awarded about 25% of the newbuilding orders placed by U.S. based owners and 53% of orders placed by companies domiciled in Canada.

SiO demands, based on our long experience, our global service organisation and the technical and operational feedback that we provide.

An important tool in assisting owners in keeping track of their vessels, as well as class inspections, is DNV Exchange. More than 400 owners currently use this IT tool, some using the Internet as a communications channel to DNV. In addition, the Nauticus IT tool for constructing safe ships is finding its way into shipyards as well as the owners' technical departments.



#### Port State Control

DNV classed ships have the lowest frequency of detentions in U.S. ports.

The international oil and gas industry is enjoying a global boom in exploration and exploitation of fossil resources. The focus is very much on deep-water activities and new ways of managing the inherent risks. Major investments are taking place in new drilling units, including large drillships with full dynamic positioning (DP) for ultra-deep waters, conversion and newbuilding of semisubmersibles and monohull vessels as Floating Production Units, and International Pipeline Systems.

#### GENERAL ARRANGEMENT

# making a difference in managing risk offshore

#### Gulf of Mexico

DNV is engaged in the Chevron Genesis Projects acting as the Certified Verification Agency, as well as performing selected third party independent analyses.





Floating Production

DNV enjoys a 70 % market share for Floating Production Storage and offloading (FPSO)-vessel newbuildings.



Compliance assurance in the North Sea The contract with Conoco regarding a total of 39 installations in the UK sector is expanding year by year.





The Lufeng project is a success story of technical know-how transfer from Norway to China to develop a marginal and challenging reservoir in relatively deep waters – using 'state of the art' technology in drilling and reservoir management, subsea wells and Floating Production and Storage. The operator is Statoil, in cooperation with CNOOC. Here Chief Mate Jostein Bergfjord of Statoil (left) and DNV-surveyor Kwok-Yin Leung aboard the drilling ship Navion Munin.

#### **Risk and reliability services**

DNV is the world's largest risk and reliability services consultant and dedicated software provider to the offshore industry – preparing the necessary decision background for operators to manage the risks involved with upstream activities. The current developments in the industry related to safety and risk management have resulted in a significantly increased business volume for DNV in 1997, and represent promising business opportunities for the future.

# Lifecycle assurance services for offshore production fields

The need for integrated lifecycle assurance services in the operational phase – taking a holistic risk-based management approach and emphasising minimum downtime, is becoming more and more evident on the part of offshore operators.

The scope of our 'compliance assurance' contract with Conoco, regarding a total of 39 installations in the U.K. sector of the southern North Sea, is expanding year by year. The installations comprise gas-producing, gathering and pipeline systems, supplying the British gas network. We are providing a wide range of services; including asset integrity management, risk based inspection, inspection management, vendor/quality control inspection, U.K. safety regime considerations (replacing the old 'Certificate of Fitness' regime), safety, environmental and quality assurance advisory services. All services are centrally coordinated and integrated.

#### Up front in the deep-water race

The Gulf of Mexico is undoubtedly taking the lead in the 'deep-water race'. In 1997, DNV strengthened its Houston Service Center considerably, to provide services closer and faster to clients in this area.

Typical floater concepts in deep waters are semisubmersibles, floating monohull vessels, tension leg platforms and SPAR buoys.

DNV is engaged in the Chevron-Genesis project for Gulf of Mexico, acting as the Certified Verification Agency for USCG and MMS, as well as performing selected third-party independent analyses.

Deep-water fields with associated gas constitute a special challenge regarding

CO<sup>2</sup> requirements. DNV is already involved in several projects involving offshore LNG production facilities.

#### Initiative in pipelines

The investments currently being made in large gas trunk lines are astounding. DNV is a world leader in pipeline technology and is involved in pipeline projects worldwide.

The new DNV Pipeline Rules of 1996 based on the 'limit state design principle' have been introduced in the North Sea, Australia, Middle East, Malaysia, Singapore and the U.S.A., and have met great interest from operators and authorities.

 DNV was assigned classification of the multipurpose vessel

 Munin, built by Samsung, and is now acting as Certification

 Survey Agency in accordance with Chinese Shelf Regulations

 during the operational life of the field. The Lufeng field is

 located in the South China Sea , about 250 km southeast of

 Hong Kong. The recoverable reserves are in the order of 35

million barrels of oil; water depth is 330 m. Five horizontal production wells will have electrically powered booster pumps to

provide artificial lift.

Major projects for DNV in 1997 were:

- Denmark: Tyra West- Tyra South. (West pipeline). Syd Arne – Nybro for DONG.
- Norway: Pipeline frame contract with Statoil; certification of pipeline material, inspection during offshore laying, advisory services in operation including Risk-Based Inspection.
- Taiwan: 295 km subsea line for China Petroleum Corporation.
- Papua New Guinea: submarine pipeline for Chevron.
- Black Sea: FSU/GAZPROM submarine pipeline in 2000m water depth.

**The Åsgard project** The Åsgard project constitutes the opment project were booked by DNV. We are also entrusted with Marine Operations surveillance for the total field installations.

# Major business in fixed permanent installations

DNV enjoyed a heavy workload regarding design verification and installation surveillance of fixed, permanent offshore installations in 1997. Major projects have been Oseberg East and Oseberg Gas – involving structural design verification of the jacket structures – for Operator Norsk Hydro. On behalf of PPCoN, we have carried out concept and design evaluations for both structure and topside for the planned water-injection platform at Eldfisk.



largest-ever offshore investment project in Norvay. Statoil is the operator with Norsk Agip, Total Norge, Mobil Exploration Norway, Neste Petroleum, Saga Petroleum and Norsk Hydro as parters. The development includes 60 subsea wells tied back to a central floating processing platform. A particular challenge for the floaters is the requirement of 25 years operation without docking.

DNV is involved in many phases of the development work, including risk and reliability analyses, inspection planning, and classification/verification of the floaters. Åsgard A is being built by Hitachi and will be equipped at Stord. Åsgard B is being built by Kværner/Stavanger and Daewoo.

In 1997, a total of some 100 different assignments related to the Åsgard devel-

Marine operations studies have been conducted regarding removal of the Ekofisk tank and associated barrier structure.

The Brent field concrete structure has been evaluated for lifetime endurance – in particular the oil storage areas – on behalf of Shell.

Beyond the North Sea, DNV is the leading Certifying Survey Agent in China for fixed offshore installations.

#### FPSO concept has proven successful

During the past year, the fast-track, costefficient Floating Production Storage and Offloading (FPSO) concept has proven successful. Multipurpose vessels have shown themselves to be a flexible base for utilisation as oil tanker, drill ship and offloading unit. However, the concept has shown itself to be more demanding and challenging than at first anticipated. The FPSO concept is attractive for operators worldwide, and DNV enjoys a 70 % market share for newbuildings and a 20 % market share for conversions. For DNV, the most significant projects in 1997 have been the Lufeng FPSO for Statoil in the South China Sea. Njord A and B for Hydro, Norne for Statoil, Balder for Esso, Åsgard A and B for Statoil, Hydro and Saga, Foinaven for BP and Varg for Saga.

#### Challenging the last frontier

The Caspian area is looked upon as an important and last frontier area for oil

waters. Horizontal drilling technology has completely changed field production concepts. There is a definite move towards increased use of multiphase flow and subsea, remotely controlled processing facilities.

DNV has carried out advanced research for many years in these areas and has developed tools and technologies very useful for the industry.

In 1997, efforts have been undertaken to secure better integration between business goals and plans and annual R&D planning and execution; both with respect to new and updated products and their implementation in the market place.



exploitation. A DNV office in Baku was opened in 1997. Major ongoing tasks are related to classification of the semisub drilling rig *Shelf 5* for AIOC and development of the offshore safety regime for Azerbaijan on behalf of Gosgorteknadsor.

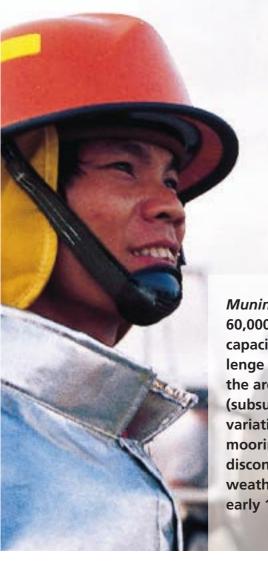
On the basis of a past rehabilitation study of the Russian gas grid system, DNV has been entrusted with certification of the GAZPROM subsea pipeline crossing the Black Sea at a record 2000m water depth.

#### Focused research and development

The era of the gigantic offshore production platforms is definitely over. Now R&D effort in the industry is focusing on reservoir management, drilling and well completion/control, and risers and moorings in deep and ultra-deep Major focus areas for DNV upstream R&D activities are risk & reliability tools to increase efficiency (Win OHRAT), risk-based inspection (RBI Upstream), product models (POSC/Caesar/ Nauticus), renewal of Offshore Class, deepwater risers and moorings, and a new NORSOK offshore structural strength standard.

#### Staying ahead in mobile drilling rigs

DNV enjoys a 60 % market share in classification of new drill rigs and drill ships. A prominent example from 1997 is the *Discovery Enterprise*, a 5th generation Drill Ship for Transocean Offshore Inc. being built at Astano in Spain. The ship has a drilling ability down to 3000m water depth and has full dynamic positioning capability; it is intended for use in the Gulf of Mexico,





Munin's production capacity will be 60,000 barrels per day, with a storage capacity of 640,000 bbls. A special challenge is the frequent typhoons, and the area is also affected by solitons (subsurface waves generated by tidal variations). The submerged turret mooring system allows the FPSO to be disconnected from the buoy in severe weather conditions. Production began early 1998.

West Africa and in summer in the North Sea.

During 1997, DNV maintained its lead in classification of large jack-up rigs for the North Sea, receiving class requests for le Tourneau-design *Gorilla* 5, 6 and 7 for U.S. owners.

#### **Pressure on expertise**

There is a global shortage of experienced offshore personnel. At the same time, the outsourcing trend is prominent among oil companies, as they concentrate more and more on their core business. As a consequence, DNV is experiencing an enormous demand for all kinds of high-technology consultancy services, in addition to pressure on our traditional classification and certification services.

#### Change in regulatory regimes

DNV's international organisation and global network is of major importance in helping share, communicate and participate in the challenge of managing risks.

The increasing awareness of safety at large, and environmental protection in particular, is by necessity changing the regulatory regime offshore from 'compliance' to a 'safety regime'. There is a growing understanding in the industry that risk cannot be controlled, but must be managed. The process industry is in general a mature industry operating on marginal profit levels. At the same time the cost of conducting business continues to rise, in particular the cost of satisfying legislative demands pertaining to safety and the environment. A primary challenge for the industry is therefore to reduce costs, without compromising employee safety, corporate reputation, asset value or production.

# Cutting costs safely with

DNV has undertaken work with Koch Industries to provide Risk-Based Inspection at its three refining facilities, one in Pine Bend, Minnesota and two in Corpus Christi, Texas. The work delivery was the culmination of more than twelve months of dialogue and relationship building. Mark Geisenhoff of Koch Industries (left) and DNV project manager for Risk Based Inspection, Ricardo Valbuena at the Pine Bend refinery.



Risk based inspection and criticality rating of process plant

Inspection management and



Oklahoma, USA Materials selection and behaviour

21

A major DNV contribution to help increase profitability for many of our customers lies in helping to target and improve operations in areas where reduced expenditure will give the biggest return. This is equally true for our process-industry customers. The process industry spends a considerable amount every year on inspection of its assets. Much of this expenditure is to satisfy prescriptive legislative requirements, and many operators are concerned as to the value derived from such frequent inspection regimes. DNV's risk-based inspection (RBI) services are more and more becoming an interesting and profitable alternative to traditional, frequently performed inspection, which for process industry customers brings little added value. DNV's approach also allows the operator to have access to and gain the benefits of leading technological solutions to operating problems not available within their own organisation. Using such riskbased approaches allows operating expenditure to be focused on the 'critical few' elements that will give the greatest return on expenditure.

Outsourcing of such non-core business tasks as inspection measurement, planning and management are seen by some operators as a way to reduce costs and improve profitability.

#### Cost reduction a key issue

Despite forecasts that the process industry in both the refining and chemical sectors, particularly in the United States and to a lesser extent in Europe, can look forward to significant growth and increased profitability, cost reduction continues to be a main concern in the business. Many operators have traditionally returned single-figure returns on revenue and are constantly striving to achieve production costs in the refining sector of significantly less than \$2/barrel of oil equivalent. With the low-margin, high-volume throughput in large process plants, any cost reduction per barrel can make a significant impact on the bottom-line results. The revenue side of the profit formula of course plays an equally important part in obtaining a satisfactory profit level. Attention must also be focused on plant operability and uptime.

To obtain the desired cost reduction, many operators have embarked on outsourcing and alliancing contracts. Any long-term business perspective should be values that a company looks for in a prospective outsourcing partner.

Exactly those values are central to the strategy followed by DNV in pursuing business opportunities within the process industry in the U.S.A. We have already succeeded in establishing business relationships within the framework of long-term integrated service contracts.

#### DNV – a major alliance player

An example of such a contract may be found in the United Kingdom, where DNV is now an alliance partner to Conoco (UK) Limited. The scope of



Rotterdam, The Netherlands Risk assessment of hazardous plants in preparation of SEVESO II directive Lincolnshire, UK Asset integrity services supporting production.

> successful company in a mature industry will constantly examine itself and question its cost base and overheads. This has been instrumental in turning around some businesses, and has created new opportunities for service providers such as DNV.

Although outsourcing can help reduce direct costs, there are also other important considerations that need to be assessed by companies following the outsourcing route. As more and more tasks are left to external service providers, these suppliers progressively become the 'corporate memories' and the corporation may be rendered vulnerable in terms of ownership and custodianship of this intellectual capital. Hence, the selection of a long-term outsourcing partner must be done with a view to more than short-term cost reductions. Reputation, trust, integrity and a this contract includes the provision of safety and asset integrity services for all of Conoco's Southern North Sea assets both upstream (offshore) and for their onshore process facilities at the gas terminal in Lincolnshire. In financial terms, DNV in 1998 will be responsible for almost 20% of the annual operating budget for Conoco's entire Southern North Sea operation. This is a multimillion pound responsibility. Such contracts encompass the widest range of relevant services that satisfy the clients' needs.

#### **Future beyond compliance**

DNV has a tradition well founded in helping customers satisfy their compliance requirements, be they internal from corporate demands, or externally driven by regulatory authorities.

The vision for DNV's position in the

DNV's scope of work for Koch Industries covers a risk-based inspection programme for the three refineries. The objective is to implement RBI to understand and manage risks associated with loss of containment contributing to capacity availability. The contract includes an option to expand its scope to cover Koch's other operations, making the potential very much greater than originally defined. From left: Mark Geisenhoff, Koch Industries, Ricardo Valbuena, DNV and Mark Kachelmyer, Koch Industries.

international process industry is to fulfil a role beyond compliance assurance. Based on the core competences of DNV in the field of structures, materials and their behaviour, a comprehensive and valuable range of services has been developed, tailored and delivered to the process industry.

# Contributing to the customer's value chain

Compliance is often seen as a necessary requirement, even though a cost activity. By satisfying compliance requirements and adopting principles of risk management, DNV is confident that significant value can be added. The 'value added' from DNV comes not only from satisfying the corporate and regulatory framework but also in concentrating on those areas that really count and will yield the greatest return. This is production assurance, delivering asset integrity and enhanced operability, leading to increased plant uptime and hence a significant impact on the revenue side of the business equation.

The strategy for DNV in the process industry is to seek long-term support contracts with international clients. DNV's products, services, global reach and methodology fit perfectly with a life-cycle perspective and the industry's need to manage knowledge and information effectively. We strongly believe that our contribution will be greatest in a partnership with our clients, adding value in all project phases from concept and design, through construction, operation, upgrading and finally recycling/ decommissioning.

23

For companies worldwide, proved and documented quality in management systems, processes and products has increasingly become a prerequisite for business, as the globalisation of world economies and markets continues. The challenge for companies that aim to take a leading position in product quality and operations is no longer merely to document quality, but to develop a level of quality that will give them a business advantage over their competitors. This perspective represents both a source of inspiration and a business opportunity for DNV.

# certification and loss control services that create true business advantage

Loss Control Management Main Industries

NORTH AMERICA

Pharmaceuticals, Food & Beverage, Mechanical Manufacturing, Pulp & Paper

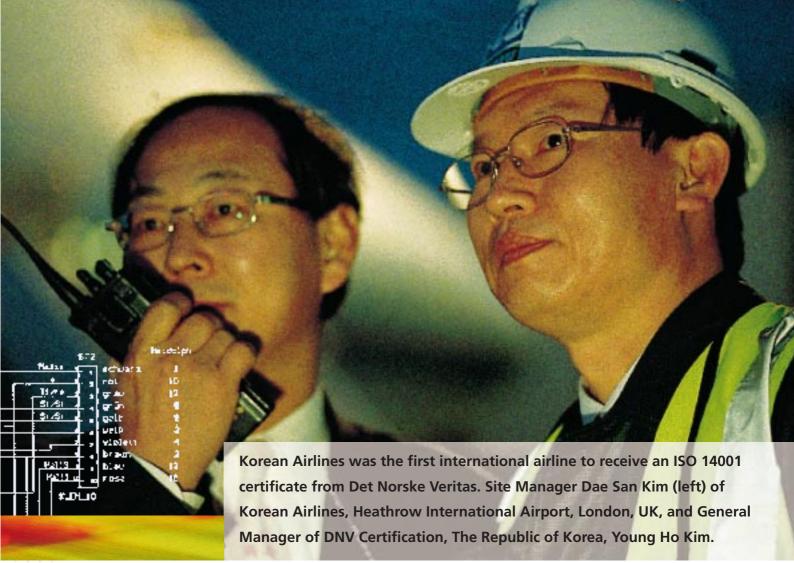


Europe Food & Beverage, Railways, Pharmaceuticals, Mechanical Manufacturing





13,025 ISO 9000

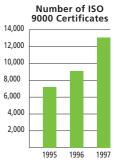


DNV's business area General Industry includes a wide variety of industries. The customer portfolio ranges from industries associated with advanced technology, such as aerospace and electronics, to other manufacturing industries and a variety of service segments. DNV's services within this business area in 1997 were mostly certification of management systems and products, and assessment, training and facilitation around management systems development, implementation and improvement.

#### Safer transport on and off the ground

The transport sector has always been close to DNV. In the General Industries business area we find customers involved in air transport, roads and railways. All areas of transportation are undergoing changes that represent new challenges and new possibilities. Safety, quality and environmental issues are high on the agenda, and DNV contributes with training, assessment and improvement support as well as certification services.

The airlines have always been concerned with safety. It goes without saying that technical safety is a high priority. Managing safety, and increasingly also environmental issues, through a systematic management approach is receiving greater attention by the world's leading airlines. The European Joint Aviation Requirements (JAR) state that all airlines which operate under European legislation shall have in place a quality management system.



DNV has worked closely with several international airlines during recent years on management systems activities. A project for the Scandinavian airline SAS's Flight Operations Department, applying a systematic approach on identification of opportunities for improvement and subsequent assistance to close the gaps, is presently forming a model for how quality management systems can best be implemented in an airline. The airlines' own organisation, IATA, is supporting this approach, and the ISO for Flight Operations Approach has been introduced by DNV to a number of international airlines, including Qantas, Thai International, Saudi

Arabian Airlines, Singapore Airlines and Air Canada.

During the spring of 1997 Korean Airlines was the first international airline to gain an ISO 14001 certificate. The fact that industries which traditionally give high priority to safety put so much effort into improvement of their management systems, underlines the importance that management systems and the human element has for quality, including safety and environmental impact of airline operations.

#### On track with safety

One of the industries competing with the airlines is the railways. Through

Rockwell Automation is one of the first companies in the USA to receive both 9001 and 14001 certificates from DNV. Director Jim Weber of Rockwell Automation Control and Information Group (left) and DNV asessor Greg Johnsen.



application of advanced technology both on the trains themselves and the systems which control and monitor traffic, modern trains have significantly improved in speed and comfort in recent years.

But increased speed and greater traffic also emphasise the need for safety and reliability in rail operation and management. DNV has been involved in rail-related projects for many years. Safety evaluations of selected lines and tunnel projects, assessment of control system suppliers according to ISO 9001, international standards for software and electronics as well as rail specific standards, are

#### Safety on the road

In the automobile industry, certification according to QS 9000, the major American car manufacturers' (Ford, General Motors and Chrysler), adjustment of the ISO 9001 standard, has continued, though with slower market development than expected. During 1997, DNV obtained accreditation according to the similar VDA requirements established by the German car-manufacturing industry.

DNV's involvement with the road transport industries also includes the transportation segment. DNV has certified the quality management systems of a number of large transport companies,



examples of recent railway projects for DNV.

Safer operation through improved management systems is high on the agenda for rail companies. Based on DNV's International Safety Rating System (ISRS), DNV has developed a customised assessment tool for Railtrack, the national British railway infrastructure company. With growing use of trains in many countries, DNV is now approaching other rail operators, in Europe, Asia and Australia. DNV offers safety and reliability studies, and assessment and facilitation of management systems improvements, utilising the tools and methods developed together with Railtrack.

including Avis, DHL, Schenker and TNT. This confirms the industry's belief that a well-structured and implemented management system has an important effect on its competitive position.

# Increasing electronics and electrical certification

The importance of the electronic and electrical industries to modern society cannot be overstated. Not surprisingly, they have become among the most important industry sectors for DNV. With respect to management systems certification, the segment is the largest industry sector, representing some 15% of DNV's certification volume. If we include other industries which are



DNV has developed a customised assessment tool for Railtrack, the national British railway infrastructure company.

(2

strongly electrical/electronics related, such as telecommunications and the electro-medical industry, the importance of this sector for DNV becomes even more evident.

DNV has obtained authorisation as Notified Body for most relevant European directives. As a proper quality management system is an essential element in modern quality assurance of products and production processes, DNV has given priority to product groups manufactured by companies which already have their quality system certified by us. Noting that a large proportion of DNV's existing customers are manufacturing goods incorporating established co-operation with recognised laboratories.

The People's Republic of China represents an interesting potential for DNV. We are presently the largest international certification body for quality systems in China, and have established a co-operation with State Administration of Import and Export Commodity Inspection to build and operate an EMC laboratory in Shenzhen. This underlines DNV's commitment to serve Chinese industry, and will further strengthen our position in the Chinese market.

In addition to East Asia, the U.S.A. is DNV's main market with respect to cer-





#### Product Certification China, Japan, Korea and Taiwan are large manufacturers of electrical and electronic equipment. DNV has a significant portion of these on the client list.

electrical or electronic systems which also may need testing as part of certification, DNV has made agreements with laboratories in several countries for testing of electromagnetic compatibility and electrical safety. Through co-operation between local laboratories and DNV's laboratory at Høvik, Norway, we provide efficient accredited and authorised product certification services to customers in the major manufacturing regions.

China, Japan, Korea and Taiwan are large manufacturers of electrical and electronic equipment, and DNV has a significant portion of these on our client list. Several divisions of companies such as Hitachi, Sanyo Electric Co. and Tokyo Electron Co. have their quality systems certified by DNV. In Japan, Korea and Taiwan, DNV has a welltification in the electronics industry. Among DNV's clients for ISO 9000 certification are Allied Signal, AT&T, Duracell, OKI Telecom and Sun Electric. As one of the first in the U.S.A., Rockwell Automation received both ISO 9001 and ISO 14001 certificates for a number of its U.S. sites from DNV.

#### Expanding the reach

Although DNV is mainly known for its services for high-tech industries, those traditionally somewhat more distant from DNV are becoming more and more significant. One such sector, where quality is strongly linked to human safety, is the food and beverage industry. Here we find the full spectrum from breweries in the U.K. to parmesan and spaghetti producers in Italy.

International corporations such as

Professor Sir John Pattison (left) is Chairman of the British government's Spongiform Encephalopathy Advisory (BSE), or 'mad cow disease' Committee. DNV represented by Dr. Philip Comer, has been acting as advisor to the U.K. authorities regarding environmental risk assessment.

> Unilever, Pepsi Cola and Walker Snack Foods are all users of DNV's ISRS tools and our safety management training programmes. This is clear evidence of these companies' commitment to continuous improvement through systematic development of their management systems.

The food industry is to a growing extent using certification as a means to document the quality of its operations. As in other industries, international standards and requirements are being introduced. Some requirements are mainly monitored by national authorities, but we see a clear development towards use of certification by recognised certification bodies to ensure and document fulfilment of health and safety requirements. A major concern in Europe has been Bovine Spongiform Encephalopathy (BSE), or 'mad cow disease'. With our extensive experience in risk analysis, DNV has been acting as advisor to the U.K. governmental authorities and has carried out a series of risk assessment studies to help make decisions in this complex area. The studies have included environmental risk assessment, focussed on disposal options for BSE-infected materials, and an assessment of the risk of BSE infectivity in meat on-the-bone.

1997 has confirmed that DNV's methods, tools, knowledge and experience are of value for numerous industries. Our challenge now is to match them with relevant industry experience and understanding, and to adjust our services and our tools to make them continuously more valuable for our customers.

### **Financial Highlights**

(Amounts in million NOK)	1997	1996	1995	1994	1993	DEFINITION OF RATIOS:
						Profitability:
						Operating margin: Operating profit x 100 /
Profit and loss account:						Total operating revenues
Operating revenues	3,735	3,321	3,071	2,935	2,935	Profit margin:
Depreciation	111	112	107	112	107	Profit before taxes x 100 /
Operating profit	258	313	345	296	269	Total operating revenues Return on total assets:
Net financial expense	6	(12)	(27)	(123)	(11)	(Operating profit +
Profit before taxes	263	301	317	173	258	Financial income) x
Net profit	160	233	210	124	176	100/Average total assets
Balance sheet:						Return on equity:
Current assets	1,873	1,778	1,669	1,532	1,597	Profit before taxes x 100 / Average equity
Long term assets	1,496	1,417	1,453	1,411	1,470	monuge equity
Total assets	3,369	3,195	3,122	2,943	3,067	Liquidity:
				222	200	Cash flow:
Current liabilities	789	678	713	686	688	Profit before taxes + depreci-
Long term liabilities	830	928	1,012	1,069	1,281	ation – taxes payable Current ratio:
Equity	1,749	1,589	1,398	1,187	1,088	Current assets / Current liabilities
Cash flow items & working cap	oital:					Liquidity reserves:
Purchase of fixed assets	140	131	148	103	164	Cash and bank deposits +
Working capital	1,084	1,100	956	846	909	Shares & bonds
Cash flow	271	345	317	236	285	<i>Liquidity cover:</i> Liquidity reserves x 100 /
Number of employees	4,235	4,000	3,681	3,582	3,520	(Total operating expenses -
Number of employees	7,233	4,000	5,001	5,504	3,320	depreciation)
FINANCIAL RATIOS						Leverage:
Profitability:	<b>5 0</b> 01				0.0.0	Equity ratio:
Operating margin	6.9 %	9.4 %	11.2 %	10.1 %	9.2 %	Equity x 100 / Total assets
Profit margin	7.0 %	9.1 %	10.3 %	5.9 %	8.8 %	<i>Net debt ratio:</i> (Total interest bearing debt
Return on total assets	8.0 %	12.1 %	13.8 %	11.4 %	13.0 %	– Liquidity reserves) x 100 /
Return on equity	15.8 %	20.2 %	24.5 %	15.2 %	23.9 %	(Equity + Minority interests – Goodwill)
Liquidity:						Total interest bearing debt
Current ratio	2.4	2.6	2.3	2.2	2.3	includes: Overdrafts, short term promissory notes
Liquidity reserves	681	723	718	690	739	and long term promissory
Liquidity cover	20.2 %	25.0~%	27.4~%	27.3~%	28.9 %	notes.
Leverage:						
Equity ratio	51.9 %	$49.7 \ \%$	$44.8 \ \%$	40.3~%	$35.5 \ \%$	
Net debt ratio	2.8 %	$7.5 \ \%$	16.2 %	24.3~%	35.5 %	

### Profit and Loss Account

(31)

DET NORSKE VERITAS FOUNDATION (Amounts in ma		(Amounts in million NOK)		DET NORSKE (Consolid.	
1997	1996			1997	1996
		Operating revenues			
0.0	0.0	Sale of services		3,598.3	3,173.3
0.1	0.1	Other operating revenues		136.7	147.7
0.1	0.1	Total operating revenues	3	3,735.0	3,321.0
		Operating expenses			
(4.0)	3.3	Salaries and social expenses Purchase, sales and	2	1,905.5	1,681.0
(4.1)	(3.4)	administration expenses		1,437.5	1,201.6
0.2	0.2	Ordinary depreciation	11	111.2	111.5
0.0	0.0	Losses on receivables		23.1	13.5
(7.9)	0.1	Total operating expenses		3,477.3	3,007.6
8.0	(0.0)	Operating profit (loss)	10	257.7	313.4
		Financial income and expenses			
05.1	79.5	Financial income		106.9	67.6
52.2)	(52.6)	Financial expenses		(101.3)	(79.6)
42.9	26.9	Net financial income (expense)	4	5.6	(12.0)
50.9	26.9	Profit before tax expense		263.3	301.4
19.1)	(5.4)	Tax expense	5	(103.2)	(68.0)
31.8	21.5	Profit before minority interest		160.1	233.4
0.0	0.0	Minority interest	13	(0.2)	(0.1)
31.8	21.5	NET PROFIT		159.9	233.3
31.8	21.5	<b>Appropriation of net profit</b> Allocation to free reserves			

**Balance Sheet** 

DET NORSKE VERITAS FOUNDATION		(Amounts in million NOK)		DET NORSKE VERITAS (CONSOLIDATED)	
31 December 1997	31 Decembe 1996	er	Note	31 December 1997	31 Decembe 1996
		ASSETS			
		Current assets			
547.2	384.0	Cash and bank deposits	6	291.0	166.0
388.3	555.9	Shares and bonds	7	390.3	557.4
0.0	0.0	Accounts receivable	8	828.7	684.7
15.9	45.6	Intercompany receivables		0.0	0.0
0.0	15.4	Other short term receivables		113.8	128.1
0.0	0.0	Work in progress		242.8	235.6
0.0	0.0	Physical stocks		6.8	6.4
951.4	1,000.9	Total current assets		1,873.4	1,778.2
		Long term investments			
24.5	29.9	Long term shareholdings	9	28.2	35.5
240.0	240.0	Shares in subsidiaries	10	0.0	0.0
23.7	24.2	Long term loans to employees		48.0	45.2
46.2	36.3	Other long term receivables	2	242.4	187.6
334.4	330.4	Total long term investments		318.6	268.3
		Fixed assets			
0.4	0.4	Machinery and equipment	11	211.0	199.6
0.0	0.0	Buildings and property	11	966.3	949.1
0.4	0.4	Total fixed assets		1,177.3	1,148.7
334.8	330.8	Total fixed assets and long term investments		1,495.9	1,417.0
				-	,
1,286.2	1,331.7	TOTAL ASSETS		3,369.3	3,195.2

### **Balance Sheet**

31 December 1997         31 Decembr 1996           0.3         0.1           0.0         0.0           0.1         0.0           0.0         0.0           1.1         0.5           19.4         5.7           0.0         0.0           0.6         7.3           6.3         13.2	ber LIABILITIES AND EQUITY Current liabilities Accounts payable Overdraft Short term promissory notes Taxes withheld, VAT, accrued holiday allowance etc. Taxes payable Prepayments from customers Intercompany payables Other current liabilities	Note	31 December 1997 94.4 37.2 0.0 200.8 122.0 156.4	31 December 1996 88.6 42.0 18.0 166.1 96.1
0.0         0.0           0.0         0.0           1.1         0.5           19.4         5.7           0.0         0.0           0.6         7.3	Current liabilities Accounts payable Overdraft Short term promissory notes Taxes withheld, VAT, accrued holiday allowance etc. Taxes payable Prepayments from customers Intercompany payables Other current liabilities	6	37.2 0.0 200.8 122.0	42.0 18.0 166.1
0.0         0.0           0.0         0.0           1.1         0.5           19.4         5.7           0.0         0.0           0.6         7.3	Accounts payable Overdraft Short term promissory notes Taxes withheld, VAT, accrued holiday allowance etc. Taxes payable Prepayments from customers Intercompany payables Other current liabilities	6	37.2 0.0 200.8 122.0	42.0 18.0 166.1
0.0         0.0           0.0         0.0           1.1         0.5           19.4         5.7           0.0         0.0           0.6         7.3	Overdraft Short term promissory notes Taxes withheld, VAT, accrued holiday allowance etc. Taxes payable Prepayments from customers Intercompany payables Other current liabilities	6	37.2 0.0 200.8 122.0	42.0 18.0 166.1
0.0       0.0         1.1       0.5         19.4       5.7         0.0       0.0         0.6       7.3	Overdraft Short term promissory notes Taxes withheld, VAT, accrued holiday allowance etc. Taxes payable Prepayments from customers Intercompany payables Other current liabilities	6	0.0 200.8 122.0	18.0 166.1
1.1       0.5         19.4       5.7         0.0       0.0         0.6       7.3	Taxes withheld, VAT, accrued holiday allowance etc. Taxes payable Prepayments from customers Intercompany payables Other current liabilities		200.8 122.0	166.1
19.4         5.7           0.0         0.0           0.6         7.3	accrued holiday allowance etc. Taxes payable Prepayments from customers Intercompany payables Other current liabilities		122.0	
0.0         0.0           0.6         7.3	Taxes payable Prepayments from customers Intercompany payables Other current liabilities			96.1
0.0         0.0           0.6         7.3	Prepayments from customers Intercompany payables Other current liabilities		156.4	
<b>0.6</b> 7.3	Intercompany payables Other current liabilities			124.0
<b>6.3</b> 13.2	Other current liabilities		0.0	0.0
	Total current liabilities		178.4	143.0
<b>27.7</b> 26.8		1/20	789.2	677.8
	Long term liabilities			
<b>620.0</b> 709.2	Long term promissory notes	12	692.9	783.4
<b>35.5</b> 24.5	Other long term liabilities	2	137.4	144.3
0.0 0.0	Deferred taxes	5	0.0	0.0
<b>655.5</b> 733.7	Total long term liabilities		830.3	927.7
<b>683.2</b> 760.5	Total liabilities		1,619.5	1,605.5
<b>0.0</b> 0.0	Minority interests		0.6	0.4
	Equity		202 5	000 5
<b>283.5</b> 283.5	Foundation capital		283.5	283.5
<b>0.0</b> 0.0	Legal reserves (in Norway)		320.0	309.4
<b>319.5</b> 287.7	Free reserves		1,145.7	996.4
<b>603.0</b> 571.2	Total equity	13	1,749.2	1,589.3
<b>1,286.2</b> 1,331.7	TOTAL LIABILITIES AND EQUITY		3,369.3	3,195.2
<b>1,548.4</b> 1,543.7	Guarantees		52.0	36.9

### Statement of Cash Flow

Det Norske Veritas Foundation		(Amounts in million NOK)	Det Norske Veritas (consolidated)	
1997	1996		1997	1996
		CASH FLOW FROM OPERATIONS		
50.9	26.9	Profit before tax expense	263.3	301.4
0.0	0.0	Net gain/loss on sale of fixed assets	(4.7)	(19.6)
0.2	0.2	Ordinary depreciation	111.2	111.5
(19.1)	(5.4)	Taxes payable	(103.2)	(68.0)
		Changes in work in progress, accounts		
23.2	22.5	receivable and accounts payable	(145.4)	(65.1)
0.0	0.0	Changes in minority interests and equity	(0.0)	(41.6)
33.8	8.7	Changes in other accruals and deferrals	129.8	(59.9)
89.0	52.9	Net change in liquidity from operations	251.0	158.7
	1.	CASH FLOW FROM INVESTMENTS		
(0.2)	0.0	Investments in fixed assets	(139.8)	(130.5)
0.0	2.3	Sale of fixed assets (sales amount)	23.4	120.4
0.0	0.0	Currency effects on fixed assets	(18.8)	(7.4)
(4.0)	638.5	Changes in other investments	(50.3)	(38.2)
(4.2)	640.8	Net change in liquidity from investments	(185.5)	(55.7)
0.0	0.0	CASH FLOW FROM FINANCING	0.1	9.2
(80.0)	(50.0)	New loans (short/long term) Repayment of existing loans	(107.2)	(94.3)
	(30.0)	Net change, internal loans	0.0	0.0
(9.2)	4.4	Currency effect	(1.4)	(11.2)
<b>(89.2)</b> (	508.2)	Net change in liquidity from financing	(108.5)	(96.3)
		LIQUIDITY		
89.0	52.9	Net change in liquidity from operations	251.0	158.7
(4.2)	640.8	Net change in liquidity from investments	(185.5)	(55.7)
(89.2)	508.2)	Net change in liquidity from financing	(108.5)	(96.3)
4.4	185.5	Net change in liquidity	(43.0)	6.7
4.4				
940.0	754.5	Liquidity at 1 January	724.2	717.5

#### Notes to the Financial Statements

#### **1. ACCOUNTING PRINCIPLES**

The accounts are a translation of the statutory accounts of Det Norske Veritas and have been prepared in accordance with accounting principles generally accepted in Norway. The most important accounting principles followed by Det Norske Veritas are described below.

#### Consolidation

The consolidated accounts include DNV Foundation and all companies in which DNV Foundation directly or indirectly owns more than 50% of the shares. The consolidated accounts show Det Norske Veritas' profit and loss account, balance sheet and statement of cash flow when regarded as one accounting unit.

Intercompany transactions have been eliminated.

Shares in subsidiaries are eliminated according to the past equity method. Accordingly the cost of shares in subsidiaries is eliminated against equity in the same subsidiaries on date of acquisition. Differences arising between these amounts have been classified as goodwill under fixed assets. This goodwill is depreciated on a straight line basis over 5 years.

Subsidiaries acquired during the year are included in the profit and loss account from the date of acquisition.

Subsidiaries sold have been excluded from the profit and loss account from the beginning of the year.

#### Translation of accounts of foreign subsidiaries

When translating the foreign subsidiaries' annual accounts into Norwegian currency, the following principles are applied:

- The profit and loss items are translated at the average exchange rate in the financial year.
- The balance sheet items are translated at the exchange rate applying at 31 December.
- The translation rate differences which arise as a consequence of the principles above, are classified in the profit and loss accounts as financial expense or financial income.

#### Income taxes

Income tax expense includes taxes payable and change in deferred taxes. Deferred taxes are calculated in accordance with the liability method. These are provided for on all temporary differences and tax loss carry-forwards. Revaluation of land has been treated as a permanent difference. All positive and negative temporary differences and tax loss carry-forwards have been offset when calculating net deferred tax. Net deferred tax asset is not included in the balance sheet.

#### Assets and liabilities in foreign currency

Assets and liabilities in foreign currency are translated at the exchange rate applying at 31 December. Financial instruments, mainly forward exchange contracts and currency swaps, are used to hedge all significant balances denominated in the most common foreign currencies.

The related hedges are included at market value at 31 December.

Consequently, both realised and unrealised currency gains or losses are taken to income and included on a net basis as either other financial income or other financial expense. Premiums paid for currency and interest rate options acquired to hedge future cash flows are capitalised and amortised over the life of the contracts. No mark to market adjustments are recorded at year-end.

#### Accounts receivable

Accounts receivable are stated at nominal value less provision for doubtful accounts.

#### Revenue recognition and work in progress

Revenues from services are recognised under the percentage of completion method. Work in progress is consequently stated at estimated sales value, and changes in work in progress are included in operating revenue.

#### Shares and other securities

Shares and other securities which are not regarded as long term investments are classified in the balance sheet as current assets. The securities portfolios are valued as a whole at the lower of cost and market value. This also includes options and other derivatives held for investment purposes.

Shares and other securities which are long term investments are stated at cost. However, these interests are continuously reviewed and, if appropriate, written down in case of permanent impairment in value of each individual investment. The equity method has not been applied for any of these companies, as the effect on Det Norske Veritas' balance sheet is considered insignificant.

#### Fixed assets and depreciation

Depreciable fixed assets have been stated in the balance sheet at cost less accumulated ordinary depreciation. Ordinary depreciation is charged on a straight line basis over the economic life of the assets. Gains/losses on sale of fixed assets are included in other operating revenues/other operating expenses.

#### Litigation

When companies in Det Norske Veritas are involved in litigation, and a claim has been put forward, provisions for these claims are made in the accounts based on an evaluation of the validity and amount of the claim.

#### Pensions

From 1 January, 1993 Det Norske Veritas changed its principles for calculation and presentation of pension expenses, pension obligations and pension assets related to the Norwegian entities in the consolidated accounts. From 1 January, 1996 Det Norske Veritas included foreign pension obligations according to Norwegian Accounting Standards. In the parent company accounts of Det Norske Veritas Foundation the former principle is still applied, and only annual pension premiums paid are reflected in the accounts. Accordingly, assets and obligations in the pension funds have been included in the consolidated accounts. The calculated obligations include the effect of projected future salary and pension adjustments. The pension assets are based on market values.

Pension costs include the net of benefits earned in the

#### notestothefinancial statements

period (including projected salary increases), interest on the projected benefit obligation, estimated return on pension assets and net amortisation of changes in estimates (changes in actuarial estimates and differences between actual and estimated return on assets).

Net prepaid pension related to the Norwegian pension plans is included in long term receivables and represents the difference between pension assets and the projected benefit obligation, adjusted for unrecognised net changes in estimates. The foreign pension plans show a net pension obligation which is included in long term liabilities. Net changes in estimates in excess of 10 % of the projected benefit obligation are amortised over average remaining service period (15 years).

Please refer to note 2 which describes in detail the assumptions used and the effects on the financial statements.

#### Leases

Several group companies have lease commitments primarily related to office facilities. Provisions are recorded for commitments related to leased facilities not currently in use based on an evaluation of the expected period to sublet the facilities.

#### 2. SALARIES, PENSION PREMIUMS AND OBLIGATIONS

The total remuneration to Det Norske Veritas' Chief Executive Officer amounted to NOK 2 004 699 in 1997. The compensation and benefit arrangements for the CEO are otherwise as for employees of the company in general. Total remuneration paid to members of the Board amounted to NOK 1 228 788 in 1997 and the remuneration to the auditors amounted to NOK 310 000.

The pension obligations of Det Norske Veritas are mainly covered through the two separate pension funds in Norway (Det Norske Veritas Pension Fund and Det Norske Veritas Pension Fund for Supplementary Pension Benefits), and outside Norway through arrangements with insurance companies.

Det Norske Veritas has pension plans which will give future pension benefits to the employees. These future benefits will be based on the pension plan rules applicable at that time. Today, the pension benefits are based on the employee's salary level at the time of retirement and on the number of years of membership. The pension schemes are considered as defined benefit plans. This has also been the basis for calculating the pension cost and pension obligations included in the accounts and as shown in this note.

Contributions to the Group's pension plans are made in accordance with common actuarial calculation methods in the country where the pension plan is administered. The pension assets are primarily invested in interest-bearing securities, real estate and listed shares.

(Amounts in million NOK)	Norwegian Pension plans		
	1997	1996	
Net periodic pension cost includes:			
Estimated gross pension cost	105.8	102.1	
Expected return on assets	(70.8)	(61.8)	
Net pension cost, included in salaries and social expenses	35.0	40.3	

As at December 31 the pension assets and obligations were as follows:

(Amounts in million NOK)	Norwegian Pension plans		Other Pension plans	
	1 <mark>997</mark>	1996	1997	1996
Fair value of pension assets	1,189.2	1,044.4	258.8	180.1
Actuarial present value of pension obligations	(989.5)	(919.0)	(316.1)	(235.4)
Unrecognised net changes in estimates	(41.3)	(17.4)	0.0	0.0
Net prepaid pension (obligations),				
included in other long term receivables/(liabilities)	158.4	108.0	(57.4)	(55.3)

Net prepaid pension are included in other long term receivables and net pension obligations are included in long term liabilities in the balance sheet.

The calculation of the pension obligations in Norway is based on the following assumptions: a 6 % p.a. discount rate, projected annual salary adjustment of 3 %, projected annual increases in pension benefits of 2 %, Norwegian Government basis pension of 3 %, and expected return on assets of 7 %. Ordinary retirement age in Det Norske Veritas is 67 years. Some managers and employees are entitled to retire with pension premium benefits before the age of 67.

## 3. OPERATING REVENUES BY PRODUCT/SERVICE LINE (Amounts in million NOK)

		ske Veritas lidated)
	1997	1996
Classification	1,463.3	1,341.5
Certification	972.1	759.3
Advisory	1,162.9	1,072.4
Other operating revenues	136.7	147.8
Total operating revenues	3,735.0	3,321.0

## 4. FINANCIAL INCOME AND EXPENSES (Amounts in million NOK)

	Det Norske Founda		DET NORSKE VERIT (Consolidated)	
	1997	1996	1997	1996
Realised return on securities portfolio	89.6	51.5	89.6	51.5
Net interest earned from companies in DNV	14.7	26.1	0.0	0.0
Interest earned	0.7	2.1	10.5	9.7
Other financial income	0.0	0.0	6.8	6.4
Interest charges	(53.0)	(48.1)	(83.2)	(60.4)
Other financial expenses	(9.1)	(4.7)	(18.1)	(19.2)
Net financial income (expense)	42.9	26.9	5.6	(12.0)

## Total return on the securities portfolio in DNV Foundation:

	Total capital	invested		Retu	rn	
	Market value	Average	Realised	Changes in	Total	return
	31 December	capital	return	unrealised		
	1997	1997		return	1997	%
Shares and stock funds	347.8	172.4	63.5	(9.3)	54.2	31.5 %
Bonds	0.0	325.1	20.7	(3.3)	17.4	5.4 %
Index linked bonds	43.9	52.4	1.2	(1.6)	(0.3)	- 0.6 %
Total short term investments	391.7	549.8	85.5	(14.1)	71.3	13.0 %
Long term shareholdings	27.3	28.6	4.1	0.3	4.4	15.4 %
Total	419.0	578.4	89.6	(13.8)	75.7	13.1 %

The composition of the securities portfolio is shown in note 7 and 9.

## 5. TAXES (Amounts in million NOK)

	Det Norse	ke Veritas	
	Found	DATION	
Taxable income	1997	1996	
Profit before tax expense	50.9	26.9	
Permanent differences	(6.6)	(4.0)	
Change in temporary differences	13.6	(1.0)	
Utilisation of tax loss carried forward	0.0	(16.7)	
Taxable income	57.9	5.2	

	Det Norske Veritas Foundation		DET NORSKE VERITAS (CONSOLIDATED)	
Tax expense consists of:	1997	1996	1997	1996
Norwegian wealth tax	5.7	5.4	5.7	5.4
Norwegian income taxes payable	15.9	1.5	35.5	32.4
Tax credit	(2.5)	(1.5)	(2.5)	(1.5)
Income taxes payable outside Norway	0.0	0.0	64.5	31.7
Change in deferred taxes	0.0	0.0	0.0	0.0
Tax expense	19.1	5.4	103.2	68.0

(37)

## notestothefinancialstatements

	DET NORSKE VERITAS I FOUNDATION		DET NORSE (CONSO	KE VERITA: LIDATED)
	1997	1996	1997	1996
Temporary differences				
Positive differences current items	0.0	0.0	12.0	11.6
Positive differences non current items	0.2	1.7	273.3	214.6
Basis for deferred tax liability	0.2	1.7	285.3	226.2
Tax rates applied	28%	28%	25–42 %	16–54 %
Deferred tax liability	0.0	0.5	80.6	64.0
Negative differences current items	(15.9)	(8.0)	(46.0)	(29.9)
Negative differences non current items	(5.7)	(1.5)	(264.6)	(220.5)
Basis fo <mark>r deferred tax asset</mark>	(21.6)	(9.5)	(310.6)	(250.4)
Tax rates applied	28%	28%	25–42 %	16–54 %
Deferred tax asset	(6.0)	(2.7)	(106.8)	(80.9)
Net deferred tax asset	(6.0)	(2.2)	(26.2)	(16.9)

In addition there are tax loss carry forwards and negative temporary differences in entities outside Norway amounting to NOK 33 million which have not been included in the estimated deferred tax, due to uncertainty regarding utilisation.

### 6. BANK

At 31 December Det Norske Veritas had bank deposits restricted for payment related to taxes withheld for employees amounting to NOK 33.8 million. The corresponding amount in Det Norske Veritas Foundation was NOK 0.4 million.

Det Norske Veritas Holding AS has entered into an agreement for a group bank account system with Den norske Bank, where most of DNV's legal entities participate. The agreement includes an overdraft facility of NOK 50 million, guaranteed by DNV Foundation.

The bank account balances of the individual participants are in this context considered as internal assets or liabilities vis-à-vis other DNV participants. For the DNV group on a consolidated basis, the net total balance of NOK 30.1 million is included in Cash and bank deposits in the balance sheet at 31 December.

### 7. SHARES, STOCK FUNDS AND BONDS (Amounts in million NOK)

	Share capital of the company	Number of shares owned by DNV Foundation	Par value	Cost price	Market value	Unrealised gain/(loss)
Shares owned by DNV Foun	dation					
Aker RGI A	1,111	41,450	0.8	4.9	5.5	0.6
Aker RGI B	433	73,150	1.5	8.7	8.8	0.1
Bergesen D.Y B	57	48,250	0.1	8.3	8.3	0.0
Color Line	97	26,500	0.1	0.9	0.8	(0.1)
Kværner A	424	22,790	0.3	8.9	8.6	(0.3)
Mosvold Shipping	4	95,000	0.0	1.4	1.0	(0.4)
Narvesen	200	4,500	0.1	0.8	0.7	(0.1)
Nera	132	111,600	0.2	4.7	4.4	(0.3)
Norsk Hydro	4,581	10,395	0.2	4.0	3.7	(0.3)
Norske Skog A	576	46,250	0.9	10.5	9.9	(0.6)
Norske Skog B	188	15,000	0.3	3.1	3.0	(0.1)
Orkla A	987	38,350	1.0	22.7	24.4	1.7
Petroleum Geo-Service	180	7,000	0.0	3.2	3.3	0.1
Saga Petroleum A	1,552	90,050	1.4	11.3	11.4	0.1
Schibsted	0	11,000	0.0	1.4	1.4	0.0
Sensonor	0	53,300	0.3	3.4	1.2	(2.2)
Total Norwegian shares owned	l by DNV Foundation			98.2	96.4	(1.8)
Foreign shares owned by DNV	Foundation			1.0	0.5	(0.5)

	Number of shares owned by DNV Foundation	Par value	Cost price	Market value	Unrealised gain/(loss)
Industrifinans Aksje Norge Storkunde	983,341		100.0	100.7	0.7
Industrifinans Aktiv	113,049		50.3	50.9	0.6
K-Kapital	40,303		99.9	99.4	(0.5)
Total stock funds owned by DNV Foundation			250.2	251.0	0.8
Net adjustment of book value to market value			(1.5)		(1.5)
Total shares and stock funds owned by DNV Foun	dation		347.9	347.9	0.0
Total shares owned by other companies in Det No	orske Veritas		1.1	1.1	0.0
Total shares and stock funds owned by Det Norsk	e Veritas (Consolidate	d)	349.0	349.0	0.0
Index linked bonds owned by DNV Foundation			40.4	43.9	3.5
Bonds owned by other companies in Det Norske	Veritas		0.9	0.9	0.0
Total bonds held by Det Norske Veritas (Consolid	ated)		41.3	44.8	3.5
Total shares, stock funds and bonds owned by DN	W Foundation		388.3	391.8	3.5
Total shares, stock funds and bonds owned by	/				
Det Norske Veritas (Consolidated)			390.3	393.8	3.5

## 8. ACCOUNTS RECEIVABLE AND PROVISION FOR DOUBTFUL ACCOUNTS

(Amounts in million NOK)	DET NORSKE VERITAS (CONSOLIDATED)		
	31 December 1997	31 December 1996	
Accounts receivable:			
Accounts receivable	887.4	735.9	
Provision for doubtful accounts	(58.7)	(51.2)	
Accounts receivable net	828.7	684.7	
Provision in percent of accounts receivable	6.6%	7.0%	

## 9. LONG TERM SHAREHOLDINGS (Amounts in million NOK)

Company S	bhare capital	Owner	Owner- ship	Number of shares	Par value	Book value
Røisheim Eiendom AS	5.7	DNV Foundation	5.5%	313	0.3	0.3
Industrifinans SMB AS	77.5	<b>DNV</b> Foundation	9.8%	8,742	7.6	11.2
Industrifinans SMB ll AS	30.0	DNV Foundation	5.0%	15,000	1.5	13.0
Total long term securities portfolio						24.5
Ship Manoeuvring Simulator Center A	/S 4.5	Det Norske Veritas AS	40.0%	1,800	1.8	1.8
Marintek AS	11.6	Det Norske Veritas AS	9.0%	100	0.1	0.0
Boss Teknologi AS	0.1	Det Norske Veritas AS	50.0%	250	0.0	0.0
Norsk Rørsenter A/S	1.2	Det Norske Veritas AS	19.0%	180	0.2	0.0
Hordaland Lederutviklingsforum AS	0.2	Det Norske Veritas AS	1.1%	1	0.0	0.0
Høyteknologisenteret i Bergen AS	33.5	DNV Region Norge AS	0.5%	156	0.2	0.0
Computas Expert Systems AS	2.2	DNV Holding AS	11.8%	25,895	0.3	0.2
Saga-Veritas Eiendom AS	5.0	DNV Eiendom AS	34.0%	34	1.7	1.7
Total strategic share investments						3.7
Total long term shareholdings						28.2

(39)

### 10. SHARES IN SUBSIDIARIES (Amounts in million NOK)

Company	Share capital	Owner- ship	Book value
Det Norske Veritas Holding AS	240.0	100%	240.0
Total shares in subsidiaries			240.0

### Det Norske Veritas Holding AS owns:

100% of Det Norske Veritas AS

100% of Det Norske Veritas Eiendom AS

These subsidiaries again have 55 subsidiaries in 33 countries.

### **11. FIXED ASSETS** (Amounts in million NOK)

T NORSKE VERITAS DET NORSKE VERITAS				
FOUNDATION		(CONSOLIDATED)		
Machinery and equipment		Goodwill	Machinery and equipment	Buildings and property
1.4	Cost at 1 January 1997	81.0	612.9	1,272.4
0.2	Additions in 1997	0.0	116.8	23.0
0.0	Disposals in 1997	0.0	(46.4)	(4.3)
(1.2)	Accumulated depreciation at 31 December 1997	(81.0)	(472.3)	(324.8)
0.4	Book value at 31 December 1997	0.0	211.0	966.3
(0.2)	Ordinary depreciation	0.0	(91.0)	(20.2)
25 %	Depreciation rates		10 – 25 %	0 – 10 %

The book value of land included in buildings and property amounted to NOK 79.6 million at 31 December 1997, including a revaluation of NOK 54.0 million from 1986.

### Purchase and sales (at sales price) of fixed assets during the last five years: (Amounts in million NOK)

	1993		1994		1995		1996		1997	
	Purchased	Sold	Purchased	Sold	Purchased	Sold	Purchased	Sold	Purchased	Sold
Machinery, equipment, goodwill	82.6	14.5	85.9	9.0	95.6	14.6	109.1	27.1	116.8	16.4
Buildings and property	l 81.3	21.1	17.2	10.3	52.5	51.2	21.4	93.3	23.0	7.0
Total	163.9	35.6	103.1	19.3	148.1	65.8		120.4	139.8	

#### **12. EXTERNAL LOANS**

DNV Foundation had total credit facilities of NOK 1 152 million at 31 December, of which USD 150 million (NOK 1 102 million) expires in 2001. NOK 1 031 million were unused at year-end. The credit agreements supporting these facilities restrict Det Norske Veritas' ability to pledge other assets as security to any creditor (negative pledge). They also restrict Det Norske Veritas' ability to freely dispose of main real estate holdings and principal subsidiaries.

Of the consolidated total external long term loans of NOK 693 million at 31 December, NOK 620 million consisted of certificates (commercial papers) issued in the Norwegian money market. The certificates have been classified as long term loans because the unused portion of the USD 150 million facility is considered as a back-up source of repayment for the certificates outstanding.

#### 13. EQUITY IN DET NORSKE VERITAS (CONSOLIDATED) (Amounts in million NOK)

	Foundation capital	Legal reserves	Free reserves	Total
Equity:				
Equity at 31 December 1996	283.5	309.4	996.4	1,589.3
Profit for the year and equity transfer		10.6	149.3	159.9
Equity at 31 December 1997	283.5	320.0	1,145.7	1,749.2

### **14. TENANCY AGREEMENT**

Det Norske Veritas Eiendom AS has a tenancy agreement with Det Norske Veritas Pension Fund for Supplementary Pension Benefits for an office building in Stavanger. In 1997 the rent amounted to NOK 6.9 million. The tenancy agreement is nonterminable for 30 years, starting in 1984. Det Norske Veritas Pension Fund for Supplementary Pension Benefits has an option to sell the property to Det Norske Veritas at book value at the end of the period (year 2014).

## Auditor's Report

We have audited the financial statements of Det Norske Veritas Foundation for 1997, showing net profit of NOK 31.8 million for the foundation and net profit of NOK 159.9 million for the group. The financial statements, which consist of the Board of Directors' Report, profit and loss account, balance sheet, statement of cash flow, notes and the corresponding consolidated financial statements, are the responsibility of the Board of Directors and the Chief Executive Officer.

Our responsibility is to examine the foundation's financial statements, its accounting records and the conduct of its affairs.

We have conducted our audit in accordance with applicable laws, regulations and generally accepted auditing standards. We have performed the auditing procedures we considered necessary to determine that the financial statements are free of material errors or omissions. We have examined, on a test basis, the accounting material supporting the financial statements, the appropriateness of the accounting principles applied, the accounting estimates made by management and the overall presentation of the financial statements. To the extent required by generally accepted auditing standards we have also evaluated the foundation's asset management and internal controls.

In our opinion, the financial statements have been prepared in conformity with the Accounting Act and present fairly the foundation's and the group's financial position as of 31 December 1997 and the result of its operations for the fiscal year in accordance with generally accepted accounting principles.

ARTHUR ANDERSEN & CO.

Morten Drake State Authorised Public Accountant (Norway)

Oslo, 1 April 1998

## DNV'sorganisation

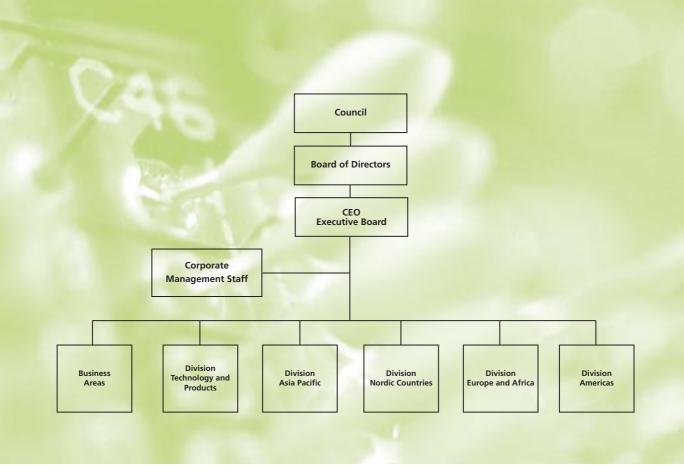


## The organisation

Attracting and retaining the best competence in a tight labour market worldwide is a challenge that management must deal with continuously. Quick adaptations, not least related to new technology, and deliberate attention to health, safety and the environment in new markets and cultures, necessitates focus and priority observance. We still have some ground to cover, but through our work towards continuous improvement, which is driven by a greater awareness of our internal work processes, we have the best basis to succeed.

## **Environmental policy**

DNV's environmental policy was implemented during 1997. As part of the work towards continuous improvement, an internal quality award has been established for all our units worldwide. The focus on environmental support is an important part of the award criteria.



## **DNV's Executive Board**



SVEN ULLRING CEO and Chairman of the Executive Board



STEIN THOR VERLE Deputy CEO



TOR-CHRISTIAN MATHIESEN Member of the Executive Board Chairman of IACS



MIKLOS KONKOLY-THEGE Business Areas



TERJE STAALSTRØM Division Technology and Products



TOM VIRIK Division Asia Pacific





JENS HENRIK WERGELAND Division Nordic Countries



HELGE DAG TANGEN **Division Americas** 



PETER RODHOLM Division Europe and Africa

(43)

## council, boards and committees

THE COUNCIL

Gjert Wilhelmsen, Oslo

VICE-CHAIRMAN Idar Ulstein, Ulsteinvik

HONORARY MEMBER Erik F. Lorentzen, Oslo

#### MEMBERS APPOINTED BY THE MUTUAL HULL CLUBS COMMITTEE

Bernt Aaby, Oslo Torleiv Aaslestad, Oslo Alf Clausen, London Emil Gamborg, Oslo Tarald Glastad, London Tom Erik Klaveness, Oslo Knut J. Meland, Solheimsviken Torleif M. Pedersen, Grimstad Herlof Sørensen, Arendal H. P. Westfal-Larsen, Bergen John H. Wiik, Bergen

MEMBER APPOINTED BY THE FEDERATION OF MUTUAL MARINE INSURANCE CLUBS Knut Misje, Bergen

MEMBER APPOINTED BY THE MUTUAL PROTECTION AND INDEMNITY CLUBS Håvar Poulsson, Oslo

#### MEMBERS APPOINTED BY THE ASSOCIATION OF NORWEGIAN

INSURANCE COMPANIES Lars Austin, Oslo Rolf L. Berentzen, Oslo Tore Forsmo, Oslo Morten Hjemsæther, Oslo Gunnar von Krogh, Oslo Bjarne Krokeide, Oslo Oddvar Kvan, Oslo Jan Lenborg, Oslo Tom E. Midttun, Bergen Per Arne Myklebost, Oslo Nicolas Wilmot, Bergen

MEMBERS APPOINTED BY THE CONFEDERATION OF NORWEGIAN BUSINESS AND INDUSTRY

Svein Aaser, Oslo Svein Eggen, Oslo Karl Glad, Oslo Asbjørn Larsen, Sandvika Diderik Schnitler, Oslo

#### MEMBERS APPOINTED BY THE COUNCIL

Bjarne Aamodt, Oslo Hans Terje Anonsen, Bergen Erik Behn, København Ronald Bergman, Stockholm Aage Ditlev-Simonsen, Oslo Nicholas, Hambro, Oslo Jens P. Heyerdahl dy, Oslo Cato A. Holmsen, Oslo Westye Høegh, Oslo Einar Kloster, Oslo Ole-Jacob Libæk, Oslo Fridtjof Lorentzen, Oslo Jan Lunde, Arendal Leif Terje Løddesøl, Oslo Ole Melberg, Stavanger Egil Myklebust, Oslo Harald Norvik, Stavanger Anette Olsen, Oslo Dan Sten Olsson, Gøteborg Bjørn Svedberg, Stockholm Martin Saarikangas, Åbo Jens Ulltveit-Moe, Oslo Kurt Östlund, Stockholm

### MEMBERS ELECTED BY AND FROM DNV'S EMPLOYEES

Jørgen Breivik Eva Halvorsen Ole Kristian Lunde Arne Skaven Terje Skreien Øyvind Wilhelmsen

#### THE BOARD OF DIRECTORS CHAIRMAN

Wilhelm Wilhelmsen, Oslo

**VICE-CHAIRMAN** Håkon Løchen, Oslo

#### MEMBERS

Morten Sig. Bergesen Johan Fr. Odfjell John G. Bernander Sir John S. Jennings Marit Olsen Torset Trude Helgesen Øystein Erland

## THE CONTROL COMMITTEE

Håvar Poulsson, Oslo

**MEMBERS** Oddvar Kvan, Oslo Jan Lunde, Arendal

### THE NORDIC COMMITTEE

FOR SAFETY AT SEA CHAIRMAN Terje Gløersen, Norges Rederiforbund, Oslo

SECRETARY Wilhelm Magelssen, Det Norske Veritas

DENMARK Torben Munk, Knud I. Larsen A/S, Vedbæk Hans Henrik Petersen, Danmarks Rederiforening, Copenhagen

Hans C. Christensen, Søfartsstyrelsen, Copenhagen Finn Hørup Nielsen, Ørskov Christensens Staalskibsværft A/S, Fredrikshavn Ole Høg, A.P. Møller, Copenhagen Frede Kristiansen, DFDS A/S, Copenhagen Preben Terndrup Pedersen, Danmarks Tekniske Universitet, Lyngby Peer Bardenfleth-Hansen, Scantec Marine Consult, Snekkersten, Copenhagen Knud Prytz, Scandlines AS, Copenhagen Niels Christiansen, Dampskibsselskapet Torm A/S, Copenhagen Jens Kasten, Mols-Linien AS, Ebeltoft Carl-Erik Egeberg, Man B&W Diesel, Copenhagen Niels Prip, Pelmatic Knud E. Hansen A/S, Copenhagen Niels Otto Knudsen, Danyard, Frederikshavn

#### FINLAND

Bengt Hellsten, Lundquist Rederierna, Mariehamn Yngve Röblom, Alandia Tanker Company Ltd, Mariehamn Heikki Valkonen, Sjøfartsstyrelsen, Helsinki Kaj Liljestrand, Kværner Masa Yards Inc., Helsinki Timo Korhonen, Neste OY, Oil Logistics Services, Esbo Esko Mustamäki, FG Shipping, Helsinki Erik Skogström, Finnyards Ltd, Rauma

Kaj Viking Jansson, Viking Line AB, Mariehamn

#### ICELAND

Hermann Gudjonsson, Icelandic Maritime Administration, Reykjavik Einar Hermannsson, Icelandic Shipowners Association, Reykjavik

#### NORWAY

Sigmund Borgundvåg, Ulstein International, Ulsteinvik Årstein Jernæs, Rasmussen Maritime Services, Kristiansand Hans Kristian Øystaas, Oslo Tellef Høgevold, Interocean Ugland Management AS, Grimstad Ivar A. Manum, Sjøfartsdirektoratet, Oslo Hans Høydal, Verftsutvikling AS, Ulsteinvik Lars Traaseth, Kyærner PLC, Oslo Arne H. Hansen, Norsk Sjøoffisersforbund, Oslo Terje Andersen, Farstad Shipping AS, Ålesund Henrik Lian, Jahre-Wallem AS, Sandefjord Tore Asting, MINET, Oslo Helge Haakonsen, Fred. Olsen & Co., Oslo Hans Richard Hansen, Interocean Ugland Management AS, Grimstad Erik Bratvold, Norsk Sjømannsforbund, Oslo Frode Gross, Det norske Maskinistforbund, Oslo Jan Chr. Stangeland, Westfal Larsen & Co., Bergen Johannes Tvedte, Høegh Fleet Services AS, Oslo Jan Flatseth, Bergesen d.y. ASA, Oslo Niels C. Møller, AS Borgestad, Porsgrunn Trygve Nordby, Rimberg A/S, Oslo Jørgen Jorde, Sjøforsvarets Forsyningskommando, Haakonsvern Harald Nordahl, Kværner Kleven, Ulsteinvik Trygve Seglem, Knutsen O.A.S., Haugesund Oddvar Aam, Marintek A/S, Trondheim

#### SWEDEN

Johan Fransson, Sjöfartsverket, Norrköping Stig Bystedt, Stena Rederi AB, Gothenburg Anders Ulfvarson, Chalmers Tekniska Høgskola, Gothenburg Göran Hammarberg, Argonaut AB, Stockholm Ulf Alexandersson, Walleniusrederierna, Stockholm Sten Crister Forsberg, Nordstrøm & Thulin, Stockholm Clas Norrstrand, Marineteknik Design AB, Øregrund Per Nordström, Stena Line Ship Management AB, Gothenburg Nils Sjökvist, ICB Shipping AB, Stockholm Bengt Lundquist, Sea Technology AB, Saltsjøbaden Clas Brantmark, The Swedish Club, Gothenburg

#### THE JAPANESE TECHNICAL COMMITTEE HONORARY CHAIRMAN

Yoshiyuki Yamamoto, Tokyo Denki University, Tokyo

### CHAIRMAN

Yukio Ueda, Kinki University, Wakayama

#### VICE-CHAIRMAN

Yoichi Hattori, Kanazawa Institute of Technology, Ishikawa

#### MEMBERS

Osamu Niho, Mitsui Engineering & Shipbuilding Co. Ltd, Chiba Kunifumi Hashimoto, Mitsubishi Heavy Industries

Ltd, Nagasaki

Yukihiro Sakajiri, Tsuneishi Shipbuilding Co. Ltd, Hiroshima

Masatsugu Toyofuku, NKK Corporation, Tsu Kozo Abe, Sumitomo Heavy Ind. Ltd, Oppama Works, Yokosuka

Haruki Ohizumi, Kobe Steel Ltd, Takasago Hideomi Ohtsubo, Tokyo University, Tokyo Toshihiko Funaki. Osaka University, Osaka

Masahiro Toyosada, Kyushu University, Fukuoka City Tatsuaki Hori, Oshima Shipbuilding Co. Ltd,

Nagasaki

Hajime Murayama, Shin-Kurushima Dockyard Co. Ltd, Ehime

Kunio Tsunoki, Sanoyas Hishino Meisho

Corporation, Okayama

Tetsuya Yao, Hiroshima University, Hiroshima Hisayoshi Yashima, Ishikawajima-Harima Heavy Industries Co. Ltd, Tokyo

Takashi Kiso, Kawasaki Heavy Industries, Ltd. Kobe

Shiro Imai, Nippon Steel Corporation, Tokyo Takanori Itoh, Hitachi Zosen Corporation, Osaka Bengt-Olof Petersen, Det Norske Veritas, Kobe (secretary)

#### THE JAPANESE OWNERS TECHNICAL COMMITTEE CHAIRMAN

Toshishige Yamana, Kusakabe Maritime Engineering Co. Ltd, Kobe

#### MEMBERS

Takeo Shimada, NYK Line, Tokyo Hideaki Yuki, Showa Line Ltd, Tokyo Makoto Taniguchi, Mitsui O.S.K. Lines, Tokyo Norio Tsutsumi, Kawasaki Kisen Kaisha, Ltd., Tokyo Akira Watanabe, Navix Line, Ltd., Tokyo

## THE RIG OWNERS' COMMITTEE

Yuan Guang Yu, Drilling Co. of Bohai Oil Corp., China Øyvind Jordanger, Dolphin A/S, Tananger, Norway Olivier de Bonnafos, Forasol-Foramer, Villacoublay, France J. Thorson, Global Marine Drilling Co., Houston, USA Leif O. Aaker, Golar-Nor Offshore A/S, Trondheim, Norway Nelson Stavali Malheiro, Petrobas, Rio de Janeiro, Brazil Gisle Rike, K/S Rasmussen Offshore A/S, Kristiansand, Norway Rod Allen, Reading & Bates Falcon Co., Houston, USA Sergio Polito, Saipem SpA, Milan, Italy Charles N. Springett, Santa Fe Drilling Co., Dallas, USA Yves le Moign, Sedco Forex, Montrouge, France Ketil Lenning, Smedvig Offshore, Stavanger, Norway John Rouse, Transocean Offshore Drilling Inc., Houston, USA Jan Krokeide, Odfjell Drilling & Consulting Co. AS, Kokstad, Norway F.W. Ling, Workfox UK Limited, Yarmouth, UK Yang Ye Xin, China Offshore Oil Southern Denis J. Graham, Diamond Offshore Drilling Steve Meheen, Falcon Drilling Company Kåre G. Breivik, Navion Arne Smedal, Navis AS Jim Gormanson, Noble Drilling Services Inc. Arne Martin Bolstad, Ocean Rig ASA Bob Shetti, Rowan Companies, Inc

Carl Arne Carlsen, Det Norske Veritas, Oslo (secretary)

### THE HIGH SPEED AND LIGHT CRAFT COMMITTEE

### CHAIRMAN

Tor-Christian Mathiesen, Det Norske Veritas, Høvik

#### MEMBERS

Ivar Manum, Norwegian Maritime Directorate, Oslo

Ivar Myklebost, Kværner Fjellstrand a.s., Omastrand

Mats Johansson, KaMeWa AB, Kristinehamn N. O. Knudsen, Danyard A/S, Frederikshavn, Denmark

John Warbey, FBM Marine International Ltd, Hong Kong

Karl Hamberg, Kvaerner Masa-Yards Inc., Helsinki

John Pawsey, Hart, Fenton & Company Ltd, London

Theo P. Winde, Royal Schelde, Vlissingen Vincenzo Farinetti, Fincantieri, Genova Kenny Tham, Marinteknik International Ltd, Hong Kong

Saburo Shibahara, Mitsui Eng. & Shipbuilding Co., Ltd, Tokyo

Don Fry, NQEA (Australia) Ltd, Cairns Phil Hercus, International Catamaran Design,

Sydney Simon Pollard, P&O European Ferries Ltd, Dover

Andreas Kraus, Howaldtswerke-Deutsche Werft AG, Kiel

John H. Phipps, Caterpillar Inc., Lafayette, Indiana

Robert Clifford, Incat, Hobart

John Geldard, Sea Containers, London

Tony White, Condor Marine Services, Poole

Juan Antonio Moret Gonzalez-Anleo, Empresa

Nacional Bazan, San Fernando Ernest F. O. Villareal, Universal Aboitiz Inc., The

Philippines Stig Bystedt, Stena Rederi AB, Gothenburg,

Terje Staalstrøm, Det Norske Veritas, Høvik (secretary)

### THE AUSTRALIAN COMMITTEE

CHAIRMAN

John Spiers, Mosman NSW

#### VICE-CHAIRMAN

John Bicknell, Camberwell VIC

#### MEMBERS

Roland Hoy, Holyman Ltd, North Sydney NSW Barry Lee, Tyco International Pty. Limited, Chatswood NSW Trygve Amundsen, FRAM Marine, Collaroy NSW Lawrence Doctors, University of Sydney, Naval Architecture Section, Sydney NSW Reg McNee, Tidewater Port Jackson Marine Pty. Ltd, East Perth, Wa Robert Clifford, Incat Tasmania, Moonah Tas Ian Williams, Australian Maritime Safety Authority, Belconnen ACT Michael Hines, The Shell Company of Australia, Melbourne VIC Bruce McGowan, BHP Transport, Melbourne VIC D. Webb, Frenches Forest NSW David Sterrett, ASP Ship Management, Melbourne VIC John Rothwell, Austal Ships Pty. Ltd, Henderson WA Brian Padman, West Pymble NSW Peter Purcell, Department of Defence (Navy Office), Canberra ACT

Andrew Westwood, Det Norske Veritas, North Sydney NSW (secretary)

## THE SOUTH AMERICAN COMMITTEE

Erling S. Lorentzen, Lorentzen Empreendimentos S.A., Rio de Janeiro

## council, boards and committees

#### MEMBERS

Eliezer Batista da Silva, Rio Doce Internacional, Rio de Janeiro Emb. Manoel Pio Correa, Rio de Janeiro Paulo Diederichsen Villares, Industrias Villares S.A., São Paulo Haakon Lorentzen, Lorentzen Empreendimentos S.A., Rio de Janeiro Ozíres Silva, São Paulo Reinaldo Conrad, Jaako Poyry Engenharti Ltda, São Paulo Carlos Alberto Carpanelli, Antares Naviera, **Buenos** Aires Sven Von Appen, ULTRAGAZ-Soc. Navieira Ultragaz Ltda, Santiago Juan Carlos Lopez Mena, BUQUEBUS, Buenos Aires Raymond Fales, Det Norske Veritas, Rio de Janeiro

## THE BRITISH COMMITTEE

Richard Morris, United Kingdom Nirex Ltd, Oxfordshire

#### VICE-CHAIRMAN

(secretary)

Otto Norland, Otto Norland Ltd, London

#### MEMBERS

Gale Coles, Underwriter, East Sussex John Speirs, Norsk Hydro (UK) Ltd, Middlesex Peter Cowling, Wallem Limited, London Alf Clausen, Worcester Jeremy Ropner, Ropner PLC, Durham Ray Thompson, University of Newcastle-Upon-Tyne, Newcastle Roger B.C. Tyndall, Bowring Marine Ltd. London Christopher E. Fay, Shell UK Ltd, London Nicholas Barber, Buckinghamshire Tom Backelin, Det Norske Veritas, London (secretary)

## THE NORTH AMERICAN COMMITTEE CHAIRMAN

Craig Stevenson, Jr., OMI Corporation, New York

#### VICE-CHAIRMAN

Fred G. Hansen, Fednav Limited, Montreal

#### MEMBERS

Tom C. Ward, B.C. Ferries Corporation, Vancouver John Kimble, Chevron Shipping Company, San Francisco Fred W.Y. Cheng, Golden Ocean Agencies Limited, Vancouver William O. Gray, Gray Maritime Company, Connecticut Bud Streeter, Transport Canada, Ottawa Michael Powell, Newport News Shipbuilding, Newport News Dirk Langeveld, Sea-Land Service, Inc., Charlotte N.C.

Otto Fritzner, Stolt Parcel Tankers Inc., Houston

James N. Hood, Teekay Shipping (Canada) Ltd, Vancouver Jordan Truchan, American Ship Management, Oakland Paul D. Sclavounos, Massachusetts Institute of Technology, Cambridge Raymond W. Johnston, Canada Steamship Lines,

Inc.

Harri Kulovaara, Royal Caribbean Cruises Ltd. Luis M. Ocejo Rodriguez, Transportation

### Martitima Mexicana

Rear Admiral Robert C. North, United States Coast Guard

Ioannis Kourmatzis, Det Norske Veritas, New Jersey (secretary)

## THE GREEK COMMITTEE

Epaminondas G.E. Embiricos, Embiricos Shipbrokers Ltd, London Christos Kanellakis, Anangel Shipping Ent. S.A.,

Piraeus

#### MEMBERS

Genie Adrianopoulos, Tropis Shipping Co. Ltd, London Nic J. Cotzias, N. Cotzias (Shipping) Co. Ltd, Piraeus Basil N.C. Embiricos, Coulouthros Ltd, London Gregory B. Hadjieleftheriadis, Eletson Corp., Piraeus

Nicholas D. Inglessis, Frinton Shipbrokers Ltd, London

Stathes J. Kulukundis, Rethymnis & Kulukundis Ltd, London

Nikolas S. Lemos, N.S. Lemos & Co. Ltd, London Zenon Mouskas, Zela Shipping Co. Ltd, London Spyros M. Polemis, Seacrest Shipping Co. Ltd, London

Theodoros Veniamis, Golden Union Shipping Co., Piraeus

Michael C. Lemos, C.M. Lemos & Co. Ltd, London

George J. Vardinoyannis, Varnima Corporation Int'l S.A., Maroussi

John Angelicoussis, Agelef Shipping Co., London John Coustas, Danaos Shipping Co. Ltd, Piraeus

Harilaos N. Psaraftis, National Technical

University of Athens, N. Psychiko

Spyros Karnessis, Elka Shipping (London) Ltd, London

John M. Lyras, Lyras Maritime Ltd, London George Gratsos, Standard Bulk Transport Corp., Athens

Ulv Tigerstedt, Det Norske Veritas, Piraeus (secretary)

#### THE HONG KONG COMMITTEE MEMBERS

Danny Ho, International Maritime Carriers Ltd, Hong Kong Robert Alexander Ho, Fairmont Shipping (HK) Ltd, Hong Kong Eric Koo, Valles Steamship Co. Ltd, Hong Kong Kenneth Lo, Tch-Hu Cargocean Management Co. Ltd, Hong Kong Peter Cremers, Anglo-Eastern Shipmanagement Ltd, Hong Kong Arthur Bowring, Hong Kong Shipowners Association Ltd., Hong Kong Eivind Grøstad, Det Norske Veritas, Hong Kong (secretary)

## THE INDIAN COMMITTEE

Kanaiyalal Maneklal Sheth, The Great Eastern Shipping Company Limited, Mumbai

#### MEMBERS

Noshir Hormusji Dhunjibhoy, Five Stars Shipping Co. Ltd. Mumbai Michael Philips Pinto, Directorate General of Shipping, Mumbai Nirbhay Mal Jain, Century Shipping, Mumbai Narain Hemandas Sadarangani, Jayshree Shipping, Mumbai Arun Mehta, Varun Shipping Co. Ltd, Mumbai Ravi Kant Ruia, Essar Gujarat Ltd, Mumbai Revanur Radhakrishna, Pearl Ships Ltd, Chennai Deepak Laxmanrao Chowgule, Chowgule Steamship Company Ltd, Mumbai Raymond Lawrence Pai, Reliance Petrochemicals Ltd. Mumbai Nair Sukumaran, Larsen & Toubro Ltd, Mumbai Srikantan Ramanathan Vishwanathan, Tolani Shipping Co. Ltd, Chennai Krishnamurthy Shenbagaraman, National Insurance Academy, Pune Sudhir Shantaram Rangnekar, The Shipping Corporation of India Limited, Mumbai Ashok Balwani, Det Norske Veritas, Mumbai (secretary)

#### THE KOREAN COMMITTEE

#### CHAIRMAN

Park, Se-Yong, Hyundai Merchant Marine Co., Seoul

#### HONORARY CHAIRMAN

Wang, Sang Eun, Hyopsung Shipping Corp., Seoul

#### MEMBERS

Choi, Kil Sun, Halla Eng. & Heavy Industry Co. Hwang, Sung Hyuk, Hwang & Co., Seoul Kim, Kap Jung, Keoyang Shipping Co. Ltd, Seoul Lee, Jung Nam, Hyundai Heavy Industry Co. Ltd, Ulsan

Lee, Seung Gwon, SK Shipping Co. Ltd. Lee, Woo Shik, Hanjin Heavy Industry Co. Ltd, Pusan

Park, Kap Yong, Hoyu Tanker Co., Ltd, Seoul Jang Hak Se, Korea Line Corporation, Seoul

## certification advisory boards

Yoo Byung, Mu, Pan Ocean Shipping Co., Seoul Lee, Jung II, Hyundai Mipo Dockyard Co. Ltd, Ulsan

Lee, Chongyong, Halla Merchant Marine Co., Seoul

Mr. Bae, My Ryong, Cheung Ku Marine Ind. Co., Ltd.

Mr. Hyun, Seung Kee, Daedong Shipbuilding Co. Ltd.

Mr. Hwang, Chung Youl, Samsung Heavy Industry Co.

Ragnar E. Hansen, Det Norske Veritas, Seoul (secretary)

#### THE KOREAN TECHNICAL COMMITTEE MEMBERS

Y. S. Bae, Daedong Shipbuilding Co., Ltd. H. S. Bong, Daewoo Heavy Ind. Ltd., Seoul

B. H. Han, Daewoo Heavy Ind. Ltd., Okpo

Y. W. Chung, Hanjin Heavy Ind. Co., Ltd. T. H. Park, Hanjin Heavy Ind. Co., Ltd. Sung-Nyun Kim, Hyundai Heavy Ind. Co. Kwi-Dong Lee, Hyundai Heavy Ind. Co. S. C. Hong, Hyundai Mipo Dockyard Co., Ltd. Jong-Jin Park, Samsung Heavy Ind. Co., Ltd. Il-Bae Kim, Samsung Heavy Ind. Co., Ltd. Ki-Hee Kim, Halla Heavy Ind. Co. Chang-Man Kim, Halla Heavy Ind. Co.

## THE SOUTH EAST ASIA COMMITTEE CHAIRMAN

Dato Hj Mohd Ali Yassin,

#### MEMBERS

Subroto Purosutarto Paul Over Nils Nordth Nik M. Zian Dao Mohd Idris Mansor Choo Chiau Beng, Far East Levingston Shipbuilding Ltd, Singapore Idan Ofer, Tanker Pacific Management (Singapore) Pte. Ltd, Singapore Teo Cho Keng, Pacific International Lines, Singapore Suleman Ir. Wiriadidjaja, Badan Pengkajian Dan Penerapan Teknologi, Jakarta Sumate Tanthuwanit, Ngow Hock Agency Co. Ltd, Bangkok, Thailand Loh Wing Siew, Keppel Corporation Ltd, Singapore Sufian Y. Bhg Dato Ahmad, Essmarine Agencies Sdn Bhd, Kuala Lumpur, Malaysia Tor E. Svensen, Det Norske Veritas, Singapore (secretary)

## **Certification Advisory Boards**

Chairmen and members of the advisory boards of the DNV certification units holding accreditations from national accreditation bodies

### AUSTRALIA

CHAIRMAN

Andrew Westwood, DNV RANZ

### MEMBERS

John Kouthouris, DNV RANZ Ken Holmes, Golder & Associates Dietrich Schulze, Aymroad Pty Ltd Barry Lee, Tyco Laboratories William Birch, NZ Chemical Ind. Council Malcolm Beavis, Capral Aluminium

## AUSTRIA

Kurt Obleser, Interessenverbandes des Medizinisch-Technischen Fachhandels

#### MEMBERS

Günther Hampejs, VA Austria Draht Anton Wandl, Römerquelle GmbH Mag. Schulze Bauer, Verbandes Österreichischer Entsorgungsbetriebe Franz Harrand, Wirtschaftstreuhänder Peter Rosmanith, Technischen Prüfanstalt (TPA) Ludvig Wozak, Zivilingenieur Gudmundur Sigurthorsson, DNV Essen

#### BRAZIL

MEMBERS

Carlos Roberto Frambach, Brazilian Navy Carlos Rodrigues Pereira Belchior, Rio de Janeiro University Agenor Cesar Leite, State Engineering Union

### DENMARK

CHAIRMAN Peter Bjerager, DNV Denmark AS

#### MEMBERS

Jan C. Schmidt, DNV Denmark AS Robert Hjort, Eegholm A/S Troels Andersen, Det Danske Stålvalseværk Bent Frank, Forsvarets Bygningstjeneste Gert Andersen, Nordjyllands Amt, Forv. for Teknik og Miljø Erik Svaneborg, Indkøbs Service A/S

#### FINLAND

**CHAIRMAN** Jouko Nevala, DNV Finland

#### MEMBERS

Timo Hannukainen, Nokia Mobile Phones Jorma Veräjänkorva, Valmet Corp. Erkki Strengell, Finnyards Oy Kari Laaksonen, Finnish Forest Industries Federation Veijo Merikalla, Rautaruukki Group Peter Rehnström, The Finnish Work Environment Fund Heikki Sipilä, ENSO Fine Papers Ltd. Pekka Mäkelä, Valmet Automotive Inc.

## FRANCE

Jacques Mangon, CRIT Interim

#### MEMBERS

Claude Bayard, Alcatel Cables Pierre Bescond, World Space France Guy Viala, GTM Entrepose Marc Teinturier, UTC Département Génie Mécanique Bruno Flahou, Sollac Paul de Backer, Cabinet de Backer Alain Loppinet, Total

### GERMANY

CHAIRMAN Peter Fratz MEMBERS Reinhold Beckmann, Renk AG Werk Rheine Christian Weikl, Air Products Heinz Oppers, Europipe Detlef Fischer, Mannesmann Handel Frank Samuels, Thyssen Stahlunion Norbert Manderla Michael Marggraf, Deutsche Shell Jochen Bogen Klaus Kuntz

#### ITALY

CHAIRMAN AQSC CERT. Giovanni Florio, FS Istituto Sperimantale

#### MEMBERS

Livio Antonelli, AIDIC Antonio Gloria, Ansaldo Trasporti Giuseppe Rettaroli, Assogomma Roberto Vanzini, AGI SpA Roberto Ruggeri, ABB Industria SpA Guiseppe Marino, A.G.I. Giorgio Bonifazi Razzanti, AIPAS (FITA) Giuseppe Nardoni, AIPnD Giorgio Albertini, Albertini SpA Antonio Lemma, Alenia Difesa Sandro Benini, ANIE Lorenzo Renzulli, Anmdo Massimo Medugno, Assocarta Andrea Maserati, Assintel SpA (Axioma) Giovanni Zanco, Atecap Alberto Mantovi, Ausitraassoambiente Marco Cattabiani, Confetra (Fagioli) Antonio Gatti, Credito Italiano Claudio Mesolella, Federlazio un Tessile Alfonso De Cristofaro, Insiel SpA Andrea di Martino, Ferrari SpA Alfredo Buda, Federacciai (Lucchini SpA) Giovanni Siffredi, Fincantieri (Cetena) Giovanni Treviso, FITA Ennio Prandi, Gruppo Italiano Vini Scarl Alessandro Verdelli, OICE (Snamprogetti) Fabio Galbiati, UNI Claudio Lanzi, Unione Industriali Roma Alfredo De Vito, Presidente Onorario CHAIRMAN AESC CERT. Alessandro Segale, Universita' Degli Studi Di Ancona

### MEMBERS

Ezio Dalsass, Assindustria Trento Marco Frey, Iefe (Universita' Bocconi) Giulio Matteini, Ministero Dell' Ambiente Achille Monegato, Favini SpA

(47

## officers of det norske veritas

## JAPAN

CHAIRMAN Bengt-Olof Petersen, DNV

MEMBERS Shigeru Ueda, Japan Productivity Center for Socio-Economic Development Koji Ichihara, NSK Ltd. Tsutomu Matsumoto, Mitsubishi Gas Chemical Company, Inc. Shunji Nagao, Kawasaki Heavy Industries, Ltd. Akira Mogami, Hitachi Hokkai Semiconductor, Ltd. Nobuyasu Yamazaki, The Furukawa Electric Co., Ltd. Tetsuo Ushirogata, Sumitomo Bakelite Co., Ltd. Masamichi Yoshimura, DNV

## KOREA

Young-Ho Kim, DNV **MEMBERS** Hun-Sik Shin, Kumho EQS Consulting Young-Ki Eun, Daewoo Heavy Ind. Gun-Ho Cha, Hankook Aviation University Duk-Young Yang, Hanwha Chemical Jong-In Hong, Neville Clarke

**THE NETHERLANDS MEMBERS MGMT. SYSTEM CERT.** A.J. Vos, GE Plastics G.J.K. Brouwer, Ten Cate Nicolon

### B.V.

J.M.F. Box, Axum A.A.H. van Alphen, Weidesticht A. Sloos, MASQ Consultancy G.J.J. Lieverse, V.M.R.G. H.A.J. Bocxstael G. Vansteenkiste, SA Logica NV P.H.J.H. Spee, KNP Leykam G.M. Koudijs, N.V. Vereenigde Glasfabrieken S. Beerendonk, Nevat P. v/d Heuvel, Grootint B.V. J.W. Postma, Servo Delden B.V. O.G. Schaver, Jonker Veendam B.V. G. Langelaar, Smit International MEMBERS PERSONNEL CERT. M. Mol, AVAL Lasinstituut P.A. Heij, FME-CWM T. Hagen, Industriebond FNV P. Boot, TRIAM L. Hoytema van Konijnenburg, ROVC H. Verkaik, EVO W. Brummel, NS-Opleidingen H. Akse, DNV M. Raanhuis, CITO W.J. Nijhof, Universiteit Twente J. Ruseler, EBB/SSVV M.J. Weststrate, SVS S.J. van Zwieteren, Elsevier

# Opleidingen NORWAY

CHAIRMAN Ingvar Vaarlund, Ericsson AS MEMBERS

Arvid Bastiansen, Hydro Aluminium

#### Karmøy

Leif Iversen, Det Norske Veritas AS Torgeir Salberg, Bøndernes Salgslag Audun Sæbø, Frank Mohn Flatøy AS Ørnulf Tvedt, Den norske Bank AS Karl Lanton, Statoil

### SPAIN

**CHAIRMAN** Diego Bracero, DNV

#### MEMBERS

José C. González-Sama Asenjo, AESA Marta González Corro, Hotel Arts Carlos Prada Oliveros, Lucta, S.A. Antoni Boleda i Roura, RACC Joan Solà Anadón, Shandwick Jorge Esteller Bel, SEFES Julio Sardaña de la Cita, Papyrum Nexus Buenaventura Guamis López, Universidad Autónoma de Barcelona Luis Cañada Vicinay, Vicinay José Llagostera, Opel España Alberto Palomar Olmeda, Consejo Superior de Deportes

## Ivo Kvesic, DNV

## SWEDEN

**CHAIRMAN** Jens-Jörgen Brunsvik

#### MEMBERS

Jahn Henry Løvaas, DNV Sweden Carl-Johan Österberg, Trygg Hansa Magnus Olin, Pharmacia UpJohn Lars Brynielsson, SAS Thor Mueller, Vattenfall AB, Ringhals Börge Österholm, Posten Brev

#### Göran Löfgren, Scania CV

#### SWITZERLAND MEMBERS

Manfred Brugger, ABB Turbo Systems Peter Büchler, Messtechnik Peter Häfeli, Aargauer Zentralmolkerei Primo Ponti, Alcatel Schweiz Cornel Wegmann, Züllig

#### UK

CHAIRMAN Peter Rodholm, DNV UK

#### MEMBERS

Michael Cullen, Independent Michael Forrester, Logica Stephen Tupper, Hammond Suddords Kelvin Carlton (Company Secretary)

#### 

Allan Small, Cooper Industries

## MEMBERS

Ted Mercer, Reed Tool Bob Maddocks, Lockheed Aerospace Jim Hudson, Bechtel Larry Montano, Chevron Chemical Paul Donnelly, Kent Electronics Raymond Colley, United Technologies Dawne Schomer, Texas Instruments

## Officers of Det Norske Veritas

#### EXECUTIVE BOARD

Sven Ullring, *CEO and Chairman of the Executive Board* Stein Thor Verle, *Vice Chairman of the Executive Board* Miklos Konkoly-Thege Tor-Christian Mathiesen Peter Rodholm Terje Staalstrøm Helge Dag Tangen Tom Virik Jens Henrik Wergeland

DET NORSKE VERITAS ANNUAL REPORT 1997

Produced by Det Norske Veritas Text Centre

Design: Burson Marsteller as

Printed by Gan Grafisk

Published and edited by DNV Corporate Communications

### SENIOR VICE PRESIDENTS

Carl Arne Carlsen Arne Haavardtun Ole-Andreas Hafnor Leif Iversen Trygve Røed Larsen Eivald M.Q. Røren Gunnar Rostad Gudmundur Sigurthorsson Amund W. Skou Svein Svarstad Hans Viig Bjørn Weibye

## VICE PRESIDENTS

Per Otto Araldsen Pål Gudmund Bergan Aage Andreas Enghaug Haakon Eriksen Eivind Grøstad Ragnar E. Hansen Jan Einar Horne Tore Høifødt Kåre Kristoffersen Rex Lim Henrik O. Madsen Wilhelm Christian Magelssen Ivar Nestaas Jouko Nevala Egil Olbjørn Odd Arvid Olsen Eric Douglas Pape Bjørn Dagfinn Pedersen Bengt-Olof Petersen Magne A. Røe Ola Ramton Ulv Robert Tigerstedt Odd Gunnar Tonby Odd Per Torset Magne Tørhaug Einar Olav Venold

#### PHOTO CREDITS

Knut Vadseth: Inside front cover and pages 1,4, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16, 19, 20, 21, 23, 24, 25, 26, 29 and 43.

Tony Stone, Image Bank.

## divisional and regional offices

### CORPORATE HEADQUARTERS

Høvik (Oslo) Veritasveien 1, N-1322 Høvik, Norway Tel: +47 67 57 99 00 Tlx: 76192

### DIVISIONAL OFFICES

#### DIVISION AMERICAS New Jersev

70 Grand Avenue, River Edge, New Jersey 07661, USA Tel: +1 201 343 0800 Fax numbers: General: +1 201 343 4061 Maritime Services: +1 201 343 4061 Certification: +1 201 343 4061 Reg. Mgmt: +1 201 488 1778 Finance: +1 201 488 1778 Human Resource: +1 201 488 0884

### DIVISION ASIA PACIFIC Singapore

DNV Technology Centre, 10 Science Park Drive, Singapore 118224 Tel: +65 774 0722/779 1266 (24 hours) Fax: +65 777 1224 Tk: 33681 Dnv Rs Telegr: Norskverit Singapore

#### DIVISION EUROPE AND AFRIKA London

Palace House, 3 Cathedral Street, London SE1 9DE, UK Tel: +44 171 357 6080 Fax: +44 171 357 7991

#### DIVISION NORDIC COUNTRIES Høvik (Oslo)

Veritasveien 1, N-1322 Høvik, Norway Tel: +47 67 57 99 00 Fax: +47 67 57 74 74

#### DIVISION TECHNOLOGY AND PRODUCTS Høvik (Oslo)

Veritasveien 1, N-1322 Høvik, Norway Tel: +47 67 57 99 00 Fax: +47 67 57 99 11

#### **REGIONAL OFFICES**

#### Atlanta

Management Advisory Services 8805 Crestwood Parkway, Suite 200, Duluth, Georgia 80186, USA Tel: +1 770 279 0001 +1 770 925 0114 (after 5:00 pm) Fax: +1 770 279 0282

## Bergen

Region Norway Johan Berentsensvei 109–111, P.O.Box 6005, N-5020 Bergen, Norway Tel: +47 55 94 95 00 Fax: +47 55 94 96 00

## Copenhagen

**Region Denmark** Tuborg Parkvej 8, 3rd floor, DK-9200 Hellerup, Denmark Tel: +45 39 45 48 00 Fax: +45 39 45 48 01

### Dubai

Region Middle East Khalid Bin Al Walced Road, Bank Street, Al Tawhidi Building, 2nd Floor, 201 Bur Dubai, P.O.Box 11539, Dubai Tel: +971 4 526626 Fax: +971 4 520524/523717

### Essen

Region Germany and Central Europe Businesspark Essen - Nord, Schnieringshof 10, 45329 Essen, Germany Tel: +49 201 834 500 Fax: +49 201 834 5013 Gothenburg Region West Baltic Lilla Bommen 1, S-411 04 Gothenburg, Sweden Tel: +46 31 771 2600 Fax: +46 31 15 51 60 Telegr: Noritas

#### Helsinki

Region East Baltic Nahkahousuntie 3, FIN-00210 Helsingfors (Skinnbyxvägen 3), Finland Tel: +358 9 681 691 Fax: +358 9 692 6827 Tlx: 121258 Norsk Fin

#### Hong Kong

Region Greater China Room 3204, Tower I, Admiralty Centre, 18 Harcourt Road, Hong Kong Tel: +852 2 865 3332 Fax: +852 2 865 3513 Internet: dnv@netvigator.com Tk: 67930 Dnvhk Hx

#### Houston

Management Certification, Offshore Oil and Gas, Process Industry Services 16340 Park Ten Place, Suite 100, Houston, Texas 77084-5143, USA Tel: +1 281 721 6600 +1 281 721 6998 (night line) Fax: +1 281 721 6900 (mail room) Tk: 166310 (Norveritas Hou) Fax numbers: Human Resources Dept: +1 281 721 6905 Maritime: +1 281 721 6907 Offshore: +1 281 721 6907

#### Product Verification:

+1 281 721 6909 Certification: +1 281 721 6903 Field Services: +1 281 721 6902 Mechanical Integrity: +1 281 721 6906 Risk & Reliability: +1 281 721 6904

### Kobe

 Region Japan

 Sannomiya Chuo Bldg., 9th floor,

 2-20, Goko-Dori 4-Chome,

 Chuo-Ku, Kobe 651, Japan

 Port P.O.Box 775, Kobe 651-01

 Tel: +81 78 291 1301

 Regional Manager tel:

 +81 78 291 1302

 Fax: +81 78 291 1309

 Thx: 5622 450 Verita J

 Telegr: Norskverit Kobe

#### London

Region Great Britain and Ireland Palace House, 3 Cathedral Street, London SE1 9DE, UK Tel: +44 171 357 6080 Fax: +44 171 357 7991

#### Madrid

Region Iberia and West Africa Campus Empresarial Jose M. de Churruca, Edificio III, C/Almansa, 105-1, Pta. Oficina 2, 28040 Madrid, Spain Tel: +341 456 16 00 Fax: +34 1 456 15 99

### Mumbai

Region India 96/98, 9th floor, Maker Tower 'F', Cuffe Parade, Mumbai 400 005, India Tel: +91 22 218 5614/7107/ 1080/1081 Fax: +91 22 218 9452

### New Jersey

Maritime Services 70 Grand Avenue, River Edge, New Jersey 07661, USA Tel: +1 201 343 0800 Fax numbers: General: +1 201 343 4061 Maritime Services: +1 201 343 4061 Certification: +1 201 343 4061 Reg. Mgmt: +1 201 488 1778 Finance: +1 201 488 1778 Human Resource: +1 201 488 0884

#### Paris

**Region Mid Mediterranean** 10 Rue Lionel Terray, 92508 Rueil Malmaison, Paris, France Tel: +33 (0)1 47 08 92 06 Fax: +33 (0)1 47 08 42 94

#### Piraeus

Region East Mediterranean and Black Sea 26-28 Akti Kondyli, Piraeus 185 45, P.O.Box 80 199, Piraeus 185 45, Greece Tel: +30 1 42 24 120/1/2 Fax: +30 1 42 23 059 Th:: 212804 Nors Gr

#### Rio de Janeiro

Region South America Rua Sete de Setembro, 55 -15/17 floors, CEP 20050-004, Rio de Janeiro RJ, P.O.Box 286, Brazil Tel: +55 21 224 8817 Fax: +55 21 221 8758 E-mail: RIO

#### Rotterdam

Region Benelux Haastrechtstraat 7, 3079 DC Rotterdam, P.O.Box 9599, 3007 An Rotterdam, The Netherlands Tel: +31 10 2922 600 weekend: +31 10 2922 604 Fax: +31 10 4797 141 Tk: 22499

#### Seoul

Region Korea Room 2110, Kyobo Bldg., 1, 1-Ka, Jongro, Jongro-Ku, Scoul (110-121), Korea K.P.O. Box 1887, Scoul (110-618) Tel: +82 2 734 7327 Fax: +82 2 739 9069 Tlx: 25300 Verit K

#### Singapore

Region South East Asia DNV Technology Centre, 10 Science Park Drive, Singapore 118224 Tel: +65 779 1266 (24 hours) or +65 779 6363 Fax: +65 779 7949 Tk: 33681 Dnv Rs Telegr: Norskverit Singapore

#### Sydney

Region Australia and New Zealand Level 19, Northpoint, 100 Miller Street, North Sydney NSW 2060, Australia Tel: +61 2 9922 1966 Fax: +61 2 9929 8792 Tlx: Dnv Aa 26447 Telegr: Noritas, Sydney, N.S.W. DNV Internet home page http://www.dnv.com

DNV INTERNET HOME PAGE http://www.dnv.com





Contents	
DNV in Brief	
President's Introduction	1
DNV's Business	2
Board of Directors' Report	4
Maritime Industry	8
Jpstream Industry	14
Process Industry	20
General Industry	24
inancial Statements	30
Notes to the Financial Statements	35
Auditor's Report	35
DNV's Organisation	42
Council, Boards and Committees	44
ertification Advisory Boards	47
Officers of Det Norske Veritas	48
Divisional and Regional Offices	49

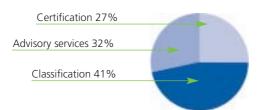


- DNV is a world leading provider of risk management services, safeguarding life, property and environment.
- Our priority will be operations representing a high potential risk to human life, property or the environment.
- DNV's holistic and global approach to managing risk ensures high quality and cost effective solutions.
- We base our work on proven methodology, experience feed back, R&D/innovation culture delivered by a competent and responsive staff worldwide.

## DNV's**business**

Revenues per service category (total service revenue)

Revenues per business area (total service revenue)



Maritime 44% Process 4% Offshore 24% General 28%

## Key figures

/					
	1997	1996	1995	1994	1993
Operating Revenues*	3,735	3,321	3,071	2,935	2,935
Net Profit*	160	233	210	124	176
Equity*	1,749	1,589	1,398	1,187	1,088
Equity Ratio	51,9%	49.7%	44.8%	40.3%	35.5%
Return on Assets	8,0%	12.1%	13.8%	11.4%	13.0%
Cash Flow	271	345	317	236	285
Employees as at 31 December	4,235	4,000	3,681	3,582	3,520

\* Mill. NOK

## Industry pioneer with global presence

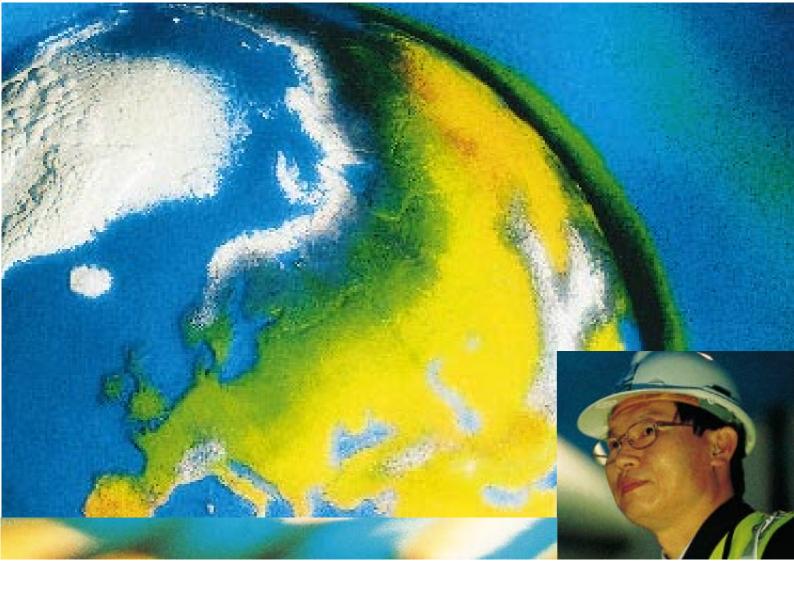
DNV was established in 1864 and is an autonomous foundation with the objective of safeguarding life, property and the environment. With 300 offices in 100 countries, DNV serves customers in maritime, offshore and process industries worldwide, as well as other business segments such as the automobile industry, aviation and the public sector. Product development takes place in a separate division for technology and products at our headquarters in Norway and within the other units around the world.

DNV is an international organisation with over 3.7 billion Norwegian kroner in revenues. Of this, over 75% come from units outside of Norway. Considerable growth was registered in our maritime activities, particularly in Asia. The

operating profit for 1997 was satisfactory, in light of the large investments in our IT infrastructure.

#### Revenues per geographic area

Asia Pacific 25% Nordic Countries 30% The Americas 16% Europe and Africa 29%



## 1997

Staff: 4,235 employees of 74 different nationalities.

4,419 ships totalling 76.1 million grt to DNV class, about 15% of the world's fleet in tonnage terms, plus 105 drilling and service rigs and floating production units.

1,076 ISM (International Safety Management Code) certificates issued.

## To date

Projects completed or under way at more than 500 processing plants around the world.

More than 13,000 ISO 9000-series certificates issued in over 40 countries.

274 ISO 14000 (Environmental Management System) certificates issued.

DNV's system for safety rating (ISRS) is in use at 5,000 plants.

Det Norske Veritas, Veritasveien 1, N-1322 Høvik, Norway, tel: +47 67 57 99 00



# Det norske veritas

annualreport1997

Table of Contents Overview Summary 1997 Key figures Report of the Board of Directors Income Statement Balance Sheet Cash Flow Analysis Notes Shareholders Policy



managing risk for industries worldwide. Through leading

safety, quality and environmental services

