PETROLEUM REVIEW

THE INSTITUTE OF PETROLEUM

October 1994

Standby vessels

Standby vessels come under threat

United States

Oil spill response plans for pipelines

Rating

Rating revaluation is fast approaching

Project management

Novel sharing of know-how

IP

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OF PETROLEUM

Environmental Management – Implications for the Oil Industry

19 October 1994
To be held at the Institute of Petroleum

Papers will include:

- **EC Approach to Environmental Policy and the Eco Management and Audit Scheme**
  DR B DELOGU, COMMISSION DES COMMUNAUTÉS EUROPEÉNES, DG XI
- **Features of a Good Environmental Management System**
  MS RUTH HILLARY, CENTRE FOR ENVIRONMENTAL TECHNOLOGY
- **Auditing and Verification**
  ENVIRONMENTAL AUDITORS REGISTRATION ASSOCIATION
- **An External Perspective on Environmental Management**
  FRAU K TASCHNER, EUROPEAN ENVIRONMENTAL BUREAU
- **Integrating EM Into the Business**
  MR ALAN MARPLES, ARTHUR D LITTLE
- **Company Experience**
  MR R SHIPWAY, LINDSEY OIL REFINERY LIMITED
- **Company Experience**
  MR DAVID HARRIES, MANAGER QUALITY ASSURANCE & ENVIRONMENT, TEXACO LTD., PEMBROKE REFINERY
- **Company Experience**
  MR J A C BELL, DIVISIONAL DIRECTOR DISTRIBUTION, ESSO PETROLEUM COMPANY LIMITED
- **Communicating and Reporting the Environmental Performance of an Organisation**
  MR KLAUS KOHLHASE, BRITISH PETROLEUM COMPANY PLC

For a copy of the registration form, please contact Caroline Little, The Institute of Petroleum, 61 New Cavendish Street, London, W1M 8AR, UK.
Telephone: 071 467 7105/6 (direct lines)
Fax: 071 255 1472

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Life after Re-engineering

Key challenges of managing human resources in the oil and gas industry

3 November 1994
To be held at the Institute of Petroleum

Delegates will examine how some companies are successfully developing their staff in restructured organisations with the help of their managers, personnel and training support systems.
The conference will be of interest to human resources and line managers involved in making restructured organisations work.

Topics included in this conference will be:

Changed Role of the Manager in a Re-engineered Organisation

Systematic Human Resources Support for the Re-engineered Business

Training and Developing a Restructured Workforce

Achieving More with Less in the Training Function

In the afternoon delegates will participate in a workshop developing aspects of the above presentations.

For a copy of the registration form, please contact Caroline Little, The Institute of Petroleum, 61 New Cavendish Street, London, W1M 8AR, UK.
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PETROLEUM REVIEW

OCTOBER 1994 VOLUME 48 NUMBER 573 • £8.00 • SUBSCRIPTIONS (INLAND) £85.00 (OVERSEAS) £100.00

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Published Monthly by
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A charitable company limited by guarantee

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IP THE INSTITUTE OF PETROLEUM

For details of membership, including Petroleum Review at no extra cost, please apply to the Membership Department.

Printed by Eyre & Spottiswoode Ltd, London and Margate.

US MAIL: Petroleum Review (ISSN 0020-3076 USPS 006997) is published monthly for US$130 per year. Second class postage paid at Middlesex, New Jersey.
Postmaster: send address changes to C&C Mailers International, PO Box 177, Middlesex, New Jersey 08846, USA.

ABC BUSINESS PRESS ISSN 0020-3076 MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

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COVER PHOTO
Resurfacing with Shell Multiphalte

NEWS IN BRIEF

23 August
Conoco is to increase its stake in the North Sea Britannia field by acquiring interests in two blocks held by Unilon Oil and Baytrust Oil.

Ecuador plans to waiver royalties in order to attract foreign investment and develop its marginal oilfields.

26 August
BP has reached agreement for the sale of most of its remaining nutrition interests to CINVen and Baring Capital Investors.

27 August
Eastern Electricity has moved further into the upstream gas business with the acquisition of a six percent stake in the small Johnston North Sea gas field.

Iran and Turkmenistan have agreed to build a $7bn gas pipeline linking the Caspian Sea with the Black Sea, via Turkey.

29 August
Elf Enterprise Caledonia is to face charges under the Health and Safety at Work Act arising out of last February's fluid leak on Piper Bravo. The case will be heard at Aberdeen Sheriff Court on 15 December.

30 August
BP announced the discovery of a major new gas and condensate field in the Llanos foothills of Colombia. Recoverable reserves are estimated at some 5trn cu ft of gas and 250m barrels of condensate *(see page 445).*

31 August
Polar Lights, a 50/50 joint venture between Conoco and Arkhangelskgeologia, has produced first oil from the Ardalin field in northern Russia's Timan Pechora Basin.

The UK's 'fast track' 15th North Sea offshore round was completed in record time, according to Energy and Industry Minister Tim Eggar, with licences offered for 29 of the 34 blocks applied for in the Southern Basin and Central North Sea areas.

1 September
Conoco and Oryx have agreed a major assets swap in the North Sea. The deal will make Oryx the largest interest holder in the Murchison, Hutton and Lyell fields and will bring Conoco's stake in the Britannia field up to 43 percent.

Indian oil imports are set to fall by 6m tonnes in the current financial year, according to the Chairman of Indian Oil, reflecting an increase in domestic crude production.

2 September
The Chairman of AMEC Process and Energy, Mr Dennis Clark, has resigned 'by mutual agreement' and left the AMEC Group altogether in order to 'pursue other business interests'.

4 September
Nigeria's two-month long oil strike has been suspended after the sacked leaders of PENGASSAN and NUPENG ordered members back to work.

5 September
Bond has clinched one of the longest helicopter and logistics support contracts ever awarded in the UK. The deal, struck with Hamilton Oil, covers Liverpool Bay and could run for up to 11 years.

6 September
Oil reserves in the disputed territory surrounding the Spratly Islands in the South China Sea could amount to 30bn tonnes, according to China. The announcement is likely to intensify the sovereignty dispute between China, Brunei, Malaysia, the Philippines, Thailand and Vietnam over the islands.

Chevron announced an 'encouraging oil discovery' off the coast of Zaire.

7 September
UK environmentalists have attacked HMIP's first official national directory of emissions as 'incomplete, misleading and fundamentally flawed'.

Britain's independent gas suppliers have launched a report urging the government to press ahead with a Gas Act which would open up the domestic market to competition.

8 September
BPS Offshore was fined £3,000 at Aberdeen Sheriff Court after a scaffolder plunged from a North Sea platform into the sea, slightly injuring himself. The firm admitted two breaches of the Health and Safety at Work Act.

Enterprise Oil's abortive Lasmo bid cost almost £24m, revealed the company, including £5.7m in fees to City and public relations advisers.

Conoco announced plans to invest in Britain at a rate of £400m a year throughout the rest of the decade.

9 September
World gas demand outside the FSU rose by 4.6 percent last year and now accounts for over 23 percent of primary energy supply, according to the BP 1994 Review of World Gas.

11 September
Venezuela has confirmed plans to raise its traditionally low petrol prices next year. The government hopes to increase income from the sale of domestic petrol from 0.7 percent of GDP to 2.1 percent.

12 September
Iraq has rejected a UN offer which would have allowed the resumption of limited oil exports in exchange for international monitoring of the country's humanitarian relief.

ARCO has decided not to develop its 1991 Alaskan Sunfish discovery, after analysis of new well and 3D seismic data indicated that the find is not commercially viable.

The Chairman of Midland & Scottish Resources has resigned after being made bankrupt. Mr Martin Deaner was unable to pay bank demands to the tune of £5m, which he had personally guaranteed.

13 September
Iran and Pakistan have provisionally agreed to build an oil refinery in Pakistan and to export natural gas and oil products from Iran to Pakistan.

The Red Adair Company has formed a joint venture with Cudd Pressure Control to create what it claims is the largest one-stop-shopping well control company in the world.

Recoverable oil reserves in the North Sea Gryphon field could be as high as 120m barrels rather than the 100m barrels first predicted, according to operator Kerr-McGee.

14 September
Clyde Petroleum has announced first gas from the Q8-B gasfield, offshore The Netherlands.

Lasmo's defence against Enterprise Oil's takeover bid cost a massive £24m in fees, according to Chief Executive Joe Darby. Schroders, Goldman Sachs and NatWest Securities received £16m, while the balance went to lawyers, accountants and technical experts.

15 September
Amoco has announced an oil and gas discovery in Egypt's Gulf of Suez. 5,500 barrels of oil and nearly 6m cu ft of natural gas have been tested daily from an exploratory well.

Chevron is set to buy a 22.5 percent stake from Elf in the N'Koussa oilfield and the Haute Mer area, located off the Congo. The preliminary agreement now awaits approval from the Congolese government.

British Gas has signed a $2bn infrastructure agreement with First Philippine Holdings Corp. which covers a number of natural gas projects in the Philippines.

16 September
A consultative document setting out proposals for new health and safety regulations to protect those involved in onshore drilling operations has been published by the Health and Safety Commission.

18 September
China plans to invest Yn100bn (£7.5bn) in its weak petrochemical sector by the year 2000, according to Vice-President of the China Petrochemical Corporation Li Yizhong. The funds will be raised largely from foreign markets.

19 September
JP Kenny has been awarded the conceptual engineering contract for a new Malaysian gas pipeline. The export line will connect the Jintan field to Bintulu in Sarawak, Malaysia.

DATES FOR YOUR DIARY

IP THE INSTITUTE OF PETROLEUM

17 October 1994
5.00 pm for 5.30 pm – 7.00 pm

Coal Bed Methane – A New Opportunity

J Craig Creel, Executive Vice President, Cawley Gillespie & Associates Inc., will speak on:

'The Potential for Development'

Ian M Thomson, Director, Evergreen Resources UK Ltd., and Director of ANGI Ltd, will speak on:

'How the UK Situation Is Different'

Chaired by Malcolm Butler, Managing Director of Brabant Petroleum Ltd. and Chairman of UKOOG

Organised by Energy Economics Group

IP Contact: Jenny Sandrock

12 October 1994
5.00 pm for 5.30 pm – 7.00 pm

The Liverpool Bay Development

By Mr Roger Pearson, Project Director, Hamilton Oil Company Ltd

Organised by the Exploration and Production Discussion Group

IP Contact: Sjoerd Schuyleman

24 November 1994
5.00 pm for 5.30 pm – 7.00 pm

Fuel Oil – Whither or Wither? The Prospect for the European markets

By Dr Leonard Magrill, Director of Strategic Planning, Texaco Ltd.

Graham Weale, Manager of WEFA ENERGY

Organised by Energy Economics Group

IP Contact: Jenny Sandrock

All meetings are held at the Institute of Petroleum. Please tell the IP contact if you plan to attend any of these free meetings.
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Norway's new tax proposals are a 'severe disappointment'

Norwegian oil companies are bitterly disappointed at long-awaited government proposals which do little to radically alter the country's unpopular system of taxation for the industry.

After months of mounting expectation, the operators had certainly hoped that the proposals, which recommend new Framework Conditions for the offshore industry, would at least abolish once and for all the despised Sliding Scale taxation mechanism.

Instead, the recommendations, which were issued by the Ministry of Industry and Energy, limit abolition of the Sliding Scale to the Barents Sea, undiscovered resources in already awarded licences, and fields with reserves of less than 50 million tonnes of oil equivalent.

This means that the scale, which allows the Norwegian government to increase its stake in the more profitable oil and gas fields to a maximum of 75 percent and which had already been dropped from the 14th offshore licensing round, will still apply to the Hermod, Midgard, Norne, Smorbukk, Smorbukk South and Visund fields.

Nor will there be any change in the Sliding Scale for fields which may fit into the criteria but which were approved for development before the end of 1993.

Mr Stoltenberg chooses not to abolish Sliding Scale

Other alterations to the Framework Conditions are confined to proposals for a less direct state economic involvement in the 15th round and a more active adjustment of state shares in already awarded licences.

The oil companies had also hoped for a lowering of both the 50 percent Special Tax and the carbon dioxide tax, but neither have been mentioned in the proposals.

One oil company spokesman said the whole industry was severely disappointed. 'We just don't feel the government has gone far enough to improve competition,' he said.

A spokesman for Shell said the industry felt 'let down and a little bit frustrated.

'The Ministry really hasn't met the wishes or carried out many of the major changes advocated by the oil companies.'

The Ministry's statement says that fields such as Hermod and Norne are 'expected to be economically interesting for companies even with the Sliding Scale.'

It also argues that major projects subject to the current tax régime can 'still secure companies an adequately high economic involvement'.

The oil companies, however, do not agree. They point out that no commercial finds of any significance have been made on the Norwegian Continental Shelf for a decade, despite the fact that it is still considered one of the world's most promising areas.

'The basis of today's Framework Conditions was laid down in the special high price period of 1975-85,' said a Shell spokesman. 'The economy of the developed fields is now much poorer than expected and high costs have weakened Norway's international competitiveness.'

Industry sources say Industry and Energy Minister, Jens Stoltenberg, understood their concerns but pressure from the Finance Ministry not to cut back on taxation eventually held sway in government.

The recommendations are now up for debate in the Norwegian Parliament but the oil companies hold out little hope of further change.

Warning against contractor-led innovation

Several leading contractors have spoken out against a recent speech by Mr Sam Laidlaw, Managing Director of Amerada Hess (UK), in which he warned the major oil companies not to hand over too much responsibility for upstream innovation to the contracting community.

Addressing a recent Aberdeen conference on innovation, Mr Laidlaw said that the trend amongst operators to keep cutting back on their in-house research capability and then expect contractors to fill the gap had its problems.

According to Mr Laidlaw, there are several reasons why contractor-led innovation is less desirable.

'They may be looking for a shorter term rather than life-of-field solution,' he warned. 'They will also be seeking to build on their existing knowledge base and expertise rather than approaching the problem from first principles.'

Mr Laidlaw also suggested that the yardstick for contractors was the profitability resulting from a piece of innovation rather than how well that piece of innovation actually satisfied end-user requirements.

He called for better collaboration and longer-term alliances between operators and contractors, where risks and rewards for innovation could be more closely aligned.

According to one leading figure in the contractual community, however, this type of relationship is already commonplace.

'I couldn't disagree more,' he told *Petroleum Review*. 'Mr Laidlaw's argument is about 10 years out of date.

'What we are seeing more and more frequently now are arrangements in which the profit derived by a contractor from an innovative piece of equipment is directly proportionate to the satisfaction of the end-user. Under current risk and reward schemes, the contractor is getting rewarded far more for doing a good job than he is for simply cutting costs.'

Another contractor said: 'Mr Laidlaw's argument is based upon the premise that contractors' engineers are not thinking in the same way as operators' engineers and that simply isn't true any more.'

Amerada's Sam Laidlaw identifies 'innovation gap'

UK faces high abandonment bill

The total cost of abandonment on the UK Continental Shelf will be at least £7 billion, according to a report from Arthur Andersen, and could be as high as £9 billion.

The report predicts that most decommissions will take place between 2004 and 2014, with only two of the large fields, Britannia and Morecambe North, expected to abandon after 2020.

'Iraqi oil should be welcomed not feared'

World fear of a market swamped with Iraqi oil could soon transform itself into concern over the very absence of Iraqi oil, according to a new report from Cambridge Energy Research Associates (CERA).

If Iraq resumes exports next year, oil prices may drop temporarily, says the report. Beyond 1995, however, the impact of renewed Iraqi exports will be mitigated by rising oil demand.

'This could transform a fear of too much oil to a fear of too little,' say CERA experts. 'The Iraqi bark that brought fear of a price collapse will probably turn out to be worse than the bite.'

According to CERA, the demand for oil in Asia and elsewhere is set to increase by more than 1 million b/d each year. This growth will result in price spikes and will ultimately support prices, whether or not Gulf War sanctions against Iraq are lifted.

'From the market's longer-term perspective, the OPEC Cushion is shrinking and demand is increasing,' states the report.

Fewer major new oil discoveries, decreased development and OPEC's 'disciplined' restraint on exports are also factors which will help boost oil prices in the coming years.

The report claims that OPEC has actually adopted a 'hidden strategy' in order to support prices.

The producers are now refusing to vary production in response to increased demand even in crunch times, says CERA. This has successfully shifted the role of 'swing supplier' away from OPEC and on to the users' inventories.

California bans coastline drilling

California has finally banned oil companies from drilling along its 850-mile coastline.

A bill which prevents any new drilling within state waters was signed into law last month by governor, Mr Peter Wilson. It had previously been passed by 46 votes to 27 in the State Assembly.

The oil companies, which admittedly have neglected California of late, will now have to explore at least three miles away from its shores.

Amerada launches controversial gas ad

The gas division of Amerada Hess has launched a provocative advertising campaign, which seems aimed at luring larger customers towards the independent sector by undermining the credibility of British Gas.

The new ads say that when it comes to cheaper gas, Amerada Hess provides 'the truth, the whole truth and nothing but the truth'.

By juxtapositioning two quotes, one from British Gas and one from OFGAS, the ads appear to imply that this may not be the case with British Gas.

The British Gas quote is from a direct mail campaign in June in which the company said: 'You can look forward to cheaper gas thanks to a new gas supply agreement from British Gas'. The OFGAS quote says: 'Most customers find that independent suppliers undercut British Gas prices'.

A British Gas spokesman said it was interesting that the quotes used were old. 'Now that OFGAS has suspended the requirement for us to publish price schedules for the firm gas market above 25,000 therms prices we can negotiate prices like any other shipper.'

Wind power's North Sea début

Wind power will make its début in the UK sector of the North Sea next year on two Amoco platforms.

Wind-generated electricity was selected above both solar and water energy generation to power the company's Davy and Bessemer North Sea gas field platforms. Its main attraction was that it has already been tried out successfully at onshore sites in both Britain and continental Europe.

The £200,000 venture, which is believed to be the first time wind-generated electricity has ever been put to the test in the UKCS, will involve installing four wind turbines on the two 'not-normally-manned' platforms.

This radical new option is expected to cut diesel costs by 85 percent; hydrocarbon exhausts by 75 percent and reduce helicopter visits from fortnightly to once every three months.

'This use of wind power underlines the fact that good environmental management makes good business sense,' said Mr Jack Criswell, Managing Director of Amoco (UK) Exploration Co.

The platforms, which are situated 60 miles off the East Anglian coast, are due to begin production in late 1995.

'Bob Horton must take some credit for BP growth'

BP has confirmed a series of worldwide discoveries which are set to boost the company's output by at least two percent per year into the next century. The news has been welcomed by the markets and has generally served to enhance the reputation of Chief Executive David Simon as a man who can deliver recovery. However, according to one senior analyst, his predecessor Bob Horton must take some of the credit for the beginnings of growth.

'The restructuring of the company was put in place by the previous Chief Executive in Project 1990.' he told *Petroleum Review*. 'There really is quite a lot of Horton in this recovery.' However, the analyst also praised Mr Simon for his vital role in the implementation of the plan, saying this was the hardest job of all.

Two of the largest finds confirmed are in the Nam Con Son basin, offshore south Vietnam. The Lan Tay and Lan Do gas fields have combined estimated reserves of some 2 trillion cubic feet (tcf). BP Managing Director John Browne said the fields would play a 'key role in supplying Vietnam's emerging domestic gas market'.

Mr Browne also confirmed that a well on block 34/11 offshore Norway, in which the company has a 15 percent stake, had encountered a significant accumulation of gas. At the same time, output is being boosted by improved rates and a string of new fields in Alaska and the North Sea.

All in all, the company's latest discoveries are expected to take its worldwide production to the equivalent of 1.7-1.8 million b/d by 2005.

Mr Browne also said BP expected its new exploration regions, such as West of Shetland, Colombia, the Gulf of Mexico and Vietnam, to be providing a significant element of its global production within five years - all from fields already discovered or under development.

The official unveiling of BP's latest discoveries took place at a recent briefing to industry analysts. The presentation was generally well-received by the markets as a firm indication that the company is moving out of retrenchment.

'There was nothing earth-shattering revealed, but it did go a long way towards persuading the markets that David Simon can and will deliver,' said one analyst. 'It drew together very effectively all the themes of BP's recovery story.'

Offshore associations to merge

The Offshore Contractors' Council (OCC) and the Offshore Manufacturers and Constructors' Association (OCMA) have decided to merge.

The new organisation will be called the Offshore Contractors' Assocation (OCA). It will be the largest representative body in the UK oil and gas industry and will watch over the interests of over 600 member companies with a total workforce of over 40,000 (both on and offshore). It will operate from a permanent office in Aberdeen.

Announcing the decision in London last month, Mr Sandy Clark, Chairman of the OCC, declared that the merger was 'a logical step'. He added, 'Perhaps one of the most significant trends at present is CRINE – Cost Reduction in the New Era. This is an excellent example of how the industry is working together to create a competitive cost base.'

The merger, which has still to be ratified by two AGMs, was partly the result of pressure from President of the Board of Trade Michael Heseltine who advocated that interests should be represented by a single body.

The new body will look ahead to a new culture, according to Mr Clark, as partnering, alliancing and integration become more generally practised. It will be the only trade association able to represent 'life-of-field' issues.

For his part, Mr Syd Fudge, Chairman of the OCMA, said, 'OCA will provide a powerful single voice.' He believes that the merged association will be in a better position to attract new members. OCMA at present represents over 90 percent of the UK offshore fabrication industry. To date its member companies have built 2 million tonnes of structures for the North Sea.

He talked of exporting their joint expertise, gained over past years and aiming to be a 'world beater'.

Mr Clark will continue as chairman of the new organisation, while Mr Iain Bell will become Chief Executive.

Sofregaz wins Chinese engineering contract

French consulting engineering firm, Sofregaz, a subsidiary of Gaz de France, has signed a $26 million contract with China National Technical Import and Export Corporation and the Xian National Gas Company.

Under the terms of the contract, which forms part of a major trade agreement between France and China, Sofregaz is to provide engineering and procurement services for the Xian natural gas distribution system.

The city of Xian, situated south-west of Beijing in the Shaanxi province, has a population of more than 2.5 million people. To date, gas has been supplied to some 75,000 customers through the city's manufactured gas distribution network. With the new, natural gas distribution network, the number of customers serviced could be increased ten-fold.

National link-up for CATS

Amoco's Central Area Transmission System (CATS) will be linked up to Britain's national gas grid by the end of next year.

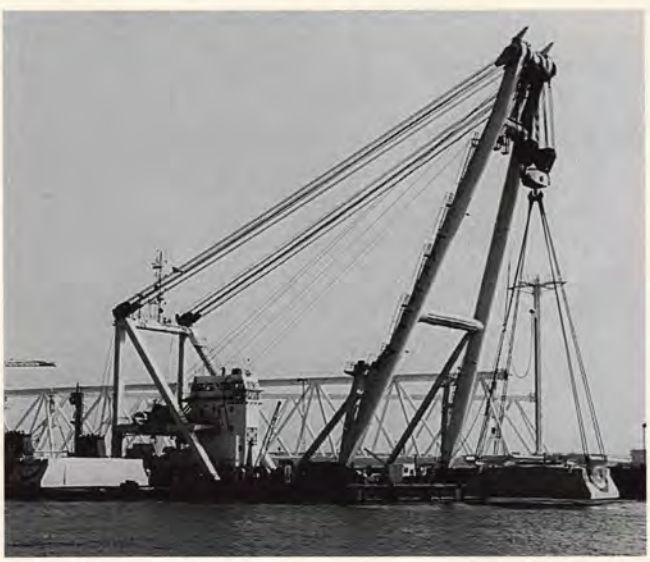
The £11 million project will allow up to 1.6 billion cu ft of Central North Sea gas to be fed each day from CATS into the British Gas grid system. The link will be a four-mile, 36-inch diameter pipeline.

Whether the agreement, signed by operator Amoco, British Gas and Enron, is enough to sway Britannia's operators to choose Teesside as a landfall site for the field's gas has yet to be seen.

Stena/Trafalgar alliance

Stena Offshore and Trafalgar House Offshore Services (THOS) have formed an alliance targeted at multi-field developments in the UK sector.

'We see this new force as number one in the North Sea when it comes to small and medium field developments which require a combination of sub-sea tie-in work and surface installations,' said THOS marketing manager Duncan McKenzie.



Smit Maritime Contractors has won a major heavy lift contract from Hibernia Management and Development Co for an offshore production platform currently being built in Newfoundland. A 1,200-tonne lift capacity Sheerlegs crane will carry out the work, using a 500-tonne capacity long boom. This offers a lifting height of 160m and a 100m reach.

OPEC quotas unlikely to change

OPEC would prefer to see oil prices rise over the winter than increase quotas at its November meeting, according to the Centre for Global Energy Studies (CGES).

For the rest of the world, this is likely to mean, not only a firming up of prices, but greater price volatility too.

'Although oil prices during the last two quarters have been much higher than expected,' said CGES analysts, 'OPEC members have not yet recovered from the impact of falling prices in 1993.'

It is Saudi Arabia which has largely determined OPEC's current stance. The possibility of a mild winter in the Northern Hemisphere, an apparent end to Nigeria's output scare and the threat of a resumption of Iraqi exports have all helped convince the Kingdom that output increases should be delayed well into 1995.

If Saudi Arabia is currently unwilling to raise output, it is highly unlikely that any other OPEC member will take the initiative, according to the CGES. However, there is one possible exception.

Venezuela is already exceeding its quota by a significant amount and PdVSA President Luis Giusti recently announced that OPEC may boost production quotas at its next meeting.

However, the CGES doubts Venezuela will be prepared to go much further above its quota for fear of provoking a retaliation from the Gulf producers.

The Braer incident – lessons and regulatory implications

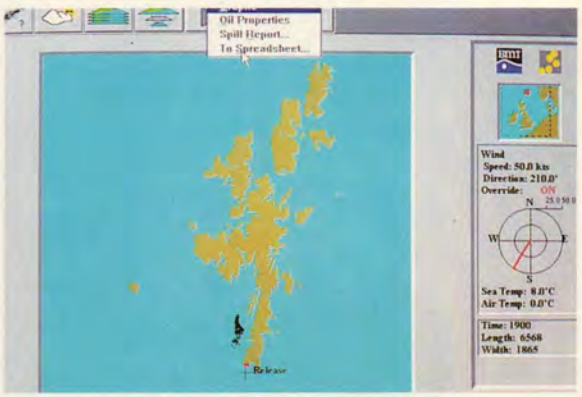
By CJ Parker, Secretary, The Nautical Institute

The Braer grounded on 5 January 1993 at Garth Ness, Shetland. Like the ill-fated Challenger mission, the tragedy of this foundering was followed continuously by an anxious public, alarmed by the scale of the catastrophe as they watched the remorseless sequence unfold before their eyes on television.

There can be no doubt that the Braer incident was a media event. Whilst many unfounded predictions were being made at the time, the media coverage created an impression around the world that the tanker industry was unsafe. The situation was made worse when both the UK Marine Accident Investigation Branch report and the Republic of Liberia report concluded that the ship was well found, properly manned and navigating safely. The public do not like paradoxes.

Here, in brief, are the facts to refresh our memories.

The Braer sailed from Mongstad, Norway on 3 January 1993 loaded with 84,700 tonnes of light crude oil bound for Quebec and planned to follow a route via the North Fair Isle Strait. The weather forecast was southerly winds Storm Force 10.



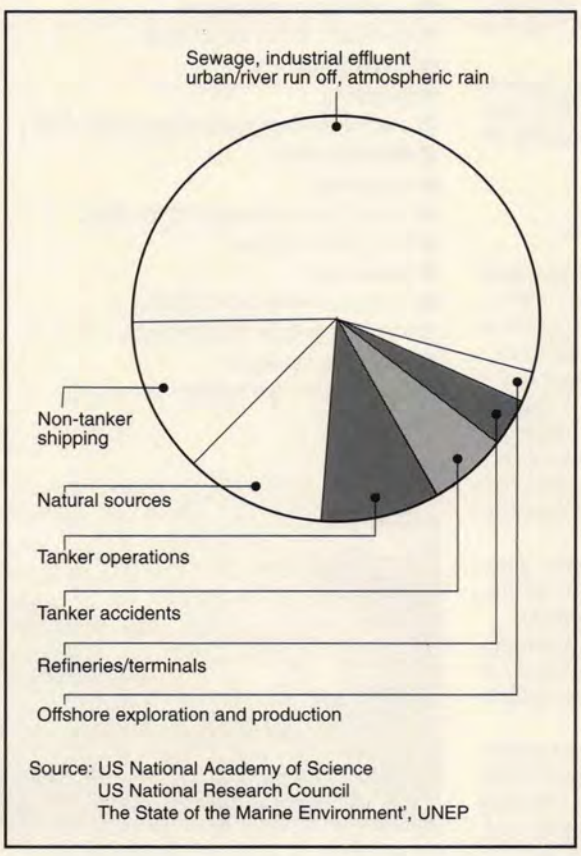
During the evening of 4 January the auxiliary boiler used to heat the heavy fuel oil on which the main engine ran, failed and the fuel source had to be changed from heavy oil to diesel oil which does not have to be pre-heated (diesel oil is always carried in limited quantities to be used when the vessel is manoeuvring).

- At 0400 on 5 January the main engine speed was reduced to conserve diesel fuel whilst work was in progress trying to decontaminate the diesel line to the auxiliary boiler which was found to contain water.

Every attempt was made to rid the water from the lines by draining settling tanks, operating the separator and draining down lines. The motion of the vessel kept the water in suspense and at 0440 the main engine also ceased to function.

- At 0515, 10 miles south of Shetland, the Master radioed the Coastguard to inform them of the vessel's loss of power but there was no immediate danger. It was not realised at the time but Braer was drifting north in appalling weather conditions at about 2 knots.
- At 0526 the Master stated the crew were safe but he did require a tug as soon as possible. Owners were contacted. In the meantime Lerwick despatched the

Figure 1: Origins of oil in the sea



Far right: Oil in water emulsion at Garth Ness

Star Sirius and Sullom Voe prepared to sail their tug Swaabie.

- At 0827 the decision was made to evacuate the entire crew, which was completed by helicopter by 0854.

Meanwhile, due to currents, the Braer drifted away from the land and the Star Sirius arrived at 0935. The weather forecast at the time was Gale Force 9 for the next 18 hours veering southwest and increasing to Storm Force 10 gusting to Force 12.

- At 1055 the Master, Chief Officer, Bosun, Superintendent and the Safety Manager of the Shetland Islands Council were flown back on board to attempt to connect the Star Sirius. At 1119 the Braer ran aground.

The cause of the incident was the damage caused to the fuel air pipes which were broken off when spare piping, being carried on deck, broke adrift in the storm.

The reactions

Ironically, the Shetland Islands Council had planned a major environmental conference in March 1993. The event was divided into four workshops—'Control of Pollution at Sea', 'Port and Shipping Management', 'The Braer Incident' and 'Sea Fisheries Management'. This conference provided a valuable and genuine exchange of views between the catharists, intent on solving the problems of marine pollution for ever, and the industry, which has to function with the ships and seamen in operation at a price that the market pays.

The conclusions can be summarised as follows – the majority of marine pollution occurs because of the run-off of land pollutants into the sea (See **Figure 1**).

Marine pollution should be considered as a whole, based upon better education. There is a clear need for better monitoring and enforcement measures, which need to be co-ordinated internationally.

More pragmatically, the shipping and port workshop set targets to reduce marine pollution from ships following accidents or damage by 50 percent and unlawful operational discharges from ships by 90 percent in 10 years. To accomplish this a general tightening-up of operational practices was advocated.

The Braer incident was the subject of a special workshop and emphasised the value of collecting data to review the impact of oil pollution on the ecosystem over time. The effect of dispersants could also be evaluated (although they were not used in large quantities).

Of the 85,000 tonnes of oil lost, much was dispersed by the wave action. There was land contamination and an estimated 30 percent of the oil was found in bottom sediments in two areas far from the wreck, some 50 km south of Fair Isle. The workshop concluded that the Shetland Islands Council contingency plan had worked well but better communications with the local population needed attention and the public health lessons must be studiously evaluated and shared with other authorities. The value of contingency planning was fully recognised and must be promoted nationally and internationally.

Lord Donaldson Inquiry – 'Safer Ships, Cleaner Seas'

The Inquiry was set up in January 1993 – 'To advise on whether any further measures are appropriate and feasible to protect the UK coastline from pollution from merchant shipping. Due consideration should be given to the international and economic implications of any new measures'. The report was published in May.

The report is detailed and wide-ranging. It covers:

- Flag State control
- Ship design
- Ship operations
- Non-accidental discharges
- Hazardous and noxious substances
- Port State control
- Accident investigation
- Scientific safety regulation
- Navigation
- Routeing
- Marine environmental high risk areas
- Identification
- Reporting
- Vessel surveillance and tracking
- Fish factory ships
- Insurance
- Compensation and liability
- Dealing with emergencies
- Cleaning up spills
- Coastguard operations
- Finance.

Right: Oil in water emulsion

Regulatory implications

1 Make public information about deficiencies.
Already implemented with embarrassing and costly contractual results for offenders
2 Put governmental resources into monitoring MARPOL compliance
Again working towards public disclosure
3 Encourage the EC to apply IMO Resolution A 747 IB
Favourable treatment for vessels fitted with segregated ballast tanks has already been agreed.
4 Recommend the UK government see if procedures can be implemented with classification societies to improve maintenance standards.
5 Ensure, through the IMO, that all vessels carrying hazardous cargoes have emergency towing facilities.
In a temperate zone with variable weather it would not be unreasonable to make a unilateral requirement for vessels to be so fitted in UK/European waters.
6 Non-accidental discharges should be prohibited in the North Sea, English Channel and Irish Sea.
This will have consequences for reception facilities and operational practices.
7 A statutory obligation should be placed on port and terminal operators to provide reception facilities.
Ship operators in general will welcome this.
8 Self targeting Port State control should be introduced, based upon a log book and recorded history.
In this way the standard of every vessel can be assessed (currently it is 25 percent of ship visits). It will also avoid unnecessary duplication of effort and enable a comprehensive database to be established.
9 Consideration should be given to imposing a statutory obligation to ensure harbour authorities disclose relevant deficiencies.
10 Introduce random saturation Port State inspections and closer scrutiny of operational practices and personnel manning and qualifications.
11 Draw up a Seaway Code to provide information in practical format covering passage planning and environmental protection.
12 Identify and publish on charts Marine Environmental High Risk Areas
This new concept is cautionary and it is intended to evaluate behaviour. Owners have a duty to ensure that their Masters are fully appraised of this development.
13 Navigational advice should be promulgated to keep ships from entering particularly hazardous or environmentally delicate areas.
Again, owners would be well advised to comply.
14 Marine reporting should be extended to vessels of 300 gt.
15 Reports of specified failures on board should be mandatory and entered in the Port State control log.
16 Surveillance of unlawful behaviour should be increased.
17 Compulsory insurance should be introduced for the carriage of hazardous and noxious substances.
18 Adequate salvage capacity should be provided.
19 Encourage ship-owners and Masters to make the fullest use of emergency services on terms which are most likely to benefit the environment.
A new emphasis here for operators, salvors and insurers.
20 The shipping industry should pay for Port State inspections through a levy scheme.
21 A second fund should be set up and paid for by the industry to cover emergency response.
22 Generally support the IMO and in particular the revision of the STCW Convention and the implementation of the Safety Management Code.
23 Provide ships with visual markings and also electronic transponders for identification purposes.
This is one of the major initiatives put forward by this report.

The nature of the problem

The UK coastline is 8,000 miles long and the territorial waters amount to 125,000 square miles. Over 90 percent of imports and exports to the United Kingdom are carried by ships. The number of ships of foreign flag passing through UK territorial waters but not calling at UK ports is not known exactly, but only 1.65 percent of the world fleet is under the UK flag.

In the Dover Strait there are about 200 transits and 180-200 crossings daily and seven commercial vessels daily transit the Fair Isle Channel.

In 1992 over 6,000 foreign flag vessels visited UK ports. Of the 2,000 inspections carried out under Port State control, 60 percent revealed deficiencies and 6 percent deficiencies serious enough to warrant detention until they had been remedied.

One significant fact implied but not specified in the Donaldson Report is the variability and severity of the weather, the strong tidal surges, and the times of fog, rain and snow affecting visibility. All are of particular relevance when contingency planning.

So the problem for Lord Donaldson was not easy! Whilst individuals like to see themselves in the centre of things and governments do not feel they are doing their work if they are not exercising control, it comes as a disappointment that ships cannot be directed safely from the shore.

Here, then, is the nub of the problem when trying to assess the regulatory implications. However, before quoting the specific recommendations of the Donaldson Report, it is worth considering how regulatory methods have changed.

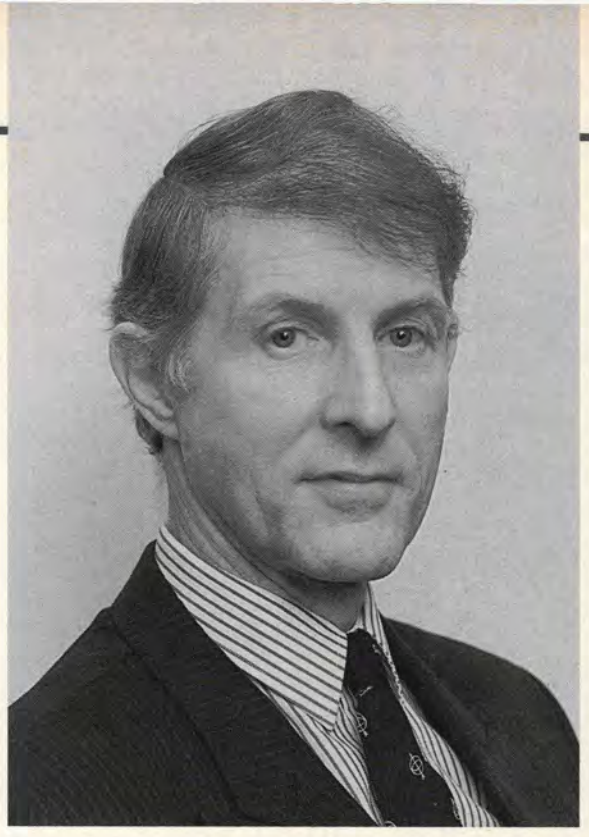
Until the 1960s 80 percent of the world fleet was operated from traditional maritime nations with a strong seamanlike culture and well-developed shipping legislation. Incidents were investigated and wrongdoers punished.

In 1994 about 70 percent of the world fleet is administered by flags of convenience in line, not with their own well-developed legislation, but within the prescribed conventions agreed at the International Maritime Organisation (IMO). Most of the statutory surveys for most of the world fleet are now delegated to classification societies. Few incidents are investigated.

In the United Kingdom an incident like the Braer becomes a matter of national concern and is raised in the Houses of Parliament. No such public concern attaches to the inhabitants of a flag of convenience country yet the United Kingdom, in international law, has no direct jurisdiction over the operation of a Liberian ship.

There are thus limited options which can be considered:

- To change international convention standards at the IMO (a slow process not guaranteed success)
- To enforce Port State control more rigorously in the United Kingdom and regionally
- To provide optimum routeing, taking into account sensitive environmental areas, without adding unnecessarily costly steaming distances



- Ensuring that contingency response is more effective
- Ensuring that all the costs for a marine pollution incident fall on the industry
- Adding authoritative weight to the demand for more and better qualified seafarers
- Adding authoritative weight to the need for higher standards of safety management in shipping companies and the re-establishment of a stronger safety culture.

C J Parker

Conclusions

It has to be stated that no seaman willingly intends to hazard his ship or endanger the lives of fellow crew members. Ship-owners and managers, to stay in business, must be able to deliver cargoes reliably, safely and economically so there is a basis of good intention which ensures that the overall loss rates and pollution levels continue to improve.

Certainly, commercial operations demand a level of risk and whilst this is inevitable in any competitive industry the aim of regulation, enforcement and inspection must be to eradicate the sub-standard and ensure that dangerous shortcuts do not pay.

Lord Donaldson's report has attempted to find the balance between management and regulation. There is no doubt that the emphasis of the report is one of protectionism rather than promotion of trade – but in this context the report argues persuasively that international shipping has already exceeded its licence and that accountability is likely to be the most effective remedy.

This article and the following one by Paul Oliver are shortened versions of papers which will be presented at an IP conference on 'The Tanker Market – Entering a New Era?' to be held on 5 October.

A new era for oil major shipping companies?

By P Oliver, Planning Manager, BP Shipping Ltd

Although the oil majors no longer dominate the tanker market as they once did, the scope of their activities within this market remains unique. As such they have a number of perspectives. As owners, they are interested in the future earnings of their owned and time chartered fleets; as charterers, in the cost of freight and security of access to the right ships. Above all, they are concerned that their hard-won reputation will not be damaged by television pictures of their oil on the beach! This paper considers the current and projected state of the tanker market and its implications for oil major shipping. Unavoidably, the author's perspective is that of his own company – British Petroleum– but many of the issues are common to the other oil majors.

Historical background

Before going further, it is instructive to take a historical perspective. Until the producer country nationalisations of the 1970s, the oil majors were integrated in the fullest meaning of the word. Their oil – predominantly in the Middle East– was transported to their refineries – mostly close to the consumers – and the refined product marketed via their own retail sites. In these circumstances, with the crude supply chain wholly under their control and a relatively small spot market, it was natural for the majors to retain their own fleets and use them as 'floating pipelines'. A mix of ownership, term chartering and, at the margin, voyage chartering, ensured that the companies were able to adjust their available tonnage to seasonal and other variations in demand. Control of production – and the sheer scale of the movements – ensured that the ships could be scheduled efficiently.

'How the majors are to procure shipping in future — that is the key question'

By the late 1970s, the loss of control over production to the oil producing countries and the consequent de-integration of the oil industry was making it far more difficult for the oil majors to schedule their tonnage efficiently. Relets of oil company tonnage became more common as a way of dealing with ships that were out of position for lifting their own cargoes. The reverse side of this was increased employment of spot tonnage, no longer just for the marginal barrels but for core requirements also. Meanwhile, the oil price shock of 1973 resulted in a complete reversal from several years of steady 7 percent growth to an unimagined decline in oil demand. The resulting oversupply of (mostly newly built) tonnage led to a tanker market crash, making spot chartering far cheaper than the expensive owned and term chartered ships committed to before 1973. The majors began to exit from these commitments, first by failing to renew their time charters and then by selling their owned tonnage — mostly at rock bottom prices — to the shipping independents. This led to a huge increase in the liquidity of the voyage charter market both enabling and stimulated by the increased liquidity of the oil markets, epitomised by the growth of the independent oil traders. In the early 1970s, tankers trading on the voyage charter market accounted for only 10 percent of the world's tanker fleet; by 1991 this had grown to 50 percent.

Thus by the late 1980s most of the oil majors were significantly more dependent on the tanker spot markets, with smaller owned and time chartered fleets. Some, perhaps best exemplified by BP, had established their shipping companies as 'stand-alone' business units with a remit to empty their tonnage as efficiently as possible. This meant that third-party business became as important as own company business altogether. Perhaps this was due to a belief that tanker shipping might again become 'strategic' one day; certainly there was a feeling that maintaining hands-on expertise in the still critical activity of moving oil by sea was important.

A problem was looming, though, as the remaining owned ships, mostly built in mid-1970s, were approaching the end of their lives. Only one company – Chevron— has begun a concerted fleet replacement programme; the others were biding their time, perhaps less certain of the roles and strategic importance of their shipping 'arms'.

Then came *Exxon Valdez* – followed by a number of other incidents potentially as serious. Tanker shipping was 'strategic' again; not so much this time because of concern about security of supply, but because of the realisation that a big oil spill – or even a modest spill in the wrong place – could be 'company busting'.

Ageing fleet

Enough of history – what of the present? About 15 percent of the VLCC fleet is now over 20 years of age. Even if we assume a steady rate of scrapping and healthy levels of new building, this percentage will grow to over 40 percent by 1998. And that is probably the best we can hope for — for the past three years we have had VLCC spot rates at which even 1970s ships, let alone double-hulled new buildings, are struggling to break even. Rates at least double today's are needed to justify speculative investment in new tonnage.

Realistically, there are only two possible outcomes. Either we will have, by 1998, a fleet almost 50 percent of which is beyond its original design life (with unknown consequences for safety and reliability); or, if something occurs to precipitate the earlier scrappings of these ships, then we could face an actual shortage of tonnage as early as 1996. At the moment the latter appears unlikely, but who knows what might be the result of a big spill from an elderly VLCC in an environmentally sensitive area?

'The constraints of being part of a large multinational company make it difficult to compete successfully with the best of the independents'

Unpleasant alternatives

Therefore, the oil majors – all dependent to some extent on the spot market – face rather unpleasant alternatives: either an outright shortage of tonnage, or a market consisting increasingly of very elderly ships. And it is not only the ships that are getting old – a severe cutback in training budgets over the past 20 years means that there has also been a sharp contraction in the supply of properly qualified and experienced seafarers. So - against a background of public opinion highly sensitive to marine pollution, the Oil Pollution Act with its punitive damages and an ageing spot market – what will the majors do?

There will be no return to the 'total integration' of the 1960s. The oil market is too fragmented for many of the majors to be able to schedule their own tonnage to meet all their transportation needs. However, the strategies of the 1980s are being re-examined. None of the majors believe any longer that oil shipping is a business that they want to be in for its own sake. The rewards are seen as too uncertain, the risks too great and the alternative calls upon capital, for 'core business', too insistent. Also, the constraints of being part of a large multinational company make it difficult to compete successfully with the best of the independents. Running the fleets as entrepreneurial businesses was a viable strategy for the 1980s; different strategies are needed for the late-1990s and beyond.

Shipping essential

But, contrary to the impression given by some newspaper headlines, the oil majors cannot opt out of shipping. At the very least they will continue to be substantial users of shipping and their oil – and reputations – will continue to be at risk from marine incidents. It is how they are to procure shipping in future that is the key question: in particular, the extent to which they will be dependent on the spot market. The main issue here is not the obvious one of freight rates. In the past, they might have adjusted their 'portfolios' of owned, term chartered tonnage and spot tonnage to hedge, or to take a position on, anticipated changes in freight rates. Today, the risk that spot freight rates might rise dramatically concerns them less – they have become used to coping with volatile prices. In BP at least, we would be very happy to have freight rates at a level at which owners are able to renew and maintain their capital stock and run a quality operation. Provided that everybody pays higher rates, we believe that they will eventually be fully recovered elsewhere in the value chain. What we cannot contemplate is willingly paying a premium for freight which is not being paid by our competitors.

The imperative for all the oil majors is securing access to quality tonnage. For BP, that means realigning our own shipping operations to meet more of our core shipping requirements, though we will continue to use the spot market extensively, especially where it meets our needs for flexibility and cost-effectiveness. Our dilemma is that, whilst we want the control and security of access, we do not particularly want to 'take a position' on freight rates. Moreover, we will not make a commitment to tonnage for a period greater than that for which we can project our shipping demand – a period considerably less than the life of a ship.

Possible solutions

Solutions to the dilemma are emerging. Shell has pioneered the seven-year lease with options on new, bareboat chartered tonnage. BP are now looking to acquire leased tonnage with the additional feature of spot related charter hire. In effect, we are saying to the shipping industry: we can provide the employment that will underpin at least some of the investment required for fleet renewal, but we require you to accept much of the freight rate risk – upside as well as downside. Better for the long-term health of the shipping industry, and for the prospects of an orderly replacement of the fleet, that ship-owners and investors make their 'calls' on this basis – against guaranteed employment – than on another binge of speculative ordering the moment that freight rates turn up again.

Azerbaijan oil deal signed – at last

By Colin Barraclough

Azerbaijan ended four years of strenuous negotiation on 20 September by signing a draft oil development deal with a consortium of Western oil companies. The agreement, worth some $8 billion in Western investment over 30 years, should see Azerbaijan once again become one of the world's principal oil exporters, nearly a century after it was producing half the world's oil.

'A new era has begun in the life of Azerbaijan,' said the Caucasian republic's president, Heydar Aliyev, who presided over the 1,000 guests at the hour-long ceremony in Baku, the Azeri capital.

The BP/Statoil-led consortium has agreed to develop three offshore fields under the Caspian Sea - Azeri, Chirag, and the deepwater part of the Guneshli field - and provide Azerbaijan's state oil company, SOCAR, access to Western markets with an export pipeline. Initial output will fall from SOCAR's present 200,000 b/d as the existing infrastructure is replaced but will rise to 300,000 b/d after seven years, reaching 600,000 b/d two years later.

Recoverable reserves in the three fields are estimated at 400 million tonnes - equivalent to 3 billion barrels - of light crude. The first flows are expected within 18 months of the contract's ratification by the Azeri parliament and the companies' boards. An existing platform from the Chirag field will be used for early production, which should offer 20,000 b/d in the short term. The consortium will shoot more seismic before large-scale production gets under way.

Heydar Aliyev, President of Azerbaijan

New oil deal

By signing the deal, the consortium agreed to pay the balance on a $150 million sign-up bonus to Azerbaijan's government; $81 million was already paid.

Another $75 million falls due when production reaches 40,000 b/d and a further $75 million when the first oil reaches the planned export pipeline.

The foreign consortium will fund 70 percent of the development costs, leaving SOCAR with 20 percent and Russian company Lukoil with 10 percent. In return, Azerbaijan will take 70 percent of the profits, Lukoil 10 percent, and the consortium approximately 20 percent.

The actual proportion of profits will be set on a sliding scale, depending on production levels and world oil prices.

Eight Western companies have won shares of the production contract. Besides BP, they are Statoil, Amoco Production, Pennzoil, Ramco Energy Ltd., Unocal, McDermott International Inc., and Turkish Petroleum. Lukoil, a private Russian company invited to join last November, will also share the development costs. Pennzoil have agreed to carry Ramco's interest and, at the last minute, Unocal brought in the Bahamas-based, Saudi-owned company Delta Nimir Khazar with 1.68 percent of the stake.

Four years of negotiations have been interrupted by a coup in Azerbaijan last year - which brought Mr Aliyev to power - and complicated by Azerbaijan's six-year war with Armenians over the disputed territory of Nagorno-Karabakh.

Pipeline route still undecided

Uncertainty still hangs over the issue of delivery. Russia insists that the consortium should use an existing pipeline through to the Russian Black Sea port of Novorossisk. Turkey has protested that the use of a Black Sea port would entail a high volume of tanker traffic through the narrow Bosphorus Strait, endangering the people and the environment of Istanbul. It has pushed instead for the construction of a new pipeline through to Turkey's Mediterranean coast.

The consortium has agreed to postpone a decision on the planned pipeline's route. 'The whole pipeline issue is too thorny, too political, said a spokesman for one of the consortium members. 'There are two main points of pressure, Russia and Turkey. At present, the routes to those main points are incidental.'

The consortium stresses that large volumes of oil will not be flowing for several years, allowing the partners enough time to choose a route - whether through Armenia, Iran, Chechenya, or Georgia - and build the pipeline.

In the meantime, several options are available to take Azeri oil to market. Tankers could transport it to Iran, or through the Volga-Don canal to the Black Sea. Or the consortium could use existing - but decrepit - pipelines to Russian or Georgian ports on the Black Sea.

Iran has proposed an oil swap arrangement, whereby Tehran would import Azeri oil for internal use, agreeing to export equivalent quantities of its own oil from established ports on the Gulf. 'We'll be looking at a number of options including swaps,' said a Western oil executive.

Industry analysts speculate that Georgia presents the most likely route. At present, it is used for transporting oil product from Georgia into Azerbaijan and some sections are closed, but Azerbaijan could reverse the flow and patch up the damaged sections.

One projected route for a pipeline winds through the north of Iran but several members of the consortium are not too keen, fearing that Iran would be given a stranglehold on the project. Furthermore, the United States government is committed to ringfencing the Iranian leadership. 'It's an interesting question,' wondered a Western oil executive involved in the project. 'If we decided the best route out was through Iran some of the way, what would the American partners do? If Pennzoil and Amoco went along with it, presumably they'd not be welcomed home by the administration in Washington.'

Baku's oil scene

Russian umbrage

The Russian government, too, has objected to the production contract. In April, Moscow asserted its right to a primary role in the Caspian Sea area in a note handed to the British Embassy in Moscow. The note claimed that international boundaries crossing the Caspian Sea had never been demarcated after the collapse of the Soviet Union, and claimed that no country bordering the Caspian had the right to exploit its resources without reference to the others.

Azerbaijan plays down Russian objections to the deal. 'International lawyers agree that the Caspian is correctly demarked among the governments of Turkmenistan, Azerbaijan, Kazakhstan and so on,' said SOCAR's chief, Natik Aliev. 'This coincides with all international legislation. We are not worried about the issue,' he added.

But even as the consortium members were signing the deal in Baku, the Russian foreign ministry stated it would not 'officially recognise' the deal. 'Unilateral actions, especially on resources and the Caspian Sea, contradict international law and risk damaging the ecological system of the sea,' the foreign ministry spokesman added.

Issue of demarcation

The legal classification of the Caspian has not been addressed since a treaty between Russia and Iran in 1828 which gave Russia a controlling interest. Under maritime law, international access right of passage changes if the Caspian is classified as a sea or a lake.

'Of course, demarcation is an issue that will have to be resolved,' said a consortium member, 'but this a new-found ecological position on the Russians' part. Who created the mess in Baku in the first place?'

The Russian government itself pushed Lukoil into the deal last year; some Western executives argue that Lukoil's involvement should discourage any Russian urge to sabotage Azerbaijan's oil development. 'Some of the oil companies feel it's better to have the Russians on board than sniping from the wings,' confirmed a senior European diplomat in Baku.

Others are not so sure. They complain they know very little about Lukoil - ostensibly a private company - nor its connections with the Russian government. 'I think the Azeri government is too naive,' said one informed Western oil executive. 'They think Russia will be satisfied if Lukoil gets its share, but the Russians want to extract much wider political advantages.'

Some Azeri officials acknowledge the wider Russian threat. 'The Russians want what they call "cooperation" on the borders,' says Azeri deputy foreign minister Araz Azimov. 'Give us the southern border, they say, or we'll lock up the north.'

Indeed, Russian diplomats in Baku state frankly that Moscow will defend its perceived interests in Azerbaijan aggressively. 'Russia is interested in cooperation with the West over Azerbaijan,' says Walter Shonia, Moscow's ambassador to Baku, 'but if there is some attempt to unseat us, there will be unpleasant consequences.'

Privately, Russian officials go further. 'We want cooperation from the Azeris on guarding their southern frontier,' said Maxim Gorcoun-Voevoda, attaché at the Russian embassy in Baku. 'The Iranians are very active here; this kind of influence on our southern flank has to be stopped.' He hinted that Azerbaijan should follow Armenia and Georgia, the other Caucasian republics, which have both allowed Russian troops to guard the old Soviet frontiers.

Dispute with Armenians

What makes Russia crucial to the oil deal is Azerbaijan's war with Armenians over the disputed enclave of Nagorno-Karabakh. A multinational negotiating team from the Conference on Security and Cooperation in Europe (CSCE) has so far failed to find a peace formula acceptable to all sides. Armenia, which supplies the Karabakh enclave with weapons and equipment, depends on Russia for food, energy and fuel. Further, Azerbaijani officials claim to have captured Russian troops fighting alongside the Karabakh Armenians.

Moscow wants to send Russian troops to Azerbaijan to monitor a peace settlement. 'The problem is that the Azeris don't see the Russians as neutral,' said a Western diplomat in Baku. 'They believe Russia is allied with Armenia.' Azeris also remember the Russian troops who killed up to 200 Baku civilians in 1990 when trying to quash Azerbaijan's pro-independence movement in the last days of the Soviet Union.

Reluctantly, though, the Azeris are admitting they have little choice. 'The Azeris are moving towards the principle of Russian troops in Azerbaijan as part of a peacekeeping team,' says a Western diplomat in Baku. 'They also seem prepared to face up to concessions on the Karabakh front.'

President Aliyev hopes that the lucrative oil contract will produce concrete support from the West on the Karabakh issue. He signed up for NATO's Partnership for Peace in May and has been pressing Turkish, European, and American governments for military and political guarantees ever since.

Privately, Western diplomats admit they can do little to help Mr Aliyev. 'I don't think we're going to impose sanctions on Russia,' says one. 'We're certainly not going to raise a stick at them'.

Government House, Baku, built with oil money in the early years of this century

Towards common standards for European petrol pumps

By David Kerr, Engineering Manager, Wayne Autocourt

A committee has been set up by the Comité Européen de Normalisation (CEN) under the direction of the European Commission to formulate common standards for the design and manufacture of motor fuel dispensers. The aim is to introduce a set of common standards which represents the best thinking in Europe.

The committee, set up just over 12 months ago, is making good progress towards achieving its goal – publishing its recommendations in two years time. This article reports on the initial tasks of organising the committee, deciding its remit and principal objectives.

Although work is now underway, the committee is still not fully represented by all the countries which will be affected by the introduction of common standards. The level of interest shown by different states reveals some interesting aspects about the relationships between the manufacturers and their respective government standards authorities.

Towards a free trade market

There has been much talk about European Union and monetary union but without doubt the biggest step towards a free trade market for any industry is a union of standards, especially safety standards. Certainly where international or national standards are readily accepted by neighbouring or affiliated countries, there is a good record of 'free trade'.

There can be few, if any, more potentially dangerous devices to which the untrained public have easy access, than a petrol pump on the filling station forecourt. Yet in Britain and many other parts of Europe this industry has an excellent safety record.

This can, in no small way, be due to the standards of manufacture and operation which are in place in these countries. It is these 'standards' for manufacture in Europe that I would like to discuss now.

European Directives

In the new Europe, it is from Brussels that we receive the directives such as the product safety, machinery directive, electromagnetic compatibility, vapour recovery and ATEX (dealing with equipment for use in an explosive atmosphere) with which we must comply. These are 'broad brush' documents, giving the principles and essential requirements we must apply.

Implementation of standards

It is the technical committees of CEN which, as required, write the technical and detailed standards, which must be met to show compliance to the respective directives. A technical committee (TC) which, when faced with many diverging subjects and as always, the pressures of time, may set up workgroups (WG) to cover specialised subjects. And the workgroups themselves may set up sub-groups (SG) to work on even more specialised areas.

The various technical committees, sub-groups and workgroups are shadowed by the appropriate national committees and are usually made up of members elected from the respective national committees. (In the case of the United Kingdom these are BSI committees).

In this way, for petrol pumps we have ended up with TC221/WG6/SG4. Where TC221 is storage tanks for flammable and inflammable water polluting liquids shadowed by BSI; WG6 is shopfabricated steel tanks, shadowed by BSI(PVE/21); and SG4 covering dispensers and nozzles for petrol filling stations, shadowed by BSI PCL/6.

Committee members

Britain is well represented on these committees and indeed is one of the leading forces in this work. Each of the members listed below brings specific interests to bear from design and manufacturing to legislation and health and safety.

Jamie Thompson of the London Fire and Civil Defence Authority (an enforcer) is chairman of TC221/WG6. He was responsible for the setting up of the core working group SG4 and he continues to work tirelessly to ensure that it carries through its commitment to this programme.

Terry Rogers, a consultant with the Petrol Pump Manufacturers' Association, (independent) is the convener of SG4 and without doubt the driving force within the committee.

The other British members, elected from PCL/6 are: the author, David Kerr (PPMA) UK principal expert (manufacturer). Mike Corfield of the Health and Safety Executive (certifier) and David Andrews of the Automatic Vending Association of Britain (other manufacturers).

The rest of the working group, at present, are from Germany, Holland and France. Representatives from Sweden and Italy are expected to join shortly. One thing they all have in common is that they all have indigenous manufacturing interests. Other EU member countries appear to be content to await the final recommendations.

The work

Naturally CEN committees do not want to 're-invent the wheel' and so existing standards are used as a basis wherever possible. In our case the only existing, published standard is the British BS7117, and so this is the base document for our work.

However, many other documents from all over Europe are being used as references whenever possible.

At the first meeting, held in London in June 1993, it was agreed to separate the work for dispensers and shut-off nozzles. It was decided that it would be beneficial for all concerned if the nozzle standard was completed first, allowing these components to be approved before the dispenser approvals started. The first and most important consideration was the 'scope' for the standards.

David Kerr, Engineering Manager, Wayne Autocourt

Defining terms of reference

The scope for the standards has been documented as follows:

- 'This specifies the construction and performance requirements for the safety and environmental aspects for metering pumps and dispensers to be installed at filling stations and used to dispense liquid fuels into the tanks of motor vehicles, boats and light aircraft and into portable containers.'
- It pays particular attention to electrical, mechanical, hydraulic equipment and electrical apparatus installed within, or mounted on, the housings of metering pumps or dispensers.
- The remit applies mainly to hazards related to the ignition of flammable liquids being dispensed or their vapour. It also addresses some environmental, electrical and mechanical hazards particular to this equipment.
- Except where specifically mentioned the requirements apply to equipment suitable for use and storage at ambient temperatures between -20°C and +40°C inclusive, unless otherwise marked.

This applies to equipment dispensing flammable liquids having a flash point not exceeding 100 C but does not apply to equipment dispensing liquefied petroleum gas.

The remit excludes any requirements for metering performance such as those that may be specified under the Measuring Instruments Directive as well as those specified under the Electromagnetic Compatibility Directive.

Vapour collection efficiencies will not be considered at least until the Stage 2 Directive is published.

Nozzles

This European Standard specifies the construction and performance requirements for the safety and environmental aspects for nozzles to be fitted to metering pumps and dispensers installed at filling stations and used to dispense liquid fuels into the tanks of motor vehicles, boats and light aircraft and into portable containers.It pays particular attention to electrical, mechanical and hydraulic characteristics of, and electrical apparatus incorporated within or mounted on the nozzle.

The same wording (as for dispensers) is used in respect to hazards, environmental conditions, the exclusion of liquefied petroleum gas, metering performance and vapour recovery.

Neither documents cover subjects dealt with by other directives. such as vapour recovery. Nor will they address the operation of this equipment on site.

The programme

We have set a target of three years to complete the assignment and publish our recommendations for common standards. At the time of writing we have had six meetings and the work is progressing well.

Once the committee has finished its work, the document will pass back to the work-group, and then eventually to the technical committee. If it is then deemed acceptable the document will be circulated as a Proposed European Norm (prEN) to the national committees, such as BSI (PCL/6), for consideration over a six month period.

Each country will have an opportunity to comment and vote on its acceptance. This ratification will mark our ultimate purpose; the first issue of a European standard for the manufacture of petrol pumps.

Getting down to details

The existing standards or rules governing the design of petrol pumps within Europe have been formulated over the last 90 years or so as an evolutionary process, by intuition, custom and good sense. Although the end result is an excellent safety record of all countries, we are also faced with some differences of approach which must be reconciled.

There are cases where two countries have very different rules for the same situation. Both countries have excellent safety records, therefore who is to say which solution is correct?

There are times of course where both solutions can be incorporated but this is not always feasible. It is also possible that the most 'stringent' rules may be unnecessarily restrictive but it is always difficult to contemplate lowering any standard.

In general there is a feeling that if our standards are safe, we do not really want to see them changed. In fact there is substantial agreement on 80 percent of the present draft document.

The two main points under discussion are in zoning (quantifying how dangerous an area is) and vapour barriers (which are used to restrict zones) where things are not simply black and white.

There are fundamental differences in the way that every country has looked at zoning and vapour barriers and while these issues have been addressed, they still need to be resolved.

Specifications

The specifications for materials used in the manufacture of pumps are also being considered. This covers suitability for cladding and framework and the materials used for piping. This also raises the question for pipes and other components of the maximum pressures allowed within the system. Other aspects include cabling, lamps, motors, identification and labelling.

Although vapour recovery is outside of the scope of this committee, there are a number of measures being considered to improve environmental protection. These include the requirement for fitting non-return valves with bleed valves within pumping systems to ensure that a leaking suction line will drain back to the tank and to minimise spillage when the pump is being serviced. The requirements for fitting membranes and sumps will also be reviewed.

There are a number of issues on which the committee is looking for comment from the users – the oil companies and other interested parties. In particular

the committee is seeking comment on setting the maximum limit for permitted flow rates. Annual inspection can be improved with greater use of facilities for remote testing. This necessitates the introduction of external isolation to allow forecourt site and internal pump wiring to be tested from the kiosk.

Quality testing and measuring progress

In the United Kingdom the close association between the CEN committee members and their national shadow PCL6 allows for a means of reporting back. This provides confidence with the knowledge that ultimately, at the end of the programme, the final recommendations are unlikely to create any real surprises.

Some idea of the progress can be obtained by the thickness of the draft documentation as it becomes increasingly more detailed. Initial specifications and definitions are continuously added to and updated or revisited as various issues impact on different aspects of the standards.

The working language is English which means that members from the continent are having to consider fairly complex issues in a language that is not their mother tongue. This has caused some delay as interpretation of the final wording can give rise to ambiguity and the need for further clarification before the committee can move on.

The important thing is to ensure the continued support and ownership of the final draft by all the participating countries. The committee rotates its meetings around the member countries which helps to encourage involvement while also spreading the burden of travelling.

On collaboration between industry and the legislators

This type of exercise has highlighted the varying degrees of collaboration between industry and government standards authorities in the member countries. In Britain we enjoy close co-operation with and within BSI. We know how it works and who is responsible for various areas of interest. It was quite a surprise to discover that such co-operation, taken for granted in the United Kingdom, is unheard of in some European countries.

In hindsight this is probably one benefit that we can attribute to our heritage in manufacturing engineering. And it goes to show that Britain has a role to play in assisting its European partners in establishing common standards for the future.

The BSI PCL/6 would be pleased to hear from anyone who would like to make any comments on BS 7117 or this work on the new standard. Correspondence should be addressed to: The Secretary BSI PCL/6, BSI Headquarters, 389 Chiswick High Road, London, W4 4AL.

The Scott Guardian: purpose-built for saving lives

Standby ships fight change in law

By Susannah Cardy

'The industry must recognise that people can fall into the water from any offshore installation and therefore you must provide the means of hauling them out again.' A simple enough concept, but Mr Jeremy Daniel, Chairman of the Standby Ship Operators' Association (SSOA), believes it is one which is coming under serious threat.

The traditionally press-shy trade association for British and Irish standby ship operators has emerged from the shadows in order to fight a major battle against a potential change in the law which it believes will risk lives offshore unnecessarily.

The furore, surrounds one single clause in a set of draft regulations, ironically designed to improve safety standards offshore. The cause of all the trouble is Regulation 17 of the proposed Prevention of Fire & Explosion and Emergency Response (PFEER) Regulations, which were issued for consultation by the Health and Safety Executive (HSE) last year. This states that the duty-holder must provide a standby vessel (SBV) for recovery and rescue 'unless equally or more effective arrangements are made'.

According to the SSOA, whose members operate a total of 120 standby vessels in the northwest European continental shelf, the oil companies are lobbying strongly to bring about major changes to the clause. 'UKOOA has told us that it is not happy to have Regulation 17 in there,' said Mr Daniel. The standby ship operators, on the other hand, are determined it should remain unaltered.

At first glance, it is difficult to see what all the fuss is about. 'The employment of a standby vessel must be weighed against alternatives which are equally effective or better,' according to a statement issued by UKOOA. 'The operator should be able to make a free

choice for a particular operation. It is this flexibility which UKOOA is seeking to be provided by these new regulations'. To the untrained ear this requirement sounds remarkably similar to the contents of Regulation 17. UKOOA itself will neither confirm nor deny that the oil companies are lobbying against the regulation. (As their spokesman pointed out, the proposals were still the subject of unofficial consultation as *Petroleum Review* went to press.)

UKOOA objects

Clearly, however, there is a major difference of opinion. UKOOA has confirmed that it 'objects to the current proposals by the HSE because they do not put in place a goal-setting régime and (because) the provision of recovery and rescue arrangements would not be based on risk analysis, in accordance with Lord Cullen's recommendations and modern practice.'

The controversy boils down to the issue of Quantified Risk Assessment (QRA). UKOOA wants the 'freedom and flexibility to apply risk assessment techniques to rescue and recovery and then to apply the best and most cost-effective solution'. It points out that Lord Cullen recommended 'consideration of a total package of facilities and other arrangements for evacuation, escape and rescue rather than a simplistic prescription of standard requirements'.

The SSOA says it also accepts the basic principles behind QRA. Indeed, HSE's new proposals already represent a dramatic shift away from the prescriptive terms of the current legislation which dates back to 1976 and which requires a standby ship to be present within five nautical miles of every installation.

The SSOA's worry, however, is that QRA can be taken too far. 'You may be able to reduce the risk to a very low level but, try as you might, people will still fall into the water,' said Mr Daniel. 'If you're going to use quantified risk assessment for something as fundamental as fishing people out of the sea, you've got to make jolly certain you get your sums right.'

Fears over NNM platforms

The standby ship operators are concerned that the emphasis could move away from SBVs towards alternative but, they believe, less efficient forms of recovery and rescue cover. 'If the implication that an SBV should normally be there is removed from the regulations, it will be very much easier to come up with other solutions,' explained Mr Daniel. The SSOA fears this is particularly likely to happen on low-risk installations, such as not-normally-manned (NNM) platforms, which have small numbers of personnel on board for a short period of time.

The Association already knows of one NNM installation which has been granted a dispensation from the existing regulations on the grounds that a helicopter is stationed on board whenever it is manned. 'This is fine if they are responding to an evacuation but what if the helicopter crashes or somebody falls over the side?' said Mr Daniel.

One of the biggest advantages of an SBV, according to the SSOA, is that it offers rescue cover from an independent source. 'There have been half a dozen incidents of platforms bursting into flames in the UKCS in the past 10 years,' said Mr Daniel. 'Although the risk is small, the SBV represents the only efficient form of rescue in this situation.'

They are also quick and well-equipped. Last March, a scaffolder fell from an installation in the UK sector. A fast rescue craft (FRC), which can travel at the rate of 26 knots, was on the scene within two minutes and the victim was on board the standby vessel one minute later. The vessels themselves meet stringent requirements set out by a Code implementing the recommendations of the Cullen Inquiry and covering a range of issues, from minimum length and speed, to FRCs, overside rescue equipment and medical inventories. There are now 13 purpose-built ships amongst the SSOA fleet, four of which have been built since the introduction of the Code. Crews are English-speaking and trained in rescue and survival. 'The number of helicopters with full safety and rescue equipment and trained crews, on the other hand, is very, very few,' said Mr Daniels.

SSOA: 'You may be able to reduce the risk to a very low level but, try as you might, people will still fall into the water'

Standby ships are also in the perfect position to act as on-scene commander in a crisis, argues the SSOA, and perform a vital secondary role by 'warning off' ships which stray too close to installations. 'This happens at least once or twice a month,' according to Mr Daniel.

Altogether, 84 lives have been saved by standby vessels in the UK sector in the past six years.

Possibility of further changes

The final draft of the PFEER Regulations is due to be passed from HSE to the Health and Safety Commission (HSC) some time this month. 'We believe HSE will be recommending that Regulation 17 should remain in,' said Mr Daniel. It is feasible, however, that further changes could then be made by the Commission or indeed when the Regulations are presented to Parliament, particularly since the new ministers involved are relatively unknown quantities.

The standby ship operators, meanwhile, wait anxiously. They are already suffering from a surplus of vessels, which has helped rates plummet from a peak of £3,500 a day to as little as £1,800 a day. They have also yet to recoup the £200 million spent in recent years on upgrading their vessels in order to meet the recommendations of the Cullen Report.

UKOOA: 'We object to the current proposals by the HSE because they do not put in place a goal-setting régime'

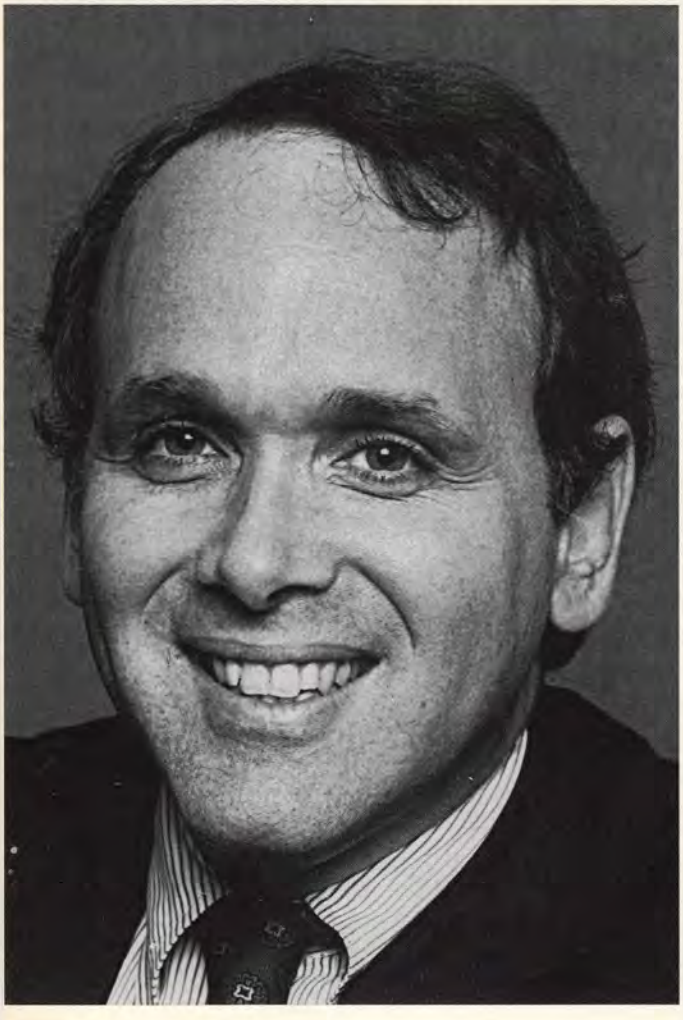
Whatever the outcome, there is evidence to suggest that the true situation may change less than either side imagines. According to HSE, during 1993/94 a total of 113 exemptions were granted from the current requirement to provide an SBV within five nautical miles of each manned offshore installation. Since April this year, another 54 have been granted. Many of these are, of course, multiple applications for the same installation but these figures nevertheless indicate that risk assessment is an already well-established practice when it comes to deciding whether the provision of a standby vessel is strictly necessary.

Russia 2010 and What it Means for the World

by Daniel Yergin and Thane Gustafson, Nicholas Brealey Publishing, London, 1994, £12.99.

Both authors are well-known to readers in, and about, the oil industry: Daniel Yergin's The Prize: The Epic Quest for Oil, Money and Power won a Pulitzer Prize and translated into a gripping television series, and Thane Gustafson's Crisis amid Plenty first revealed the political and technological struggles which terminated Soviet oil expansion in the late 1980s. Both delivered lectures in England this summer, after one of which Mr Yergin told Petroleum Review that for Western hydrocarbon corporations contemplating entry into Russia, 'The biggest risk is the risk of not being there. If you are a major player, you cannot afford not to be there.' The warning is timely for, after much skirmishing within the Russian government and with the leaders of the firms concerned – the 'oil generals' as the book terms them – 9 percent of the shares in the privatisation of Gasprom (95 percent of Russian gas extraction) and 15 percent of Lukoil (14 percent of nationally fast-declining oil output) are being offered to foreigners. Last year 15 million tonnes of oil were produced by 39 joint ventures with Western companies, mostly on production-sharing. To Western executives weighing these options the pages on the oil industry and on the psychology of their Russian counterparts may be the most valuable part of the book.

Daniel Yergin



Because, as the authors point out, oil and gas exports generated about $19 billion of hard currency in 1993, the industry is decisive in the Russian economy and could attract back 'the billions of dollars that Russians are holding beyond their borders' – 'capital hover' as they call it in preference to 'capital flight'. Whether that happens and whether Western investment flows in to net the returns that are potentially and patently there, depends on Russian political, economic and social stability and it is on the relevant forces and players among its 150 million population on the world's biggest territory that the book strikingly innovates. The 'scenario technique' is not of course new – Pierre Wack and EV Newland began it for Shell in the early 1970s and the latter continued it for Cambridge Energy Research Associates, which produced the initial version of this book as a multi-client report. Its novelty lies in a meticulous review of the last years of Soviet power (the book is worthwhile for this alone), the inheritance Russia has from it and the 'prime movers' adapting it and shaping the future.

Messrs Yergin and Gustafson define a prime mover as one 'capable of changing the rules of the game of or moving Russia from one scenario to another'. Among these they identify the President, the Legislature, the bosses of the 'largest ten thousand state enterprises' (being privatised, but to date leaving authority still in their hands), new private entrepreneurs, local political machines (democrats did better in the towns in the 1993 elections, communist functionaries survived better in rural areas and are still postponing private landholding), the military and the security police, and, marginally, political parties (so far only the revived Communist Party, for the demagogic Zhirinovsky runs no party apparat, the reformist parties were routed last December and 'patron-client relations' are more significant than party labels). Hindering and distorting all these forces are a criminal 'mafia' and possibly 'the unorganised power of the mob.' Overall, 'Russia sits in an uneasy void amid four civilisations to which it does not belong: the European American, the Muslim, the Chinese and the Japanese.' Russia, they see, will need capital and know-how from the first and the fourth, but will not become like any of them.

The scenarios that result are revealed in their shorthand titles. 'Muddling down' is Russia much as it is today; the 'two-headed eagle' is the same, but with a more authoritarian government; both allow a market system moderately to improve economic standards. Under the 'time of troubles' the military, and hence defence industry, reasserts its power and rings itself around with nationalism. For the most optimistic scenario, they use the Russian for 'miracle', chudo, wherein natural resources and market-responsive management find a partnership with the West for a consumer-driven, expanding economy. The authors lay no bets as to the actual outcome 15 years hence, but one reflects that the first patron saint chosen by the Orthodox Church of Kievan Rus when, in the last years of the 10th century, it declared independence of Constantinople, was Nikolai Chodotvorets, Nicholas the Miraclemaker.

Michael Kaser, Anthony's College Oxford

Annual Dinner 1995

The 1995 Annual Dinner will be held at Grosvenor House, Park Lane, London W1 on Wednesday 15 February at 6.45 for 7.30 pm. Dress will be dinner jacket with decorations.

HOW TO APPLY FOR TICKETS

1. Applications will be made by completing the form below and sending it with remittance by **Friday 21 October 1994.** (Applications received after this date will be considered separately).

2. Collective (Company) members may apply for one or more tables of 10 seats or less than a complete table. Individual members may apply for a maximum of four tickets. *However, as demand for places usually exceeds capacity, it may not be possible to grant requests in full. It is therefore advisable not to invite guests until tickets have been allocated and this will be completed by* **4 November 1994.**

3. Allocation of tickets will depend on the degree of involvement in IP affairs.

4. Tickets will not be sold to persons or companies who are not members of The Institute of Petroleum.

5. **The price of a ticket is £114 (individual members) and £155 (non-members), plus 17.5 % VAT.** It is the responsibility of applicants to establish whether or not their guests are individual members. Collective members should note that only the company's nominated representative to the IP is entitled to the reduced individual member rate, other employees or guests must be paid for at the non-member rate, unless they are individual members in their own right.

6. Successful applicants should submit by **Friday 13 January 1995** a full list of guests (names only, not companies) including decorations. Names submitted after that time cannot be included on the Guest List.

7. Companies or individuals wishing to share tables must state this when requesting tickets, as **changes cannot be made after tickets have been allocated.**

8. **Orders for tickets cannot be accepted over the telephone.** The correct remittance must accompany the application form. Tickets cannot be allocated without payment, as no invoice will be issued.

The Institute of Petroleum
61 New Cavendish Street, London W1M 8AR
A charitable company limited by guarantee
Registered No 135273, England
For enquiries *ONLY*: 071 467 7100

This is not a tax invoice

Application Form — IP Annual Dinner, 15th February 1995

To: Caroline Little, Conference Officer
The Institute of Petroleum, 61 New Cavendish Street, London W1M 8AR UK

I wish to order _____ tickets and enclose my remittance, made payable to The Institute of Petroleum.

My application is made: as an individual member* / on behalf of a collective member*. (*delete as appropriate)

Individual members_____at **£114** = £_____

Non-members_____at **£155** = £_____

VAT at 17.5% £_____ **Total** = £ _____

NAME: _____ **IP MEMBERSHIP NO.**** _____

COMPANY: _____

ADDRESS: _____

_____

TEL: _____ **FAX:** _____

** please telephone Membership Department if unknown **Good, clear photocopies of this form are acceptable**

Nothing to Hyde

By Susannah Cardy

What do you imagine the man who project-managed BP's Hyde field development so successfully is up to now? Attempting to repeat that triumphant alliancing experiment on the Andrew project perhaps? Or introducing the concept to some far-flung corner of the company's global empire? Not a bit of it. BP's David Finch is actually in Norway for the next three years. And his job? To give away all the secrets of his success to other oil companies!

Strictly speaking, this is only half his job. The other half involves picking up know-how from a group of companies which has decided that sharing project management expertise is vital to the future of Europe as an oil province.

The 'unique' organisation behind all this baring of souls is the European Institute of Advanced Project and Contract Management (EPCI). By drawing together the 'very best' in the business, it aims to improve competence in managing complex capital projects right across the European board.

Hyde project manager, David Finch, in Norway

There are just two pre-requisites for entry into this exclusive club: the first is that each member must have 'exemplary expertise' in a particular aspect of project management; the other, that they are prepared to share it lock, stock and barrel with the other members, and ultimately with the whole of the European industry.

Co-operation between the giants

Never before has such a strong emphasis been placed upon co-operation between the oil giants. It's a courageous step when one considers that project management has traditionally been viewed by oil companies as an integral part of their narrow competitive edge. So isn't there a temptation to hold back just a little? 'There is obviously a contradiction here but it's not one that I've let worry me,' insists Mr Finch, who is heading up the new initiative. 'We really are holding nothing back – everything we know will be willingly shared. BP now sees its competitiveness not in how it manages projects, but purely in exploration and the reservoir side of the business.'

For members of EPCI, the fight is not with each other but with the rest of the world. 'This is a fairly parochial exercise,' says Mr Finch. 'I want to make sure that Europe remains an attractive place for international investment. If there are any losers from this exercise, they will be the emerging areas of the world that are now trying to attract capital.'

The membership, which includes Statoil, Amerada Hess, Norsk Hydro, Aker, Esso Norge and Foster Wheeler Energy, has a distinctly Norwegian flavour at present. Other oil giants, such as Shell, have been invited, but are content to observe progress from the sidelines for now. After all, there are other on-going initiatives that recognise the need to improve project management techniques - not least CRINE.

EPCI, however, claims its 'cross-coaching' approach is unique. 'Underlying this broad-based initiative is a recognition that no company is best in every aspect of project and contract management,' says the organisation. 'Everyone has something to learn as well as something to teach.'

Information is passed via company project specialists who have practical, hands-on experience. Executive 'thinktanks' and professional workshops are used to transfer expertise and participants are encouraged to explore failures as well as successes. There will also be an annual conference next April.

'Only the very best'

Membership currently stands at 12. The plan is to encourage others to join but only the right ones. 'We're intending to extend the membership by about two companies a year but we're not interested in increased numbers for increased numbers sake,' says Mr Finch. No companies have been rejected outright. However, some have progressed a certain way and have now come to a halt. This could be because they are not prepared to give away their competencies or because they are unsure of the contribution they can make. 'The principle,' says Mr Finch, 'is to gain access to the really innovative, high-performing end of project management - to the very best in the business.'

For this reason, EPCI's main thrust is to broaden its

Hyde-BP's showcase platform

geographical stretch. 'We have no French or Italian members as yet, but our vision is eventually to go Europe-wide,' explains Mr Finch. 'By bringing in more countries, we're guaranteed a different perspective on issues.'

But for now, the exchange is largely between Britain and Norway. Perhaps Norway's biggest advantage over its North Sea neighbour is its team spirit. Britain's strengths, on the other hand, lie more in its entrepreneurial approach. 'We tend to be good at finding new ways of tackling projects,' says Mr Finch. He's far too modest to say it but if there was a thought bubble above his head at that moment, it would surely say 'HYDE'!

'We really are holding nothing back - everything we know will be willingly shared'

Do US pipeline oil spill response plans fit the bill?

By P S Adam

On 16 September a Federal Jury in Alaska ordered the Exxon Corporation to pay a record $5 billion in punitive damages to approximately 34,000 Alaskan fishermen and other residents who claimed thay were harmed by the oil spill in Prince William Sound more than five years ago. This was the largest award ever given in a pollution case in the United States, far greater than the next largest: $470 million awarded victims of the Union Carbide Bhopal disaster in India in 1984; and the second largest in a US civil case, the record being the $10.5 billion verdict against Texaco in 1985 due to its contract dispute with Pennzoil over the contested purchase of Getty Oil. After the jury found for the Alaskan plaintiffs, Exxon's stock rebounded $1.50/share. Although Exxon's liability in this matter may be resolved, US oil companies who must comply with the terms of the Oil Pollution Act (OPA) enacted in 1990 in response to the EXXON VALDEZ spill, will have to deal with the incident's political consequences long after any trace of crude oil has disappeared from the shores of Prince William Sound or waters off the Alaskan coast, and probably long after the last dollar awarded has been spent.

The US Department of Transportation, DOT, has begun sending out report cards grading crude oil and refined product pipeline operators on their Facility Response Plans (FRPs) – documents required under the terms of the Oil Pollution Act (OPA), which explain what companies intend specifically to do in case of significant petroleum spills.

As with other anti-pollution mandates, the costs of compliance are significant; there are 220,000 miles of petroleum-carrying pipelines in the United States, and the new requirements set forth in the OPA are complex and extensive. Ever since the *Exxon Valdez* incident in 1989 in which millions of barrels of crude spilled out of the ruptured hull of a tanker into the waters of Alaska's Prince William Sound, the prevailing political predisposition, shared across a wide band of the US political spectrum, holds that more Federal environmental regulation is better - at least as far as oil is concerned. There are those who have their doubts, however, that much of the Federally-mandated environmental effort will prove ultimately to be cost-effective – at least as far as cleaning up after oil spills is concerned. The process of meeting these tighter regulatory requirements on oil transportation and storage facilities has, however, just started in the United States; it may well be a harbinger of things to come, world-wide.

Wide disparity

With respect to the plans themselves, a source involved with the FRP review process indicates there is wide disparity in the quality of the response plans submitted to DOT so far. Of the more than 700 which have been reviewed, the department has given out only a few A's, a preponderance of C's, C minuses and D's, and, here and there, an F. Although DOT has the authority to shut down pipelines whose response plans do not meet Federal requirements, officials are unlikely to have to take such action. So far the plans have been reviewed in terms of meeting standards of minimal adequacy only, the department is still refining its approach, and operators have until next February to comply fully with the evolving guidelines. Between now and then DOT will work closely with the industry to help bring the FRPs, hopefully all of them, up to an acceptable standard.

Applicability

The spill response plans must meet standards set forth in an Interim Final Rule (IFR), published by DOT's Research and Special Programmes Administration in January, 1993. These apply to all onshore oil pipelines, whether or not they were previously exempt from existing federal pipeline safety regulations.

According to the IFR, pipeline operators must delineate spill response zones and file a different plan for each. Zones are determined by evaluating available spill response capability, resources and geographic characteristics such as proximity of navigable waters, public drinking water intakes and environmentally sensitive areas; they are intended to correspond to planning areas in existing pipeline safety plans.

The IFR requires operators to identify pipelines capable of causing 'significant and substantial harm' to the environment. The 'sig and sub' designation applies to pipelines having a diameter of more than six and five-eighths inches, whose length is greater than 10 miles and in which any of the following conditions exist: a section of the pipeline has experienced a spill of 1,000 barrels or more within the past five years or has experienced two or more reportable releases within the previous five years; a section contains electric resistance-welded pipe manufactured prior to 1970 and operates at a maximum pressure corresponding to a stress level greater than 50 percent of the specified minimum yield strength of the pipe as defined in the rule; is within a five-mile radius of potentially affected public drinking water intakes and could be reasonably expected to reach those intakes; or is within a one mile radius of potentially affected environmentally sensitive areas and could be reasonably expected to reach those areas.

Worst case scenarios

The response plans are based on estimates of a Worst-Case Discharge, defined as the largest volume of oil that could reasonably be expected to be released in a single event within a response zone. The operator can base his Worst-Case Discharge estimate on historical evidence of prior discharge volumes, detection time and shut-down

time multiplied by flow rate plus subsequent drainage volume, or, in the case of storage facilities which are part of a pipeline system, the largest storage tank's capacity over and above secondary containment capability.

With respect to mitigation and clean-up activity, FRPs have to identify 'Qualified Individuals' who have full authority to implement the plans without delay. Pipeline owners and operators must specify procedures and identify equipment sufficient to contain, reclaim and store spill volumes — as well as list personnel capable of bringing the response activity off within a strictly specified schedule. FRPs must also describe in detail equipment maintenance and testing procedures. All resources specified must belong to the operators themselves, private cooperative response organisations or contractors; public resources cannot be included in the response plans. Operators must engage in response activity training and drills and update plans periodically.

Consistency with other response plans

In addition, FRPs have to be consistent with US National Contingency Plans and Area Contingency Plans (ACP) which involve, among other agencies, the US Coast Guard, the Environmental Protection Agency (EPA) as well as local and State environmental authorities.

As part of the US National Contingency Plan, the Federal government predesignates On-Scene Coordinators (OSCs) to coordinate, direct and monitor oil spill response activity. US Coast Guard OSCs handle 'coastal zone' areas and the EPA OSCs, the 'inland zone' activity. For this purpose, the Coast Guard has delineated 47 separate response areas corresponding to specific ports, harbours and major inland waterways, and the EPA 13, corresponding to 10 standard US regions, plus three special sub-areas for Puerto Rico and the US Virgin Islands, Alaska and Hawaii.

In the event of an oil discharge, the OSC has broad authority to direct responsible parties to contain and remove the spill. Coast Guard officials can access the resources of the National Response Unit which administers special Coast Guard Strike Teams and can direct regional commands to support clean-up activity. EPA officials have access to their own Environmental Response Team as well as Scientific Support Coordinators who can provide advice and assistance regarding the potential effects of a discharge and in formulating response strategies.

Local and State officials become involved in oil spill clean-ups through Area Contingency Plans, drawn up by committees which include federal, state and local governmental representatives. Their activities fall under the direction of Coast Guard or EPA officials, and their contingency plans identify areas of special economic or environmental interest; describe the responsibilities of response plan-holders in removing discharges and reducing threats of spills; list local prevention, mitigating and removal equipment; describe procedures for obtaining permission for use of dispersants; and describe in detail how the ACP is integrated into other spill response plans. Forty-five area committees have so far submitted plans for Coast Guard review.

OPA cost-effective?

Is all this new and complex US Federal government activity cost-effective? In a recently published book, Crude Awakening: The Oil Mess in America, published by Friends of the Earth, Jack Doyle attributes a deteriorating US oil infrastructure — leaky wells, 650,000 of them, 2,500 marketing terminals, 700,000 above-ground storage tanks, in addition to the vast network of pipelines — to the US-based petroleum industry's disinvestment in the United States over the last decade. He charges that in their rush to invest overseas, where environmental regulations are more lax, the US industry has all but abandoned maintaining its facilities at home.

'There is a wide disparity in the quality of the response plans'

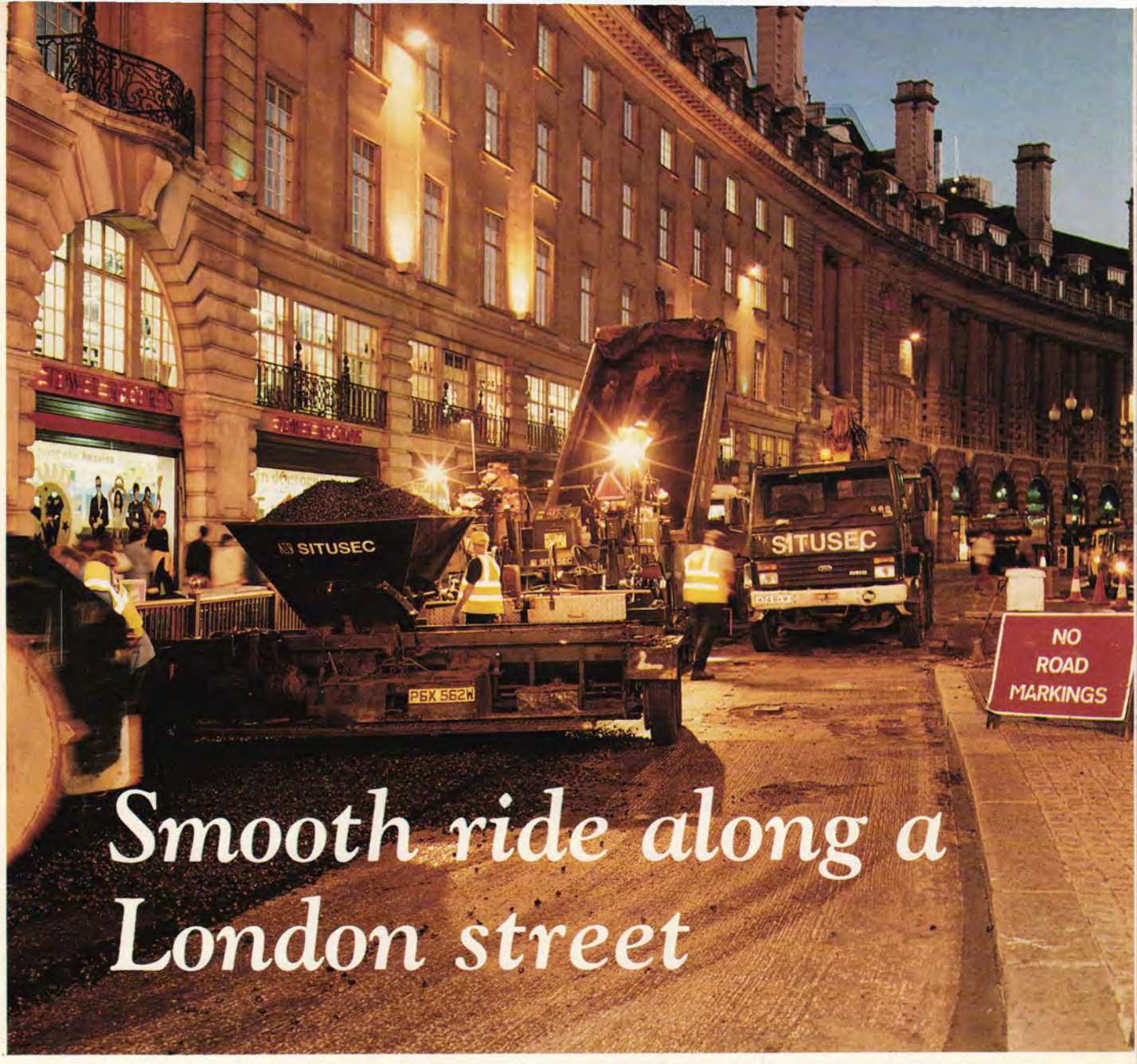
As a result, he states, 'Every year, the energy equivalent of at least 1,000 *Exxon Valdez* oil spills, roughly 11 billion gallons is leaked, spilled, thrown out, used inefficiently or otherwise dissipated somewhere in the US oil system.' This estimate seems far-fetched; the possibility that US oil companies would allow $8 billion worth of oil just to disappear in the ground — nearly as much money as the 22 largest US oil companies earn in a year — seems remote. That amount, $8 billion, is what, according to American Petroleum Industry figures, the US petroleum industry spends on the environment annually — more than the EPA. And the API estimates that by the year 2000 the industry's environmental spending will represent 12 to 17 percent of all US outlays for environmental purposes.

Not all of that may prove to be wise, however. In another recently published book, Degrees of Disaster, Prince William Sound: How Nature Reels and Rebounds concerning the *Exxon Valdez* catastrophe, Jeffrey Wheelwright argues that the clean-up did more damage than the spill itself. The sensible response to the incident would have been to do nothing. This may not be the view of people who saw television pictures of shoreline wildlife encrusted in crude oil; the fact of the matter is, however, the intensity of the clean-up contributed more to long-term environmental degradation of the shore area than anything else. This does not justify industry's ignoring the damage that can be caused by indifference to the consequences of pipeline, or any other type of spills. Recent reports about lack of industry action in response to obvious deterioration of the Trans Alaska Pipeline are troublesome but environmental and regulatory overkill may well continue to do almost as much harm as good.

'Is all this new and complex US Federal government activity cost-effective?'

International replication?

In any event, the cumbersome and complex regulatory requirements being placed on the US petroleum industry's transport and storage operations are bound to be replicated, at least to some extent, in Europe — perhaps more judiciously. And because enormous potential environmental liabilities have been a major factor impeding the involvement of international private oil companies in Russia and the other states formerly of the Soviet Union, international authorities may well try to impose similar regulatory systems there which could rival anything created by the old Soviet-style centralised administration. It is after all just a short hop across the Baring Strait from Alaska to Russia.



Smooth ride along a London street

In the heart of the West End in London a new road surface has been laid, with the aim of cutting the cost and congestion of road repairs – and at the same giving London drivers a more comfortable ride.

Westminster City Council has resurfaced Regent Street with a pioneering asphalt mix incorporating a new super tough bitumen, Shell Multiphalte. The new surface is the first commercial use of the new bitumen in Britain. Shell Multiphalte bitumen has been specially developed to have increased resistance to road rutting, one of the main causes of premature road failure. Road failure can lead to an uncomfortable ride, expensive vehicle repairs, constant road repairs and the traffic congestion this causes. Rutting is caused when wheel tracks form grooves, which can quickly deepen as traffic is channelled into them.

Mr Mike Freestone, Contract Director at Westminster City Council, said, 'Regent Street hadn't been re-surfaced for over 20 years and was suffering from severe deterioration caused by a combination of heavy traffic – including London buses – and from work by statutory undertakers like British Gas. A strong rut resistant asphalt mix was needed to deal with the heavy traffic. Shell Multiphalte seemed to offer the right qualities. The material proved easier to lay than expected, with the work taking place primarily at night to minimise traffic disruption.'

Mr David Weston, Managing Director, Shell Bitumen, said, 'We're absolutely delighted that Westminster City Council has given the first commercial use of our new Shell Multiphalte such a prestigious address. We hope Regent Street will be a model for other local authorities who are also looking to save on road maintenance costs, and give drivers a smooth ride on a tougher, longer lasting road surface.'

The resurfacing work was carried out by Situsec Contractors Limited, which is contracted to Westminster for all the borough's highway repairs. The blacktop for the contract was supplied to Situsec from RMC's Dagenham plant. All Regent Street from Piccadilly Circus to just north of Oxford Circus was resurfaced mainly at night between the end of June and the end of July – the height of the tourist season . While shoppers, tourists and commuters were all inconvenienced when the work extended into the daytime, this enabled the project to be completed three weeks ahead of schedule.

Mr Alan Pledger, General Manager, Sitsusec, said, 'We were able to complete the project so efficiently because we found Shell Multiphalte extremely easy to work with. The Regent Street asphalt was far easier to lay than our usual mix; it rolled well, accepted chip-

The A38 road near Burton on Trent on a wet day. Lefthand carriageway — hot-rolled asphalt; righthand carriageway — trials of new Shell bitumen.

pings readily and stayed pliable because it held its heat well.'

The new surface has been welcomed by one London cabbie, Mr Monty Schiman, who said, 'Regent Street, a street selling designer clothes, will now have a designer road. Anything which improves mobility and cuts congestion in the capital is good news. Having to cope with uneven roads, potholes, roadworks and traffic congestion are some of the worst parts of the cab driver's job and can lead to frustration and costly vehicle repairs.'

A poll of a group of London cab drivers estimated that vehicle damage from rutting, bumps and holes worsened their annual maintenance bills of some £1,000 a year. They said that shock absorbers at £120 a pair and springs at £90 a pair would need replacing far less often if London had more durable road surfaces. Nuts and bolts on their cabs were always working loose because rutting and cracking caused so much vibration.

Before its first UK commercial use on Regent Street, Shell Multiphalte had been assessed in both laboratory tests and in 17 separate road trials around the world, including a six-year test on the A38 near Burton on Trent in Staffordshire (see *Petroleum Review*, August 1989).

The British Road Federation has estimated that if better roads reduced vehicle maintenance bills by just 1 percent, UK motorists would save over £40 million a year.

Trouble on oiled waters? The impact of EC competition law

It usually comes as a surprise to those involved in providing maritime transport services to the gas and petroleum industries, to find that they must have regard to the complex rules of competition enacted by the European Communities. On the 1 July 1987, a landmark regulation came into force applying the competition law principles of Articles 85 and 86 of the EC Treaty to the maritime transport industry, Council Regulation 4056/86. This regulation gives the Commission's Directorate-General for Competition (DG IV) sweeping powers to apply EC competition law to the maritime industry. Recent years have seen an increasing pace of decisions from Brussels.

The EC rules on competition are enshrined in Articles 85 and 86 of the Treaty of Rome. Article 85 is aimed at commercial agreements which have a significant impact on competition and which consequently affect trade between member states. Any agreement in breach of Article 85 is automatically legally unenforceable in any court of any EU member state and makes its members liable to fines. However, DG IV may exempt agreements, provided they are notified and that the parties to the notified agreements can satisfy certain criteria. These are (a) that the notified agreement promotes technical and/or economic progress; (b) that it gives transport users a fair share of the benefit; (c) that the restrictions on competition contained in the notified agreement are the indispensable minimum to achieve (a) and (b); and (d) that competition is not eliminated in the relevant market.

Notifying an agreement and obtaining an exemption is a time-consuming and therefore costly process. To cut down on red tape, the Commission has adopted the practice of creating so-called 'block exemptions', which deem certain types of agreements to be automatically exempted without the need for notification. In the maritime sector, there is an important and wide-ranging block exemption for liner conferences and, before the end of 1994, a new block exemption for joint ventures or consortia agreements will come into force.

Article 86 controls monopoly and quasi monopolies to situations, (called 'dominant positions' in EC jargon). Undertakings or associations of undertakings are allowed to have dominant market positions, but Article 86 prohibits their abuse by practices such as predatory pricing or refusals to deal. It is not possible to obtain an individual exemption for breaches of Article 86.

A common misconception in bulk and semi-bulk trades is that Regulation 4056/86 does not apply to their operations, since that regulation specifically exempts tramp shipping. However, the regulation defines tramp shipping essentially as a transport service where freight rates are freely negotiated case by case, in accordance with the conditions of supply and demand.

The definition of tramp shipping in Regulation 4056/86 does not therefore cover agreements for an annual service contract where the price for maritime transport services will be negotiated for the whole period of the contract, and not case by case. A number of LNG or tanker vessel pools are thus subject to the competition rules of the EC Treaty.

Shipping lines which operate in these types of liquid gas or tanker pools and where their services are priced according to an annual service contract or similar, should look very carefully at the impact of EC competition rules to their agreements. Unless they satisfy the criteria for exemption, they risk infringing EC competition rules.

Infringing EC competition rules has two consequences.

The Commission has extensive powers of investigation and sweeping information gathering powers (including DG IV's famous 'dawn raids'). If it finds that Article 85 or 86 has been breached, it can order the termination of the infringement and impose suitable fines on the infringers. Fines of £10 million or above are common. The Commission may add to its own initiative where it suspects infringement, but more often it is activated by complaints from transport users or competitors who claim to be suffering from anti-competitive behaviour.

There is also the other threat of National Court proceedings brought by an aggrieved shipper or competitor. All the National Courts of the European Union must apply the competition rules of the Treaty of Rome and cannot give effect to an agreement which has not been exempted by the Commission, (either by individual decision or by compliance with a block exemption). There has been a number of cases recently where parties have defaulted on their agreements, claiming that the provisions of the agreement could not be enforced against them because of non-compliance with EC law. While wholly unmeritorious, the courts have had no choice but to uphold such 'technical' defences, since they are required to enforce EC competition law even if it contradicts a provision of their national law. The only remedy is to amend the agreement to comply with EC rules or to notify the agreement to the Commission with a request for exemption.

Philip Ruttley,
Partner, Watson, Farley & Williams and
Secretary General, European Maritime Law Organisation

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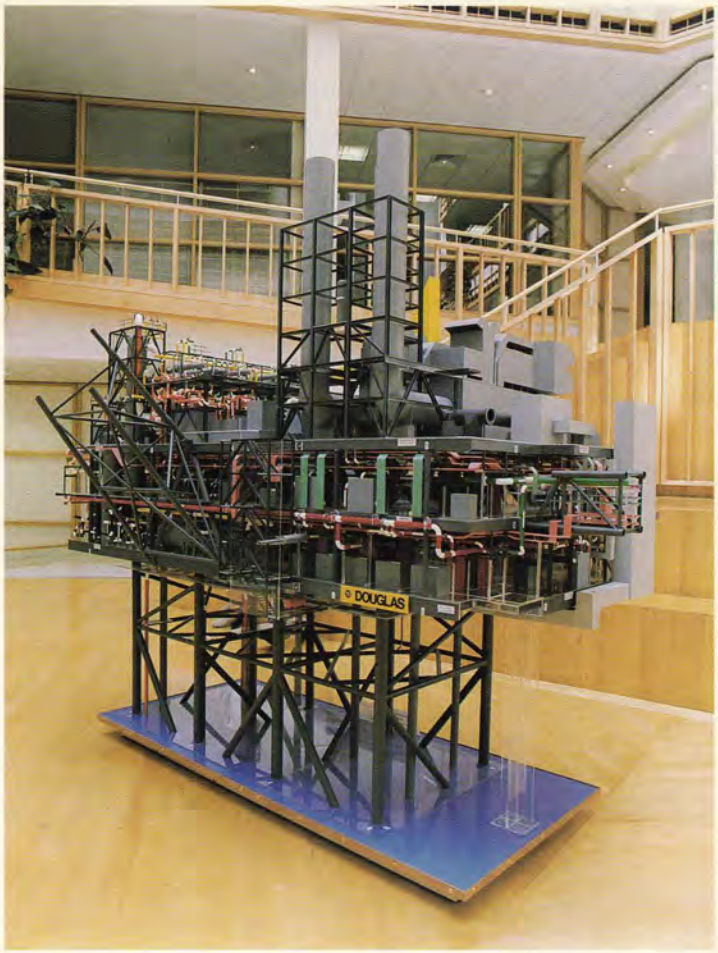
CRINE culture in Liverpool Bay

By Carol Reader



Model of Douglas central processing deck

What is impressive about Hamilton Oil's complex development in Liverpool Bay is the scheme's dedication to the policy of cost reduction – the movement known to many as CRINE or Cost Reduction in the New Era. Here can be seen the practical implementation of CRINE principles in the field. As a consequence, on this scheme, cooperation is the watchword, day-to-day problems evaporate, costs are down and the project marches on.

Hamilton personnel talk enthusiastically about an 'exciting time' and the 'buzz' around the project, as a new culture emerges. Working on the theory that 'You can always do better', in the words of Mr Roger Pearson, Project Director, Hamilton Oil, the operator set out to work with contractors to achieve just that. In particular, the company favoured integrated working, without a client/contractor divide. As a result, Hamilton personnel work alongside contractors' staff, sharing documentation, records and accounts. Already the operator has saved 10 percent of his £900 million costs, without cutting into contractors' profits, and says that he is looking for 20 percent. On one section of the project a 25 percent increase in productivity has been achieved.

Mr Pearson admits, however, that his message has not got across to all the companies involved on the scheme. To some of the companies involved, the new culture is still too radical, being utterly at variance with entrenched traditional practices.

On this development, Hamilton Oil, a subsidiary of BHP, is operator, with a 46.1 percent share. Other partners are LASMO North Sea plc (25 percent), Monument (Liverpool Bay) Petroleum Ltd (20 percent) and PowerGen (North Sea) Ltd (8.9 percent).

Situated some 20 miles offshore and close to shipping routes into Liverpool itself and the Mersey, it is a complicated development of four fields with a central network, called the Douglas complex, in Block 110/13 from which oil will be exported to an offshore loading unit in Block 110/8A. Two additional satellite platforms, Hamilton and Hamilton North, will also be situated in Block 110/13 and another on Lennox in Block 110/15. Gas gathered from these three fields will be exported via Douglas to an onshore terminal at the Point of Ayr, North Wales. Oil from the Douglas and Lennox fields will be exported via the offshore loading unit.

First oil and gas production from all four fields is scheduled for the end of 1995. Peak oil production rate is estimated at 70,000 b/d, to be reached in 1996.

The Lennox field, located just five miles from the Lancashire coast faces unusual problems because the water depth is only 7.2 metres, necessitating specialist equipment and work practices. Initially it will produce oil for seven or eight years and then change to gas production.

Hamilton reports that all aspects of the development are on schedule.

Highlands Fabricators are well advanced with their £30 million contract for the construction of jackets, piles and topsides for the Douglas wellhead tower and for satellites Hamilton, Hamilton North and Lennox as well as the jacket and piles for the central production platform. Mr Pearson commented particularly on the 'superb' work of this contractor and on the good relationship between the two companies.

Consafe Engineering is also on schedule with its conversion of the rig Morecambe Flame into the Douglas accommodation module. This work is due for completion in April next year.

The oil from Douglas and Lennox will be exported by shuttle tankers from a storage barge, linked to the platform complex by a 7-mile pipeline. This installation is situated equidistant from the Isle of Man and Liverpool, a distance of about 20 miles.

The contract to build the double-sided storage barge has gone to the Japanese who will build it in Brazil for delivery in 1995. It will be permanently moored to a catenary anchor leg rigid arm mooring system, known

Pipeline connecting Point of Ayr gas terminal with Connah's Quay powerstation

as CALRAM. Capacity of the storage is 870,000 barrels. As yet, no decision has been taken on whether to buy or charter the shuttle tankers – in any event BHP proposes to vet them carefully on safety and environmental grounds.

Development drilling is starting shortly on Douglas and will continue on various locations until late-1997. The Lennox drilling contract has not yet been awarded – drilling is scheduled to start in early 1995.

All pipeline laying offshore has been completed by Costain Oil and is now being tested. The onshore 24-inch gas pipeline to Point of Ayr is under construction. Superimposed on this gas line are two small diameter condensate pipelines. Its route was chosen to minimise disruption and disturbance to sand dunes, to holiday-makers' caravan parks and local residents. At one point the route was moved in order to avoid disturbing areas which are sensitive from biological or archaeological viewpoints – the initial route crossed abandoned lead mine workings.

The terminal at Point of Ayr is now 30 percent complete. First gas is expected through the pipeline to Connah's Quay in December 1995. During the following six months PowerGen will be able to test and commission plant and equipment at its new CCGT power station, presently under construction. Contract sales of gas to PowerGen start up in mid-1996, reaching a peak rate of 300 million cubic feet per day.

The 'Smart' way to install decks

A French company has developed a floatation method capable of installing the heaviest of integrated decks using the energy of the sea. It has also picked up the coveted Innovation Award at this year's Offshore Northern Seas (ONS) exhibition in Stavanger.

'Simple, innovative, with substantial potential for cost reductions.' This is how Jury Chairman Farouk Al-Kasim described ETPM's winning entry in the ONS innovation competition.

'This new system uses forces of nature to stabilise the deck during installation'

The 'Smart-Leg' system gets the prize for successfully addressing the problem of positioning a heavy deck onto a jacket in open seas - traditionally a complicated affair. By far the cheaper option is to use a conventional cargo barge, but this method is largely limited to sheltered waters where the barge can be ballasted. In open waters, the long swell effects induce unacceptable shocks during the mating operation, a problem compounded by the difficulty of maintaining the barge steady inside the jacket. The most common option, therefore, is to use a derrick barge. But this method has problems of its own.

'Deck design has been greatly constrained by the lifting capacity of existing derrick barges,' according to Smart-Leg designer, Mr Jean-Paul Labbe. 'They generally can't lift the deck in one piece, which wastes a lot of time, and they are up to 30 percent more expensive than conventional barges. In the remoter areas, lifting vessels are often simply not available.'

Eliminates shock

ETPM's solution is a device which eliminates shock. Smart-Leg takes its lift energy from wave movements and uses force of nature to stabilise the deck during installation. This allows the full deck package to be safely installed using only a conventional (and cheaper) cargo barge. 'As a result,' says Mr Labbe, 'a deck weighing more than 20,000 tonnes can be installed in a two metre/10 second swell.'

The principle used is that whatever the size and mass of a heaving or surging body, its kinetic energy is zero when its velocity is zero. Smart-Leg and its accompanying stabilisation device, Smart-Fin, are based on a jacking device that can detect the outwards zero speed of the ram and maintain that ram position afterwards. The method does not have to rely upon large hydraulic power, high capacity accumulator or large or fast ballasting capacity in order to beat the swell factor.

How does it work?

The first step is to stop the surge motion of the cargo barge after she has entered the area between the legs of the jacket. This is achieved using an accompanying stabilisation device to Smart-Leg - Smart-Fin. The device consists of four self-contained skids which are welded to the deck of the barge. Each skid contains a swing-type cantilever bracket that can be deployed and extended once the barge has entered the upper section of the jacket. The brackets are brought into contact with the jacket legs by the jacking device. Non-return valves located between the high-pressure chamber and the low-pressure accumulator of the jacking device are then activated, thus stopping the barge surging without any shock to the structure.

The barge and deck are now only subject to vertical swell and mating can begin. One Smart-Leg jacking device is pre-installed in each of the vertical legs of the deck. The rams are then extended until they rest on the jacket legs. The barge and the deck can then oscillate with the swell until the peak of a rise, when the non-return valves are activated and the heaving stops - again, without any shock to the structure.

The deck is then smoothly lowered to rest directly on top of the jacket legs, the barge is released and the legs can be welded to the jacket. The jacket devices can be retrieved and re-used.

Stiff competition

The concept was up against stiff competition from shortlisted candidates, Agip SPA, Cooper Oil Tools, Mobil Exploration Norway, Alcatel Cabel Norge and Fibre Optic Well Monitoring Systems. The jury singled out Smart-Leg because it 'combines a range of well-known technology solutions with experiences from marine technology in order to reduce operational risks compared to traditional crane operations'.

Both systems are still in model-form at present. 3D computer simulations are due to be completed soon and tanktesting will begin this winter using a reduced scale model. If all goes well, this innovative new method could be in use at sea as early as 1995, liberating both deck installation and design.

● **Susannah Cardy**

Rates and the 1995 rating revaluation – the Scottish dimension

By Charlie Crighton, Director of Rating, Chesterton

Property rating is a fairly dry subject but rates will become a very topical subject over the next year or so. The forthcoming rating revaluation of all non-domestic properties in the United Kingdom will take effect from 1 April 1995, when all rateable values will be updated from a current base date of April 1988 to a new date of April 1993.

For petrochemical, chemical and refining companies based in Scotland, changes to the rating system look set to have a dramatic impact on their property values and rate liability. Much controversy has surrounded the rating liability of specialist properties in this sector, mainly because the Scots believe their liability has been substantially higher than that of their compatriots in England.

True comparisons of liability in Scotland and England have been difficult in the past because of differences in valuation dates, legislation, the valuation of plant and machinery, rate poundage, valuation practice and, more materially, the presence of industrial de-rating allowances in Scotland only.

The cry for harmonisation of the rating systems north and south of the border has been heard for over 10 years now, and pressure from ratepayers resulted in the issue of legislation to coincide with the 1985 Revaluation in Scotland. In theory, this enabled a fairer comparison of rating assessments in Scotland and England but diifferences in, for example, valuation practice, made this unworkable despite being tested in the courts.

Further efforts were made in 1990, when liaison between assessors and district valuers resulted in some harmonisation in values of similar subjects, but it largely failed to impact on the petrochemical and refining industry. Part of the 1990 changes involved introducing a Uniform Business Rate (applied to rateable values) throughout England but, surprisingly, in Scotland, different local authority areas continued to apply various levels of rate poundage. This subsequently produced wide variations in rate liabilities, even on similar subjects.

Following the 1990 Revaluation – the first UK revaluation for 17 years – pressure from oil and petrochemical companies showed no signs of abating as they continued to demonstrate relatively high rate burdens in Scotland. Against this background and in the run-up to the next revaluation in 1995, the government has been forced into several temporary and permanent measures to correct the imbalance in rates paid by the specialist oil and petrochemical sector:

1. The introduction of common UK legislation on the valuation of plant and machinery for rating.

2. A recommendation that the valuation authorities agree on a common valuation approach to specialist properties. This has resulted in the establishment of a working group of the Valuation Office Agency and Scottish Assessors to agree on a common valuation approach and methodology for the rating of specialist properties throughout the United Kingdom.

3. The introduction of a temporary, but special, 45 percent de-rating relief to certain qualifying oil-related and petrochemical plants in Scotland. This relief was fixed for the years 1992/93, 1993/94 and 1994/95 rate years. Examples of qualifying plants are BP at Grangemouth and Exxon's plant at Mossmorran, Fife.

4. The prescription of a common de-capitalisation rate to arrive at rateable values (equivalent to rental estimates) for specialist properties, based on estimated costs of construction.

The temporary de-rating relief was an interesting method of reducing rate liability to equalise the burden of the oil and petrochemical industry north and south of the border. It effectively gave this sector a 35 percent higher rate discount than that enjoyed by other industries in Scotland (currently 10 percent for 1994/95 rates year).

Whilst the discount was given to avoid penalising Scottish plants compared with equivalent plants in England, the size of this discount was very subjective in view of the many differences between one plant and another. It is difficult to obtain true comparisons as no two plants are exactly alike. It will be intriguing to see how this discount is dealt with at the 1995 Revaluation, given that the government is committed to removing all forms of industrial de-rating relief as part of the harmonisation process.

New plant and machinery law

With the 1995 Revaluation fast approaching, the government has now also produced draft legislation relating to the valuation of plant and machinery, which contains lists of plant machinery and equipment deemed to be rateable, along with buildings and other items. This mirrors the legislation about to be enacted in England and Wales. As well as providing a common legislation base, the new law seeks to update the definition of rateability to cater for modern plant and machinery. The legislation removes certain items from rating while introducing new items which will now become rateable.

On balance, the new plant and machinery legislation is likely to impact favourably on Scottish industry. The size limit governing the rateability of major items of plant will be increased from 200 cubic metres to 400 cubic metres, removing, for example, certain towers, columns and tanks which are currently rated.

To counter this, other items will be brought into rating that have previously been excluded. Notably, the range of building services will be extended to cover

those items that are used to protect properties from 'trespass, criminal damage, theft, fire or other hazard'. Included in this list will be fire, security, explosion and other protection alarm systems, TV cameras, sensors, barriers, turnstiles and shutters. These additions will obviously impact considerably on the refining and petrochemical industry with its very stringent requirements for hazard and security arrangements.

This key change in legislation has prompted many of the Scottish Assessors to resurvey major properties, both to gather information on the new elements that have to be valued and to identify items that may no longer be rateable because of the 400 cubic metre limit. Unfortunately, such surveys could also uncover details of previous omissions – those elements that were not identified because time constraints restricted the carrying out of regular detailed inspections.

New valuations fixed as part of the 1995 Revaluation will be announced early in 1995, with appeal procedures available to those who wish to challenge their assessments. The degree of change between a 1994/95 and 1995/96 rates bill will depend on the industrial sector involved. Values are expected to move substantially in areas which have experienced the highest rental growth between April 1988 and April 1993.

The following example sets out the potential change in liability for a typical modern chemicals complex in Scotland, benefiting from special de-rating allowances. This is contrasted with the likely effect on the revaluation of a typical modern factory complex in Scotland.

The new net annual values (NAVs) for 1995/96 are estimates only, having regard to the likely approach adopted by the assessors on chemical subjects and assuming that a statutory de-capitalisation rate of, say, 5.5 percent is fixed by the government. For the factory complex, we have assumed rental increases of 25 percent between 1988 and 1993, which is not untypical of many sizeable, modern factories in Scotland.

It should be noted that a chemical complex not eligible for the special de-rating relief would see a fall in liability for 1995/96 of around 10-15 percent. However, the size of the reduction would depend on the property's age and the specific effects of the new plant and machinery legislation.

With so many legislative and valuation practice changes linked to the next revaluation in Scotland, ratepayers face a very real risk of being over-assessed, particularly in those sectors of industry that are plant and machinery biased, such as the specialist oil and petrochemical industry.

It is therefore imperative that businesses take all the necessary steps to ensure that the minimum rates liability is fixed on their properties. The timescale for an appeal is likely to be restricted to six months, giving businesses until September 1995 to challenge their new rateable values. We would strongly recommend that ratepayers thoroughly check their new rateable values, seeking professional advice as appropriate and using the appeals process where necessary. Given that the new values are fixed for five years, significant cash savings could result from a successful appeal.

A New Chemicals Complex - Scotland

1994/95 Rate Liability

£10,000,000 NAV	de-rating at *45%	£5,500,000 Rental Value
	Rate poundage	x £0.52
	Rates payable	= £2.860,000

* Special oil-related and petrochemical de-rating allowance – 1994/95.

1995/96 Rate Liability (E)

£9,000,000 NAV (E)	no de-rating	£9,000,000 Rental Value
	Rate poundage	x £0.40 (E)
		= £3,600,000
		i.e. +25 % increase

B Typical Modern Factory – Scotland

1994/95 Rate Liability

£200,000 NAV	de-rating at 10%	£180,000 Rental Value
	Rate poundage	x £0.52
	Rates payable	=£93,600

* Normal industrial de-rating allowance – 1994/95.

1995/96 Rate Liability (E)

£250,000 NAV	no de-rating	£250,000 Rental Value
Rate poundage		x £0.40 (E)
		= £100,000
		i.e. +7% increase

Western Australia bans reef drilling

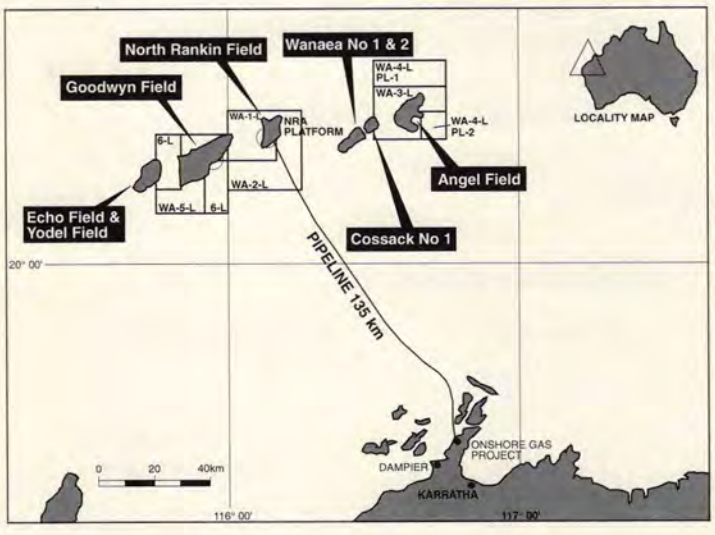
By William Scholes

The Western Australian Government of Premier Richard Court has aroused the ire of oil and gas explorers by its sudden decision to ban oil and gas exploration in the Ningaloo Marine Park near Exmouth without compensating exploration permit holders. Vigorous protests have come from the Australian Petroleum Exploration Association (APEA) and Gary Jeffrey, Operations Manager for Hadson Energy, subsidiary of the US Apache Corporation, described the decision as 'expropriation.' He said that spending money in this offshore petroleum province – previously considered highly attractive because of a one-in-five strike rate – is becoming chancy because of government decisions that are populist, and not based on economic, commercial or scientific data.

Hadson is the operator of EP 342 in which it has a 20 percent stake. Its partners are Sagasco 23.3 percent, BHP Petroleum 32.4 percent and the Canadian group, Asamera, with 24.3 percent. So far they have spent $A30 million on a five-well drilling programme. Two wells drilled late last year, Mydas and Hawkesbill, outside the park boundary, were dry. The next one, and the number one target for the permit, Chelonia-1, will not now go ahead.

Other operators, such as Mobil and West Australian Petroleum Pty Ltd (WAPET), have permits encroaching on the park, and the WA Department of Mines appears ready to adjust permit obligations to accommodate the new government policy. It has had no formal discussions about compensation.

Mr Jeffrey said that Hadson was seeking legal advice on whether it had grounds for seeking compensation. The Green movement has long argued that there should be no compensation to the exploration industry when National Parks were created.



Earlier optimistic predictions

A short time ago Mr Court was predicting that the state would be producing 350,000 b/d of oil and condensate in 1996, nearly three times today's volume.

Exploration success, a more favourable tax regime and technological developments have combined to give Australia's offshore oil and gas industry a stimulating multi-billion-dollar investment programme in Western Australian waters. Already $A2 billion has been earmarked for the development of oil projects, some of which are under construction, while a further $A1 billion worth of projects are in the initial planning stages.

The figures for new gas projects are similar but on the horizon are a series of projects which may require more than $A15 billion of capital expenditure within the next 15 years.

Past growth

In 10 years, Western Australian petroleum exports have increased from about $A90 million to more than $Al billion. Petroleum products have now surpassed gold as Western Australia's second largest export earner and will soon overtake the number one earner, iron ore.

The petroleum industry's success in Western Australia is led by recent developments in the Carnarvon Basin. The North West Shelf partners - Woodside Petroleum Ltd, BHP Petroleum Ltd, BP Development Australia Ltd, Chevron Asiatic Ltd, Shell Development (Australia) Ltd and Japan Australia LNG (MMI) Ltd - are spending more than $A2 billion on developing the Goodwyn gas and condensate field, due to commence production late this year.The offshore Carnarvon Basin is the home of the $A13 billion North West Shelf development, the largest resources project ever undertaken in Australia. Production from the massive LNG project will total around seven million tonnes per year by 1995. Japan is by far the major market but South Korea and Taiwan are expanding markets, while occasional spot cargoes are sold to Spain.

The Shelf partners have announced an $A1 billion project to develop the Wanaea/Cossack oilfields and an associated LPG extraction plan (nominal capacity 800,000 tonnes per annum) at Withnell Bay on the Burrup Peninsula. The Wanaea field has estimated recoverable reserves of 200 million barrels of oil, while the nearby Cossack field contains about 30 million barrels.

A similarly large oilfield, Wandoo, also in the Carnarvon Basin, is to be developed by Ampolex Ltd.

Wanaea will be developed using a Floating Production, Storage and Offloading facility (FPSO). Cossack Pioneer, a 150,000 dwt former crude oil carrier, is being converted for this purpose and production from five sub-sea wellheads will be brought to the facility by flexible flowlines and a disconnectable Riser Turret Mooring. The mooring will have a series of gravity anchors and the FPSO will weathervane around the riser.

Two further production wells from the Cossack field will also be tied back to the Cossack Pioneer. Initial production from the two fields will commence at the end of 1995 at about 80,000 b/d of oil and planned peak production is 115,000 b/d. Associated

gas from the Wanaea field will be piped to the North Rankin 'A' platform, 33 kms to the west.

The first contracts for the LPG plant, valued at $A135 million, have been awarded.

The contracts cover 45 percent of the LPG project's total estimated cost of $A275 million and cover the design and construction of two LPG storage tanks, an LPG loadout jetty and associated dredging work. First production is expected in early 1996. It will extract the LPG content of gas from the North Rankin gasfield, the Goodwyn gasfield, which is currently being developed, and the Wanaea and Cossack oilfields.

Griffin project

Western Australia's newest oil and gas field, the $A600 million Griffin project, began production early this year, with 80,000 b/d of oil expected to be produced at its peak. Recoverable oil reserves total betwen 115 million and 130 million barrels of oil. BHP Petroleum Pty Ltd, one of the joint venturers, said first cargoes of the light sweet crude had been sold to customers in Australia, Singapore and Japan.

Natural gas production was expected to peak at 40 terajoules a day. It is the first scheme to transport gas to an onshore plant via a pipeline. The gas would be processed at a plant near Onslow before it was sold in Western Australia.

The partners in the project are BHPP, operator 45 percent, Mobil Exploration & Production Australia Pty Ltd 35 percent and Impex Alpha Ltd 20 percent.

The project is located 68 km northwest of Onslow, off the coast. Oil will be treated and stored on board the Griffin Venture, a state-of-the-art double hulled vessel, before being offloaded into tankers.

The Griffin mooring and production system is designed to accommodate 15 wells. The initial phases will consist of nine producing wells with provision for two gas injector wells to aid production and the 68 km gas pipeline to the mainland.

Once piped ashore the onshore gas plant will strip off all nitrogen, carbon dioxide and LPG.

Roller/Skate fields

WAPET and its joint venture participants are developing a third project within the TP/3 exploration permit area off Western Australia. The development will consist of four monopod structures and a three-phase flow system to production facilities located on Thevenard Island.

The four monopod substructures, located a few kilometres off the coast, 20 km northwest of Onslow, have been installed. They now await drilling of production wells and installation of the topsides. The jack-up rig Hakuryu IX of the Japan drilling company was towed out from Dampier.

All the produced gas from the two fields not used for gas lift or re-injection will be compressed and treated on Thevenard Island. From there, it will either be sent into the WA gas sales grid or re-injected into the top of the WAPET Yammaderry reservoir, to improve oil recovery there.

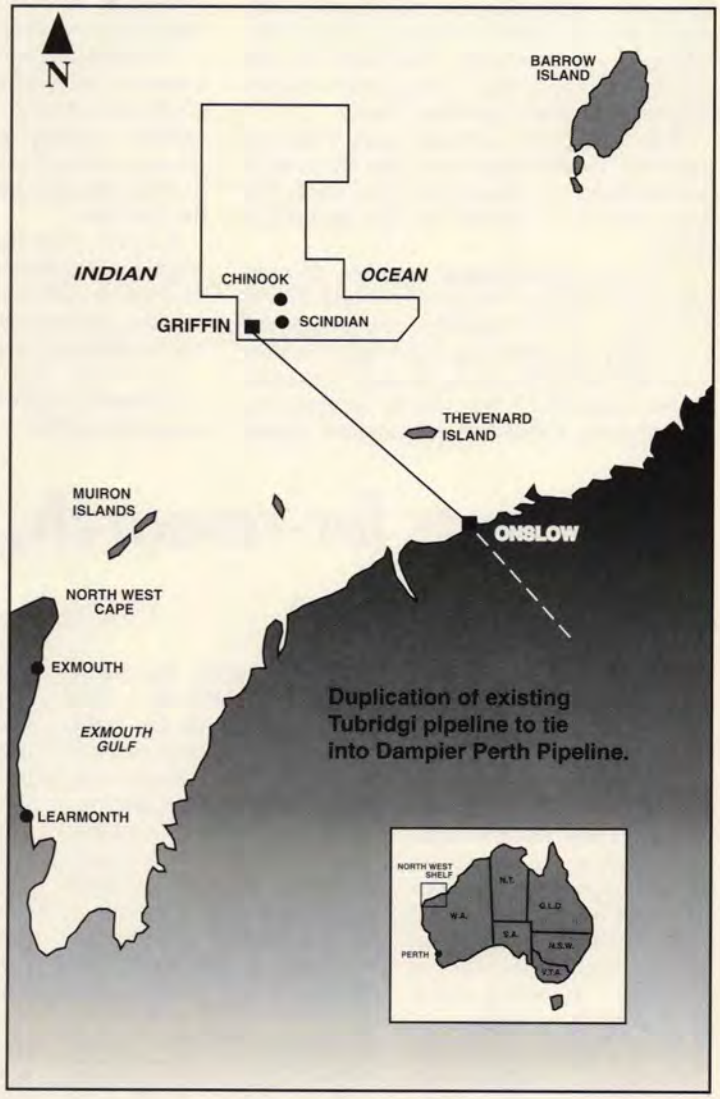
The gas export line installation is due for completion at the same time as the Roller/Skate project in the latter half of this year.

The WAPET pipe strings will be the biggest tow-out of a pipeline from onshore attempted in Australia and one of the biggest of similar operations carried out worldwide.

Other oil and gas potential

Other Western Australia discoveries with potential include West Dixon and East Spar (oil and gas), West Muiron (gas) and other smaller fields. All in all, Australia's northwest is the most exciting oil and gas province in the southern hemisphere and is attracting increasing interest from international explorers.

In a recent analysis, Bureau of Resource Sciences (BRS) in Canberra said total production from the Carnarvon Basin was likely to rise from about 120,000 b/d to a peak of between about 220,000 and 350,000 b/d in 1997.



The BRS said seven identified oil accumulations were thought likely to be brought into production during 1993-2005. In addition, there was an estimated 50 percent probability of bringing at least four yet-to-be discovered accumulations, containing at least 170 million barrels, into production by 2005 and a 10 percent probability of bringing at least seven yet-to-be discovered accumulations containing at least 520 million barrels into production.

The latest news, banning reef drilling in the Ningaloo Marine Park, looks likely to bring some adjustment to these figures. However, Ampolex has just committed $A480 million to the development of the Wandoo field.

Environmental awareness training materials for offshore

A new training initiative, organised by Scottish Offshore Training Association Ltd (SCOTA), is underway to develop environmental awareness training materials that could be used for repeated training sessions offshore and onshore for a variety of personnel – drilling crews, maintenance staff, production and plant operators, deck crews, laboratory technicians, construction and engineering crews and all personnel needing an overview of environmental issues.

With the aim of producing an 'industry standard', the development of the materials is sponsored by 10 operators in the North Sea who have contributed to the technical review.

The training package consists of nine training sessions designed to last 30-40 minutes. Each module comprises an instructor's manual containing presenter notes for the non-environmental specialist trainer including background information, assessments, hand-outs, a detailed lesson plan, viewgraphs and a summary of relevant UK environmental regulations.

The nine modules are: Returnable Wastes; Produced Water; Chemical Use and Discharge; Oil and Chemical Spills; Drilling; Drainage; Atmospheric Emissions; Physical Presence of Structures; Environmental Awareness: An Overview.

The materials are also designed for international use. Companies can custom-tailor the content to a specific company's practices and specific country regulations. Some of the sponsors are planning to use these materials in international locations such as Russia and the Far East.

SCOTA has formed an alliance with Highland Consultants Ltd. of Aberdeen, an environmental training company for the oil industry, to carry out the project management and marketing of the materials.

The first five modules have been completed, with the remaining modules available shortly.

Oceans of opportunity in marine technology

Young people at schools and colleges all over the United Kingdom will be encouraged to take up careers in marine science and technology by a new video, `Oceans of Opportunity - a Rough Guide'. The video shows a dozen men and women in their twenties working in the oil industry, fisheries and research with a marine flavour. They include a roustabout, a designer of a new wave energy device and a woman who never thought she'd get the chance to work with dolphins. The viewers will see them talking, in the places where they work, about their jobs, why they chose them and how they see their prospects.

Practising careers advisors helped in the production of the 20-minute video. It was sponsored by Inter-Agency committee for Marine Science & Technology.

Additional funding from Scottish Enterprise and the Institution of Marine Engineers will ensure copies are sent to secondary schools and colleges. The video will be accompanied by the Society of Underwater Technology's careers brochure, also called 'Oceans of Opportunity'.

EC grants for research, training and education

The European Community is now spending nearly £2 billion a year on grants for a wide spectrum of research. EC support for vocational training and educational exchanges is also significant and rising. Grants are awarded on a competitive basis, against a background of continually developing priorities. To win a grant, in-depth knowledge and regular information are therefore essential. Through an easily accessible information service and a monthly newsletter, Interface Europe aims to provide both.

Through Interface Europe subscribers can obtain:

Comprehensive and up-to-date details of all current EC research, training and educational programmes and how to get into them, with as much advanced warning as possible;

Background information on relevant EC developments and articles and reports aiming to help broaden links and mutual understanding between the different European professions, academic disciplines and sectors of economic activity. Special coverage is given to new approaches to management, marketing, technological transfer and innovation generally. Putting R&D and training proposals in this wider context can significantly add to their chances of selection.

The newsletter is in a 16-page (A4) format. Without additional charge, on request it will also supply copies of the relevant EC Official Journal extracts. These are essential for those seriously considering joining an EC programme. Subscribers are free to ask for additional information at any time. They are also entitled to an hour's free advice and consultancy, covering everything to do with EC programmes, from deciding whether a particular programme is worth trying for, to the final version of a proposal. Entirely at the subscriber's discretion, further consultancy can be given for a negotiated fee.

To be eligible for support, projects normally have to include partners from other European countries. Application deadline dates are often tight, and some advanced work is usually needed. But the rewards can be great. Despite the competition, projects which are prepared with care, determination, and good information have a reasonable chance of success.

EC educational and training programmes aim to assist work with a `European' dimension, on the basis of cross-border projects. Their practical administration differs with each programme.

Building a cross-border collaborative project is, of course, time-consuming. However, those involved in European joint ventures acquire new skills and techniques, greater knowledge of the international scene, a higher-profile abroad, improved management practices and enhanced career development. Most participants expect their European partnerships to continue in one form or another.

Downstream training

The last few months have seen significant structural changes in the organisations devoted to training and standards for the downstream oil industry in the United Kingdom. A strategic decision has been taken by the Petroleum Employers Council (PEC) to adopt a more focused approach to its core activities operated through the Petroleum Employers Skills Council (PESC). In April, Roger Colomb joined PEC/PESC as General Manager, with John Fuller continuing as Standards Manager for PESC. The Petroleum Training Federation was closed down at the end of July and its assets sold to an independent company, PTF Training Ltd. This new company, with Richard Ayres as Managing Director, will run all the courses in 1994 planned by the PTF and, in addition, make available a wide range of new courses. The new company will remain in the same offices as PEC/PESC until June 1995.

This significant structural change will enable PEC/PESC to concentrate its energies upon two of its most important activities – to act as the industry lead body and the Department of Employment recognised industry training organisation for the onshore oil industry and to carry out its vital role of setting the standards for competence and of providing trained, motivated staff in the high profile onshore oil industry where human failure or incompetence can have incalculable environmental and financial consequences. OPITO performs this role for the offshore industry.

PEC/PESC has a slim profile with only two full-time staff and a part-time General Manager. This is in keeping with the image of the downstream oil industry which has been demanning and increasing productivity so successfully over the past decade.

The true test of its success will be the number of industry employees of all disciplines and job functions at all levels seeking and achieving N/SVQs. The PESC task is to ensure that the mechanisms and structure are put in place to enable this to occur.

Communication is a vital factor in achieving these objectives (see Petroleum Review, July 1994).

The primary role of an Industry Lead Body (ILB) is to define the key job competencies required in its industry sector and, where necessary, to produce standards (N/SVQs) to meet them, and to promote general cross-industry standards - supervisory, managerial, IT, accounting etc. A key role is to persuade employers and employees to take ownership of the relevant qualifications. It is recognised by the Department of Employment for the specific purpose of identifying, developing and maintaining occupational standards (N/SVQs). PESC successfully completed in 1993 the primary first duty of an ILB - a mapping exercise detailing the boundaries of the sector and all key occupations.

As the industry training organisation, PESC is responsible for identifying the training needs of the downstream industry, establishing training standards and providing training-related information. The significant changes that have taken place within the oil industry during the past few years, as well as the quickening pace of change, make this a demanding role.

Outsourcing, emphasis on the environment, safety and equal opportunities provide a continuous array of challenges.

Throughout industry and commerce each sector has a lead body and training organisation which is representative of the sector. The council of PESC draws its members from all areas of the downstream industry and operates as part of the Petroleum Employers Council. Its original shareholders were 24 oil companies; today, there are 19 members, reflecting the restructuring of the industry over the past decade.

The basic objectives and principal activities of the Council can be summarised as follows:

To provide a forum in which representatives of the oil industry may discuss all aspects of employee and industrial relations connected with the petroleum industry in the United Kingdom, both upstream and downstream, and all aspects of training within its downstream activities.

To gather information and carry out research on employee relations and training, and to publish such information as required.

To promote the maintenance and improvement of training standards and to conduct, promote and make recommendations on such training as is appropriate to the downstream activities of the petroleum industry in the United Kingdom.

To provide the relevant government departments, CBI, DES, DTI, ACAS, HSC and EC with the facility to consult and to ascertain the views of the petroleum industry in employee relations and training matters.

To carry out its mandate, PEC operates through a Management Committee of nine member companies supported by five Sub-Committees. These cover employment practices, pensions, refining, distribution, and PESC.

The response by PEC to the Pensions Law Review committee (the Goode Committee) is a recent example of the type of work carried out by the Pensions Committee. The Employment Practices Committee is at present preparing a submission to the DOSS to reduce governmental bureaucracy imposed on employers. It is envisaged that, with the seemingly endless stream of EC-inspired initiatives affecting various sectors of the downstream industry, these committees will continue to be stretched.

Tony Fox Memorial Award (1993/94) winner Richard Salter (left) with Mrs Anne Fox and IP Education Liaison Manager Bob Edmondson, following the formal presentation of the award.

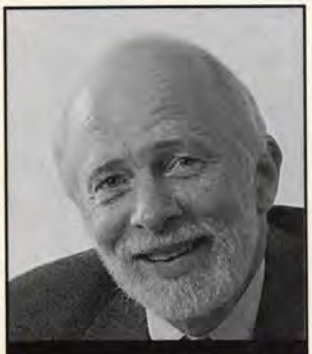
The annual scholarship was established for a student accepted for the MSc course in Petroleum Geology at Imperial College of Science, Technology and Medicine. This course has now been amalgamated with the Exploration Geophysics course into a new one-year full-time MSc course in Petroleum Geoscience starting in October 1994.

The Tony Fox Memorial Scholarship award has been transferred to this new course. The recipient for the academic year 1994/95 is David Lackenby.

PEOPLE

Dr George Watkins, the Chief Executive of Conoco (UK) Limited, has joined the Board of Grampian Enterprise. He succeeds Mr John Morgan, formerly Deputy Chief Executive and General Manager, UK Operations, BP Exploration Europe, who has transferred from Aberdeen to a new appointment in Alaska.

British Gas has recruited **Margaret McKinlay**, currently chief executive of the Electricity Pool, to head a new department from 1 November. Ms McKinlay, a former Energy Department civil servant, will play a key role in introducing and establishing a regulatory regime to ensure British Gas keeps its transportation and storage business completely separate from its trading operations.



Snamprogetti Limited has announced the appointment of *Donald L Harris* to the position of Business Development Manager – Onshore Oil and Gas. He takes up his new position immediately and will be based in their UK headquarters at Basingstoke, Hampshire.

Chevron Corporation today named **R Bruce Marsh** as its general tax counsel and an officer of the corporation. Mr Marsh, has been the corporation's assistant general tax counsel for legal & legislation since 1988, and became general tax counsel for Chevron USA Inc following the Gulf/Chevron merger in 1984. He will replace John J Ross, who will retire 1 Oct, after a 40 year career with Gulf and Chevron.

Stephen Furbacher has been elected president of Warren Petroleum Company. He will succeed **Peter J Robinson** who will be moving to San Francisco to become Chevron Corporation's vice president in charge of strategic planning and quality. Mr Furbacher is currently vice president and general manager of the Natural Gas Business Unit of Chevron USA Production Company, based in Houston.

***Mr Jonathan Turner* has been appointed Group Marketing Director to the Board of Bayford & Co Ltd. He is the grandson of the late *Mr Frederick Turner*, a founder member of the company, and son of the present Chairman & Managing Director, *Mr David Turner*.**

He recently won the Institute of Petroleum Golf competition and was presented with the Bowcliffe Trophy.

Chevron Corporation has announced that **David Hoyer,** President of Chevron USA Products Co., and a corporate vice-president, will retire at the end of August after a 41-year career in the United States and Europe with both Chevron and Gulf. He will be succeeded by **David O'Reilly,** currently Chevron's corporate Vice President in charge of strategic planning and quality.

The Industrial Power Association (IPA) has appointed chartered engineer **Stewart Kerr** as its first Chief Executive. A former sales director with Howden Compressors in Glasgow, he brings over 39 years of engineering experience to his new part-time role at the IPA.

Chris Wade is to become Executive Director and chief ship surveyor of Lloyd's Register. Mr Wade has been with LR for 27 years and is currently deputy chief ship surveyor. He will succeed **Garry Beaumont** who is retiring after 33 years.

Due to expansion and development, Albyn Oilfield Services have acquired a Sales Marketing Manager, an Operations Manager and a Project Engineer.

Lou Elliott, formerly International Sales and Marketing Manager for Seaboard :Lloyd Ltd, has taken on the role of Sales & Marketing Manager, **David Cooper**, formerly Regional Operations Manager, Europe and North Africa, for Baker Tools' Tristate Division has been appointed Operations Manager and **Duncan Trinder**, a mechanical engineer with a post graduate degree in Nuclear Engineering is the new Project Engineer.

James M Neffgen joined Noble Denton International Ltd as their new Group Chief Executive on 10 August 1994. He assumes responsibility for co-ordinating the Group's activities, reporting to Group Chairman, Dr Anthony Denton.

Dr Peter Winter has joined the European Centre of SACDA in Bracknell, England as Regional Business Development Manager. He is responsible for the overall marketing and sales of SACDA's products in Europe, Africa and the Middle East.

Rob Stubbs has been appointed Sales Manager of the Analytical Division of Hartmann & Braun (UK). He is a graduate in biocehmistry and joins Hartmann & Braun from Chrompack.

Malcolm W Boyce, exploration vice president for Chevron Overseas Petroleum Inc. (COPI), has elected early retirement effective from 1 August, after a distinguished 38-year career. A successor has not yet been named.

Darrel G Rangnow rejoins Wright Killen & Co (management consultants to the process industry) to provide business process redesign expertise to hydrocarbon processing industry clients.

Smith International Inc. has announced the promotions of **Barry Heppenstall** to President of the Drill Bit Group and **Dick Werner** to President of Smith Drilling and Completion Services.

Safety relief valve manufacturers, Crosby Valve & Engineering, have announced two senior appointments.

***Eric Newton* (above) formerly Financial Director of Crosby UK is appointed Managing Director, Crosby UK.**

***Howard Short* (below), previously Operations Manager of Crosby Services International in Aberdeen, has been promoted to the position of General Sales Manager, Crosby UK.**

All taped up against water and corrosion

Premier Coatings Ltd announces the launch of Premtape Systems, a new range of pipe and steel anti-corrosion and water-proofing products that are easy to apply and require no special preparation or heating.

Designed to provide a long-term solution for pipes, structural steel, guttering, cables and conduits, the tape consists of a tough synthetic fabric. This is impregnated and coated with petrolatum grease compound and fillers.

Premtape is cold-applied for anti-corrosion and water-proofing of pipes

Savings on water treatment of oily solids

Solid/liquid cyclones from Richard Mozley Ltd can deliver considerable cost-savings, according to new research carried out by the company, in conjunction with Chevron.

When used to remove solids from produced water for re-injection in place of conventional filter beds, the cyclones are said to deliver savings of £20 million or more in an average new field with 300,000 b/d fluid processing capacity. Moreover, they can have a major impact on the environment by reducing oil and solids discharge into the sea.

The principle is simple. Liquid containing solids passes into the cyclone under pressure. The centrifugal force induced by the flow causes particles coarser than a pre-defined cyclone cut point size to be flung to the inner wall of the device and discharged downwards along with a small amount of liquid. Most of the liquid containing solids finer than the cut point size discharges upwards.

Designed on a modular principle, the systems are very compact. Installed and ready to run, they require one-tenth the space and one-tenth the weight of a filter bed operation to achieve the same levels of efficiency in removing equivalent particle sizes, claims the company.

Because the cyclone utilises pressure inherent in the system to operate, it has no moving parts and consumes no energy. It also requires minimum maintenance and can operate continuously even at high turndown, without shutdown requirement for back flushing.

They can be used to replace or complement existing technologies in many different applications.

New subsea valve offers higher torque

A valve designed to avoid many of the problems traditionally associated with ROV operation of conventional small-bore valves was launched at Stavanger's Offshore Northern Seas '94 Exhibition by Pacson Ltd of Dundee.

Dubbed the Robust ROV Valve (RRV), the new device has a maximum torque of 1,000lbs.ft in order to overcome the long-standing problems of ROV valve operation on subsea Christmas trees.

This is comparable with larger subsea valves, thus avoiding the need for separate torque settings on ROV arms. Separate load paths for actuation and sealing mean that the valve stern itself does not turn, reducing wear on both the stern and the valve chamber. 'Both these characteristics mean that the RRV can offer significant cost-savings to subsea operators,' claims the manufacturer.

Based on the rising-stern pattern, the RRV is a compact and robust needle valve which is designed to operate at depths of up to 5,000 feet and handle pressures of 10,000 psi.

'The RRV was developed using the latest computer design and analysis packages,' said sales manager Keith Crawford. 'We have achieved "ruggedisation" of all load-bearing components without sacrificing compactness and lightness.'

The new Robust ROV Valve

Fire and blast wall systems

Darlington-based Mech-Tool Engineering has expanded its activities by launching an innovative range of fire and blast wall systems.

Manufactured from advanced glass fibre composites, these systems help contain explosions and fires in offshore, petrochemical, civil engineering and marine environments.

They are considerably lighter than conventional steel systems and equally fire-resistant, claims the company. This means cost-savings for installation in new construction and retro-fit situations.

The systems are available in a wide variety of finishes and colours.

Cartridge pressure transmitter

Danfoss Ltd has introduced a new range of its MBS cartridge pressure transmitters. The MBS4010 transmitters have an integral flush diaphragm and are purpose-designed for use in non-homogeneous media such as waste water applications, high viscous media such as pulp, heavy fuel, or non-hygienic applications.

Pressure is transferred through an integral diaphragm, which responds to pressure in the medium by forcing up the vacuum sealed liquid above it.

In order to ensure it was rugged and reliable, the new pressure transmitter was developed in one of the harshest possible environments – the maritime market.

'The transmitter is laser-welded to guarantee corrosion-resistance and sealed with Silguard™ to protect against shocks and condensation, and to provide mechanical stability,' according to Danfoss. 'The seal ensures that dust cannot enter the unit and that condensation cannot form as a result of temperature changes.'

Environmentally-sound firefighting

Unitor Offshore Services has unveiled a range of 'environmentally-sound firefighting systems', said to be capable of extinguishing fires in seconds.

Instead of relying on halon gases, these new systems operate by producing microscopic water droplets which remove the heat from a fire by starving it of oxygen.

In initial tests, a fire created by 10 litres of gasoline was extinguished in four seconds using only 0.5 litres of water.

Live demonstration of the fire-fighting system

Groundwater remediation system

Inspectorate Environmental has been appointed UK agent for the use of the new Vacuum-Vaporisor-Well (UVB) system for the in-situ remediation of contaminated groundwater.

The technology involves the creation of vertical circulation around a specially-designed well, which in turn causes mobilisation of dissolved contaminants. These are subsequently drawn to the circulation well within which treatment units (for example, stripping reactor, activated carbon filter, or selective ion exchanger) are located.

The well has two screened sections: one at the aquifer bottom and a second one near the groundwater surface. A constant negative pressure is created within the well casing using a blower. As a result, water upwells and ambient air is drawn into a stripping reactor via a pipe.

The upward air bubble flow moves the water up within the well casing (air-lift effect) causing a suction effect at the well bottom. A separating plate and an additional pump, which supports the upward pumping effect of the air bubbles and helps to regulate the well discharge and flow level, can be implemented between the two screen sections. Due to the oxygen enrichment of the groundwater leaving the UVB well, biological degradation-related processes are enhanced within the acquifer.

Inertial navigation system

The Pinpoint inertial navigation system, recently launched by Baker-Hughes Inteq, is a two-inch OD survey tool that offers directly measured wellbore position data continuously as the tool traverses the well.

According to the manufacturer, this method of direct measurement is significantly more accurate than other survey methods, which rely on the measurement of inclination, direction and depth and the application of a survey algorithm to produce positional data. 'This new system's small diameter makes it possible to obtain these positional accuracies in tubulars inaccessible to the currently available larger diameter inertial systems.'

The system also offers real-time ellipse of uncertainty generation. The actual uncertainties can be compared with those predicted for a particular well profile, which in turns offers an effective method of quality controlling data.

Low power valve monitoring

To meet the demand for low power monitoring and control of automated process valves, Westlock Controls' Quantum LP® Series integrates low energy solenoid valves, position sensors and fugitive emission monitors into self-contained IP67 units for Zones 0, 1 and 2 intrinsically safe applications, Zone 2 non-incendive applications and general purpose uses.

The series utilises Falcon® solenoid valves, which are claimed to require only five percent of the energy needed for the operation of conventional valves. Typically, these valves operate at 12 V dc, 33 mA when used with approved IS barriers in Zones 0, 1 and 2, with those in Zone 2 non-incendive applications operating at 24 V dc, 20 mA.

The valve bodies are available in aluminium, brass or stainless steel with 3/2-way for spring return and 5/2 way for double-acting actuators.

The products also feature non-contact valve position sensors, visual indicators and fugitive emissions detection facilities.

Monitoring process valves

Acidising process for drilling damage removal

Archaeus Technology, in collaboration with Stimlab (UK), has successfully completed a project, supported by the Oil and Gas Projects and Supplies Office, to evaluate the performance of its new Arcasolve slow acidising process at removing drilling mud damage.

The process involves the injection of a neutral, non-corrosive aqueous solution into a well and the subsequent gradual generation of acid in situ. The injection fluid contains a catalyst which progressively hydrolyses a substrate to release acid. The acid dissolves carbonate rocks, fines, cementation and scale. The process does not require corrosion inhibitors or any other toxic additives. Injected and produced fluids are safe to handle and dispose of.

The new process is particularly suitable for stimulating horizontal wells, since completion of the reaction may be delayed to allow penetration of the injected fluid to the end of a well before significant quantities of acid have been produced.

Work carried out at Stimlab, using a specifically-designed horizontal flow cell with fluid leak-off capability, has demonstrated that the process can bypass damage caused by injecting drilling mud into cores, resulting in permeabilities being restored to their original values.

As well as a cost-effective alternative to conventional acid stimulation, placement and stimulation may be achieved by injection of fluid via the drill string during drilling operations. This offers major advantages of reduced downtime and equipment cost-savings.

Camera surveillance for every application

New developments to the Spyhawk rapid pan tilt camera system from Hunting Engineering now enable the company to provide a 'factory-tested, tailor-made total solution' to CCTV surveillance needs.

Applications can vary from straightforward systems involving one or two camera heads to large-scale multiple surveillance networks covering entire industrial sites or manufacturing plants.

The system encompasses all component parts, from the rapid pan tilt 360° camera head to the control room monitoring and control equipment, which is manufactured in a modular 'building block' format that can be connected together to meet the precise requirements of the user specification.

This entire marina is covered by a single 360° rapid pan tilt camera head

Looking for trouble over 200 metres

The Safeye system from MSA (Britain) is an open-path, line-of-sight optical hazard detection system which provides three-in-one detection capability over distances of up to 200 metres.

The system can measure any one or combination or three separate process plant hazards, namely: flammable hydrocarbon gases; aromatic hydrocarbon toxic gases; and fire.

This capability reduces the maintenance load, but as the system needs no field calibration, the maintenance requirements are minimised still further.

Actuator simplifies installation

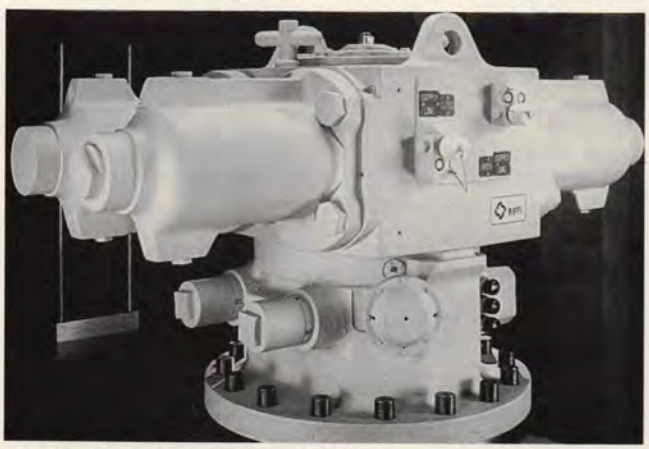
The Biffi OFO Hydraulic Subsea Actuator, from Keystone, uses a modular construction concept to overcome the difficulties usually associated with the installation and maintenance of subsea actuators at depth.

A rack and pinion design, the actuator is available in both double-acting (with torque capacity up to 500,000Nm) and spring return versions (up to 140,000Nm).

Installation is made easy by a clutching device which, with the intermediate spool piece, allows quick coupling to the valve regardless of the stem position. This device also provides the ability to perform diagnostic and trouble-shooting procedures without removing the actuator from the valve.

The spool piece, complete with integral torque transmission gear, mechanical end stops, pressure equaliser and positive location spigots, becomes an integral part of the coupling arrangement and can be easily fitted to the valve prior to installation. A flushing connection allows the purging of sea water from the inside of the spool piece, enabling the correct lubricant to be restored.

The actuator body mounts on to the spool piece without the need for a support or alignment frame. For maximum operating reliability, a pressure equaliser device ensures that there is no water depth limitation. All materials are selected for compatibility.



The Biffi 'OFO' Hydraulic Subsea Actuator

Computer link for Scotland

The Aberdeen office of Marine Technology Directorate (MTD) has set up an access point to some of Europe's most advanced computers.

The link, which has been established at MTD's premises on the Aberdeen Offshore Technology Park, is aimed at helping the oil and gas industry undertake complex design and research and development work more efficiently.

Through computers like the Cray T3D, the system has been connected to the high-speed JANET network, a computer link to all the country's universities, the information superhighway Internet and British Telecom's ISDN data network, making it the most advanced facility in the north-east.

'This is a unique opportunity for firms in Grampian, particularly those involved in the oil and gas industry,' said Mr Dick Winchester, manager of MTD's Scottish operation. 'They will have access to huge amounts of computer power and there is also scope for joint research programmes being run internationally from our office in Aberdeen.'

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Inspectorate Environmental	071-704 2202
Baker Hughes Inteq	0224 226000
Westlock Controls	0892 516277
Archaeus Technology Group	0372 363535
Hunting Engineering	0525 840162
MSA (Britain)	0236 424966
Keystone	041-810 3121
Scottish Enterprise	0224 626310

FORTHCOMING EVENTS

October

5th
London: 'The Tanker Market/Entering a New Era?'. Details: Caroline Little, The Institute of Petroleum.

5th-6th
London: 'Mastering the Human Factors in Shipping'. Details: IIR Ltd, 28th Floor, Centre Point, 103 New Oxford Street, London WC1A 1DD.
Tel: 071 412 0141
Fax: 071 412 0145

5th-7th
Poland: '1st Silesian International Conference on Coalbed Methane Utilisation'. Details: Jan Surówka Fewe, ul. Powstanców 41A, 40-024 Katowice, Poland.
Tel/Fax: 483 155 2729

6th
London: 'Condition Monitoring for Marine Engineers'. Details: Kathleen Ford, COnference Organiser, The Institute of Marine Engineers, 76 Mark Lane, London EC3R 7JN.
Tel: 071 481 8493
Fax: 071 488 1854

7th
Malaysia: 'Gastech '94 – The 16th International LNG/LPG Conference & Exhibition'. Details: Gastech Secretariat, London RAI, Glen House, 200/208 Tottenham Court Road, London, W1P 9LA.
Tel:44 71 436 9774
Fax: 44 71 436 5694

10th-13th
Veracruz: 'International Oil and Gas Industry Focuses on Mexico'. Details: Fred Herbst, SPE Public Relations Manager, Society of Petroleum Engineers, PO Box 833836, Richardson, TX 75083-3836.
Tel: 214 952 9393

10th-14th
Singapore: 'Financial Management and COntrol of Risk in the Oil Industry'. Details: The College of Petroleum and Energy Studies, Oxford.
Tel: 0865 250521
Fax: 0865 791474

10th-14th
Thessaloniki Greece: 'European Wind Energy Association Conference and Exhibition'. Details: The Secretary, Organising Committe EWEC '94. 19th km Marathonos Ave. 190 09 Pikermi, Attica, Greece.
Tel: 01 6039900/3627069
Fax: 01 6039904/5, 361 4709

11th-12th
Austria: '1994 International Conference on Trading and Transportation of Oil and Gas in the Former Soviet Union'. Details: Business Seminars International Ltd, The Old Court House, Hurst Green, East Sussex, TN19 7QP.
Tel: 44 71 490 3774
Fax: 44 580 860304

12th
London: 'Waste to Energy Projects'. Details: Sarah Ashmore/Liz Hide.
Tel: 071 637 4383
Fax: 071 631 3214

12th
London: 'Exploration, Appraisal and Development Farm-Ins'. Details: Langham Oil Conferences, 37 Main Street, Queniborough, Leicester, LE7 3DB
Tel: 0509 881022
Fax: 0509 881576

12th-13th
Chester, UK: 'Contaminated Soil Analysis'. Details: Geochem Group Ltd, Chester Street, Chester CH4 8RD.
Fax: 0244 683306

12th-13th
London: 'Petroleum Trading and International Law'. Details: Abacus International, 214 Inchbonnie Road, South Woodham Ferrers, Essex CM3 5WY.
Tel: 0245 328340
Fax: 0245 323429

12th-13th
London: 'Exploiting New opportunities in the Competitive UK Gas Market'. Details: IIR Ltd, Industrial Division, 28th FLoor, Centre POint, 103 New Oxford Street, London WC1A 1DD
Tel: 071 412 0141
Fax: 071 412 0145

13th-14th
London: 'Natural Gas Trade and Investment Opportunities in Russia and the CIS'. Details: Karen Sotnick, The Conference Unit, The Royal Institute of International Affairs, CHatham House, 10 St James's Square, London SW1Y 4LE
Tel: 071 957 5700
Fax: 071 321 2045/957 5710

16th-19th
Abu Dhabi: '6th Abu Dhabi International Petroleum and Gas Exhibition (ADIPEC '94)'. Details: Alison Carew Cox, SBGI, George House, George Road, Edgbaston, Birmingham, B15 1PG.
Tel: 021 455 9600
Fax: 021 456 1785

17th
London: 'Management & Storage of Seismic Data: Time for Decisions'. Details: Kate Hunnisett, Seismic DMS Seminars, Themedia Ltd, PO Box 2, Chipping Norton, Oxon, OX7 5QX.
Tel: 0608 684700
Fax: 0608 684796

17th-18th
Cape Town, South Africa: 'AfricaOil '94'. Details: AIC Conferences, PO Box 67762, Bryanston 2021, South Africa.
Tel: 2711 463 2802
Fax: 2711 463 6000

17th-18th
London: 'Oil & Money'. Details: Brenda Hagerty, International Herald Tribune, 63 Long Acre, London, WC2.
Tel: 44 71 836 4802
Fax: 44 71 836 0717

18th-19th
London: 'Update on Sour Service: Materials Maintenance & Inspection in the Oil & Gas Industry'. Details: Nadia Ross, IBC Technical Services Ltd.
Tel: 071 637 4383
Fax: 071 631 3214

18th-20th
Aberdeen: 'Control and Operation of Centrifugal Gas Compressors'. Details: Tony Watkins, Institution of Chemical Engineers, Davis Building, 165-189 Railway Terrace, Rugby, Warwickshire, CV21 3HQ.
Tel: 01788 578214
Fax: 01788 577182

18th-20th
Antwerp: 'The International Bulk Transport and Storage Meeting'. Details: Tank Europe '94 Baltic Conventions, The Baltic Centre, Great West Road, Brentford, TW8 9BU.
Tel: 44 81 847 2446
Fax: 44 81 569 8688

19th
London: 'Environment Management Systems – Implications for the Oil Industry'. Details: Caroline Little, The Institute of Petroleum.

20th-21st
Phuket, Thailand: '2nd Annual Conference on Pan Asian Refinery 2000'. Details: Centre for Management Technology (Singapore).
Tel: 65 3457322
Fax: 65 3455928

24th-28th
Thailand: 'Understanding Refinery Operations and Economics Part 1'. Details:The College of Petroleum and Energy Studies, Oxford.
Tel: 0865 250521
Fax: 0865 791474

FORTHCOMING EVENTS

24th-28th
London: 'Introduction to Refinery Technology'. Details: Tony Watkins, Institution of Chemical Engineers, Davis Building, 165-189 Railway Terrace, Rugby, Warwickshire, CV21 3HQ.
Tel: 01788 578214
Fax: 01788 577182

25th
Aberdeen: 'Developing Partnerships in the Oil Industry'. Details: Robin Bowden.
Tel: 041 332 2827

25th-26th
Aberdeen: 'Proven Partnering & Contracting Strategies'. Details: IIR Ltd, Industrial Division, 28th Floor, Centre Point, 103 New Oxford Street, London, WC1A 1DD
Tel: 071 412 0141
Fax: 071 412 0145

25th-27th
London: 'European Petroleum Conference'. Details: Society of Petroleum Engineers, 4 Mandeville Place, London w1M 5LA
Tel: 071 487 4250
Fax: 071 487 4229

November

2nd-3rd
Paris: 'The 1994 European Autumn Gas Conference'. Details: Overview Conferences, 82 Rivington Street, London, EC2A 3AY.
Tel: 071 613 0087
Fax: 071 613 0094

3rd
London: 'Education and Training Conference, Life after Re-engineering'. Details: Caroline Little, The Institute of Petroleum.

3rd-4th
Berlin: 'Investing in New Infrastructure for Europe'.Details: Lisa O'Gorman, International Herald Tribune, 63 Long Acre, London WC2E 9JH.
Tel: 071 836 4802
Fax: 071 836 0717

6th-9th
Dallas: '16th North American Conference'. Details: International Association for Energy Economics, 28790 Chagrin Boulevard, Suite 210, Cleveland, OH 44122 USA.Tel/Fax: 216 464 5365

8th-10th
Birmingham: 'IWEX '94, International Water and Effluent Treatment Exhibition'. Details: Mr Paul Tweedale.
Tel: 44 923 228577
Fax: 44 923 221346

9th-10th
London: 'Terminal Operation and Dynamic Measurement'. Details: Abacus International, 214 Inchbonnie Road, South Woodham Ferrers, Essex CM3 5WU
Tel: 0245 328340
Fax: 0245 323429

10th
London: 'IFEG Conference "Beyond the Bookshelf"'. Details: Caroline Little, The Institute of Petroleum.

12th-15th
Egypt: 'Twelfth Petroleum Exploration and Production Conference'. Details: Mr Ahmed Ragheb, E.G.P.C., PO Box 2130 – New Maadi Cairo, Egypt.
Tel: 202 353 1571
Fax: 202 3531457

15th-17th
Amsterdam: 'Holland Offshore Congress '94'. Details: IRO, Association of Dutch Suppliers in the Oil & Gas Industry, PO Box 7261, 2701 AG Zoetermeer, Netherlands.
Tel: 31 79 411981
Fax: 31 79 419764

15th-17th
Amsterdam: 'Energy Economy '94'. Details: Energy Economy '94 c/o Amsterdam RAI, PO Box 77777, 1070 MS Amsterdam, Netherlands.
Tel: 31 20 549 1212
Fax: 31 20 646 4469

15th-17th
Amsterdam: 'Petrotech '94 Emphasis on Environmental Investments'. Details: RAI Press Department, Hans Verweij, Europaplain, Netherlands-1078 GZ
Tel: 31 20 549 1212
Fax: 31 20 646 4469

16th-18th
London:'Techniques for Cost Effective Exploration and Production'. Details: Petex Ltd, 17-18 Dover Street, London, W1X 3PB.
Tel: 071 495 5800
Fax: 071 495 7808

16th
London: 'Phase 1 Development of the North Gas Field Project in Qatar'. Details: Gareth Edwards.
Tel: 071 973 1243

21st-25th
Singapore: 'Global LPG Supply Developments – The Implications for Markets, Shipping and Trading in SE Asia'. Details: The College of Petroleum and Energy Studies, Oxford.
Tel: 0865 250521
Fax: 0865 791474

22nd
London: 'Political Risk – Outlook for the Oil Industry in 1995 Conference'. Details: Caroline Little, The Institute of Petroleum.

22nd-24th
Birmingham: 'Practical Distillation Technology'. Details: Tony Watkins, Institute of Chemical Engineers, Davis Building, 165-189 Railway Terrace, Rugby, Warwickshire, CV21 3HQ.
Tel: 01788 578214
Fax: 01788 577182

23rd-24h
Aberdeen: 'Offshore Pipeline, Design Construction, and Operation'.
Details: IIR Ltd, 28th Floor, Centrepoint, 103 New Oxford Street, London WC1 1DD.
Tel: 071 412 0141
Fax: 071 412 0145

24th
Aberdeen: 'CRINE – Turning the Vision into Reality'. Details: Zoe Corsi, Aberdeen Chamber of Commerce, 10 Albyn Grove, Aberdeen AB9 1HF.
Tel: 0224 212626
Fax: 0224 213221

28th-29th
London: 'Emerging Policies for European Energy'. Details: The Conference Unit, The Royal Institute of International Affairs, 10 St James's Square, London SW1Y 4LE.
Tel: 071 957 5700
Fax: 071 957 5710

28th-29th
London: 'Strategy & Economics on the North Sea'. Details: Customer Services Manager, IIR Ltd, 28th Floor, Centre Point, 103 New Oxford Street, London WC1A 1DD
Tel: 071 412 0141
Fax: 071 412 0145

December

5th-6th
Aberdeen: 'Successfully Implementing Benchmarking in the Oil & Gas Industry'. Details: Customer Services Manager, IIR Ltd, 28th FLoor, Centre Point, 103 New Oxford Street, London, WC1A 1DD.
Tel: 071 412 0141
Fax: 071 412 0145

7th-8th
London: 'Petroleum Trading and Measurement Accuracy', Details: Abacus International, 214 Inchbonnie Road, South Woodham Ferrers, Essex CM3 5WU.
Tel: 0245 328340
Fax: 0245 323429

INSTITUTE NEWS

NEW MEMBERS

Mrs S H Abdul Hamid, Petroleum Unit (PEJABAT), Prime Minister Office, 4th Floor, RBA Plaza, Bandar Seri Begawan Brunei, Darussal.

Mr T Abubakar, R12 Gadas Rd, U/Sarki, PO Box 2685, Kaduna Nigeria.

Dr R J Arnott, Goldman Sachs, Peterborough Court, 133 Fleet Street, London, EC4A 2BB

Mr J Boyd, John Boyd Associates, The Grange Business Centre, Belasis Avenue, Billingham, Cleveland, TS23 1LG

Mr A J Carr, 15 Herga Court, Harrow on the Hill, Harrow, Middx, HA1 3RS

Mr S Dolman, European Marine Contractors Ltd, EMC House, Motspur Park, New Malden, Surrey, KT3 6JJ

Mr P Dorlin, 6 Manor Road, Brampton Bierlow, Rotherham, South Yorkshire, S63 6BL

Mr C Dyer, The Chestnuts, Hazleton, Cheltenham, Glos, GL54 4DX

Dr A Eguma, 2 Odunjo Street, Aguda, PO Box 859, Surulere, Lagos Nigeria.

Mr M Flannery, Barclays de Zoete Wedd, Ebbgate House, 2 Swan Lane, London, EC4R 3TS

Mr G Gilchrist, Barclays de Zoete Wedd, Ebbgate House, 2 Swan Lane, London, EC4R 3TS

Mr G C Harris, 58 Royle Close, Chalfont St Peter, Gerrards Cross, Bucks, SL9 0BB

Mr J M Howitt, 9 The Poplars, Wolviston, Billingham, Cleveland, TS22 5LY

Captain P N Kale, c/o Mrs Smita Kale, 21 Godavari Aptts, Alaknanda, New Delhi 110019 India.

Miss M Kubica, Oakwood Environmental, The Limes, Combe Lane, Wormley, Godalming, Surrey, GU8 5SX

Mr R E Llewellyn-Smith, Oakwood Environmental, The Limes, Combe Lane, Wormley, Godalming, Surrey, GU8 5SX

Mr E J Lowres, 53 Stokefields, Guildford, Surrey, GU1 4LT

Mr A C MacLeod, 53 Percy Road, Isleworth, Middx, TW7 7HD

Mr T J Matthewson, Oakwood Environmental, The Limes, Combe Lane, Wormley, Godalming, Surrey, GU8 5SX

Mr A Mitrovic, 4008-20 Avenue, Edmonton, Alberta, T6L 2R1 Canada.

Engr O B Ogunbase, Total Nig plc, 4 Afribank Road, Total House, Victoria Island, Lagos, Nigeria.

Mr J R Oliver, ENRON, Seal Sands Road, Seal Sands, Middlesborough, Cleveland

Miss S J Packman, 10 Chestnut Way, Burton, Christchurch, Dorset, BH23 7LL

Mr B Plewnia, Wacker-Chemie GmbH, Hanns-Seidel Platz 4, D-81737, Munchen Germany.

Mr H Reed, Cambridge, Information & Research Services Ltd, Rosemary Hse., Lanwades Business Pk, Newmarket, Suffolk, CB8 7PW

Mr D Reid, 8 Balgownie Drive, Bridge of Don, Aberdeen, AB22 8FD

Mr R Reid, Mobil Oil Company Limited, Coryton Refinery, The Manorway, Stanford-Le-Hope, Essex, SS17 9LL

Mrs V P Roper, 4 Haste Hill Common, Haslemere, Surrey, GU27 2EZ

Miss E J Taylor, Isle Save Services Ltd, Apex House, 22 Portugal Road, Woking, Surrey, GU21 5JE

Miss C M Vigus, 274 Hook Road, Epsom, Surrey, KT19 8QT

Mr G N Walker, Grace Dearborn, Waterside Lane, Foundry Lane, Ditton, Widnes, Cheshire, WA8 8UD

Mr P Walker, 2121 Lakeridge Drive, Grapevine, Texas, 76051 USA

Mr T J Whitworth, O I L Shetland, O.I.L. Base, Gremista, Lerwick, Shetland, ZE1 0PY

Mr J K Willis, 32 Mount Hermon Road, Woking, Surrey, GU22 7UN

Mr S N Young, Alan Dyson Ltd, Forum House, Stirling Road, Chichester, West Sussex, PO19 2EN

BENEVOLENT FUND

The Institute of Petroleum has a Benevolent Fund for the provision of financial and other relief or assistance to necessitous persons who are or who have been members of the Institute and the necessitous wives, widows, families and dependent relatives of such persons as the Management Trustees in their absolute discretion think fit. If members of the Institute are aware of any such necessitous persons, even if their membership of the Institute has ceased, they are asked to inform the Institute. Applicants would be asked to complete a form giving details of their financial circumstances which would be treated in strict confidence. Help might be given for temporary difficulties, such as the cost of convalescence following illness.

Around the Branches

Aberdeen
8 November: *Handling the Media,* Mr S Philips, Aberdeen Journals.

Edinburgh & South East Scotland
11 October: *A Case Study in Offshore Data Collection and Analysis,* Mr Jens Tveita, Total Oil Marine.
October: (to be finalised) Young Students Visit to BP Oil Kinneil and Hound Point.

Humber
6 October: *Salvage Operations on the Humber,* Mr Dalrymple, Humber Tugs
28 October: Annual Dinner and Dance.

London
25 October: *Additives for Modern Fuels,* Ms C Hickey, Shell UK Ltd Downstream Oil.

Midland
19 October: *The Role of the Independent Retailer,* Mr Bruce Petter, Director of the PRA.

North East Branch
7 October: Social Evening at Hallgarth Manor Hotel.
28 October: *Neural Networks in the Petrochemical Process Industry,* R Browne, DTI, London.

Northern
18 October: *Marine Oils,* Peter Russell, Lubrizol (UK) Ltd.

Stanlow
19 October *Computer Integrated Manufacturing for Continuous Processes,* David Stockhill, Shell UK Ltd.

Southern Branch
16 October: Treasure Hunt

South Wales
20 October: *From Pipe to Pump,* Elf Distribution.

Yorkshire
11 October: *Alternative Fuel Technology,* Mr J Seymour, Chairman, East Durham bio-diesel group.

NEW COLLECTIVE MEMBERS

KPMG Peat Marwick, 1 Puddle Dock, Blackfriars, London EC4V 3PD
IP Nominated Representative: Mr Roger Munnings, Chairman, Energy & Natural Resources

KPMG Peat Marwick is one of the leading firms of accountants in the UK and is part of the worldwide organisation of KPMG which operates in over 30 countries. Through its international Energy and Natural Resources network, the firm provides a full range of financial, tax consulting and other specialist advice to clients in the sector worldwide.

Able Instruments & Controls Ltd, Cutbush Park, Danehill, Lower Earley, Reading
IP Nominated Representative: Mr Neil Stevens, Marketing Executive

Able Instruments & Controls Ltd are suppliers of industrial instrumentation for the measurement and control of a wide range of process parameters including: flow, level, pressure, temperature, moisture, humidity, gas analysis and light.

McKenna & Co, Mitre House, 160 Aldersgate Street, London EC1A 4DD
IP Nominated Representative: Mr Justin Ede, Partner

Mckenna & Co's Oil and Gas group advises on mineral and surface rights; licences and concessions; planning requirements and environmental matters; project finance; construction, operation and maintenance contracts; employment legislation; health and safety issues, transportation, storage distribution and supply; taxation; insurance; EEC regulation. When disputes arise a complete service is provided including advice on merits, negotiation and where necessary domestic or international litigation or arbitration.

Air Products, Hersham Place, Molsey Road, Walton-on-Thames, Surrey KT12 4RZ
IP Nominated Representative: Mr John Dodds, Communications Manager

Air Products & Chemicals is one of the world's leading suppliers of industrial gases, chemicals, process equipment and environmental energy systems. The company supplies hydrogen to refineries both in Europe and the United States.

Alf Cluer celebrated 50 years as a Fellow of the Institute of Petroleum with a cocktail party for friends and former colleagues.

He is a graduate chemist of London University and a qualified Chemical Engineer. He joined Lobitos Oilfields in 1934 and apart from a year in Ecuador spent his whole career with the company at Ellesmere Port. After Burmah Oil took over Lobitos in 1963 he transferred from Refinery Manager to a Group Refineries job supposedly in London but which involved a lot of globe-trotting. One of his functions in this post was responsibility for Burmah-Castrol's Manufacturing Division, a suitable culmination to 30 years practical experience in making all kinds of lubricating oils, including white oils.

He was a founder member of the Stanlow Branch in the late 1930s. He has been a Council Member and chaired many IP committees; at present he is on the Energy Economics Group Committee. For his work for the IP he was awarded the Eastlake Medal in 1979.

Since he retired in 1970 he has been an independent consultant on refining matters. However, in reality 'retirement' does not figure in his vocabulary – he continues to organise very successful conferences for the IP and is a frequent (and popular) lecturer at the College of Petroleum and Energy Studies in Oxford. Earlier this summer he was seen striding off to join a trip offshore during the World Petroleum Congress in Stavanger.

In the oil industry for 60 years and an active member of the IP for 50 years, Alf Cluer hasn't stopped yet.

UK Deliveries into Consumption (tonnes)

Products	*†Jul 1993*	**Jul 1994*	*†Jan-Jul 1993*	**Jan-Jul 1994*	*% Change*
Naphtha/LDF	267,784.0	218,425.0	1,828,674.0	1,686,113.0	-8
ATF – Kerosene	712,072.0	708,977.0	4,014,061.0	4,091,563.0	2
Petrol	2,050,059.0	1,952,942.0	13,778,072.0	13,192,399.0	-4
of which unleaded	1,093,566.0	1,129,157.0	7,115,639.0	7,466,790.0	5
of which Super unleaded	126,954.0	123,531.0	849,525.0	826,106.0	-3
Premium unleaded	966,612.0	1,005,626.0	6,266,114.0	6,640,684.0	6
Burning Oil	128,259.0	82,813.0	1,418,594.0	1,543,889.0	9
Derv Fuel	997,089.0	1,045,773.0	6,731,740.0	7,213,289.0	7
Gas/Diesel Oil	528,873.0	531,927.0	4,459,108.0	4,446,454.0	0
Fuel Oil	884,575.0	604,268.0	6,148,808.0	5,568,856.0	-9
Lubricating Oil	66,831.0	68,212.0	475,592.0	461,531.0	-3
Other Products	751,143.0	753,095.0	4,526,827.0	4,867,340.0	8
Total above	**6,386,685.0**	**5,966,432.0**	**43,381,476.0**	**43,071,434.0**	**-1**
Refinery Consumption	539,480.0	519,836.0	3,632,200.0	3,696,267.0	2
Total all products	**6,926,165.0**	**6,486,268.0**	**47,013,676.0**	**46,767,701.0**	**-1**

*† Revised with adjustments *preliminary*

Over the last 89 years BEN — Motor and Allied Trades Benevolent Fund has cared for tens of thousands of people. Not just direct employees and pensioners of our industry, but their dependants too, young and old alike.

During that time there have been many changes. Different companies have come and gone, unions evolved beyond recognition and the welfare state has been in continual flux.

But one thing has remained constant — the care and attention BEN has given to those who look to us for support, whether it be emotional or financial (including residential and nursing care).

So why the BENelephant? It's a symbol of our memory: how we never forget those who worked in our industries, and will always remember that many people will need our help in the future.

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Time for this little elephant to blow its own trumpet

Ben

MOTOR AND ALLIED TRADES BENEVOLENT FUND

Lynwood, Sunninghill, Ascot, Berkshire SL5 0AJ Tel: 0344 20191 Fax: 0344 22042

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