PETROLEUM REVIEW

IP THE INSTITUTE OF PETROLEUM

March 1994

IP Week

Energy Minister Tim Eggar addresses the Annual Dinner

Exxon's LR Raymond comes to London

Interview

Dr Subroto, OPEC Secretary General, speaks out

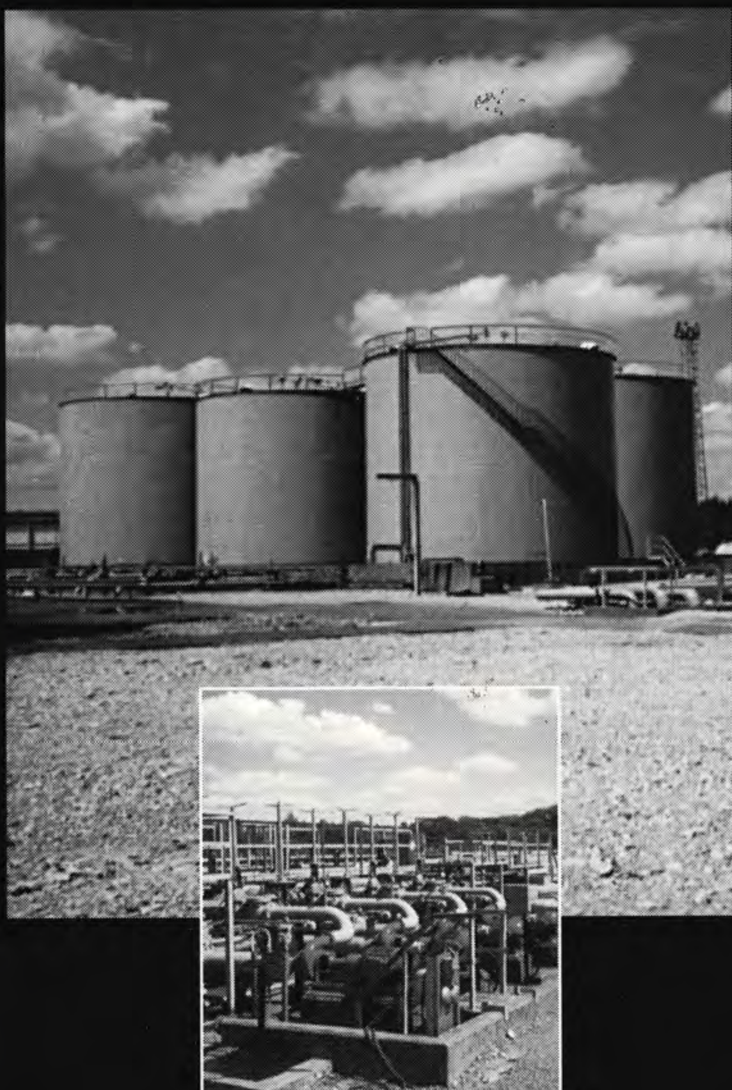
Petrol retailing

Changing approach to petrol retailing by superstores?

Helsinki

How one capital city plans to cut back the number of service stations

FOR SALE



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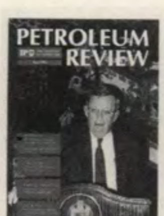


COVER PHOTO
L R Raymond, Exxon Corp

NEWS IN BRIEF

30 January
Kelt Energy has agreed to swap its onshore southern England licence interests for a majority of Cairn Energy's stake in Yorkshire, together with a cash payment of £4.2 million. According to Kelt, the deal is part of an overdue rationalisation of the UK onshore oil sector.

1 February
Ross Offshore's semi-submersible, Kingsnorth Explorer, became the first rig to have its Safety Case accepted by the HSE.

Amerada Hess has received the go-ahead for its South Scott development from the UK Department of Trade and Industry.

Shell and Esso have awarded a £12m detailed design contract for a Floating Production Storage and Offtake facility (FPSO) to the Swiss company, Single Buoy Moorings. It is the first time either partner has considered anything other than conventional fixed platform facilities.

2 February
A total of 1,200 jobs are to be axed in the UK and Norway by a variety of oil companies. BP announced the loss of 230 London jobs, Shell plans to cut 450 staff in Norway, Elf Enterprise is shedding 200 British jobs, Chevron is dropping 60 staff, and Marathon and Stena 100 each.

Ecuador's largest trade union federation, the United Workers' Front, called a general strike after the government decreed a 70 percent increase in the price of petrol.

3 February
Kuwait is to supply Sasol Oil with 1m tonnes of oil, in the first openly-announced crude deal since the lifting of sanctions on South Africa.

4 February
Lasmo has withdrawn its 33 percent stake in the North Sea Markham field from the market, a year after announcing its intention to dispose of the holding. The company said it is now in a stronger financial position following the £123m sale of assets to Powergen in December.

6 February
Statoil has designed a new multi-role tanker which can function as either shuttle tanker, storage vessel or early production vessel. It weighs 90,000 dwt and has been developed with smaller fields in mind.

7 February
ICI has agreed the £60m sale of its polypropylene manufacturing operations to BASF. The deal elevates the German group from seventh to second biggest producer in Europe.

8 February
Eight shiprepair workers were killed and three seriously injured in an explosion on a BP tanker. The *British Adventure* was undergoing minor repairs in Singapore's Jurong shipyard.

An international consortium, led by AGIP, has clinched a deal with China to explore for oil and gas in 9,814 sq kms of the Tarim Basin. The eight-year agreement gives the China National Petroleum Corporation a 51 percent stake in any discoveries.

BP is to re-name the Forth field in the North Sea after the late Mr David Harding CBE. The former Chief Executive of BP Exploration in Latin America died late last year.

9 February
Oman has furthered its plans to export natural gas by approving a joint venture with six western and Japanese firms, including Shell. It will hold a 51 percent share in the company, which plans to build a gas liquefaction plant and purchase tankers.

Enterprise Oil has increased its Norwegian acreage by 25 percent after reaching an agreement to farm into three licences operated by Esso. The company will fund a £36m three-year Norwegian North Sea investment programme, in return for a 50 percent interest in each licence.

The Russian energy ministry has announced a non-payments crisis which it warned could 'completely paralyse economic activity'. The Ukraine, Belarus and Moldova are some of the worst debtors.

The Stolt-Nielsen group, owner of a cargo believed to be responsible for the pollution of miles of coastline in northwest England, has agreed to pay £100,000 towards clean-up operations.

10 February
Texaco has agreed to pay $250m to settle a six-year battle with Louisiana over alleged underpayment of royalties. The company has also promised to invest over $150m in the state's beleaguered oil industry.

3,000 tonnes of oil have leaked from a broken pipeline in south-central Russia, forming a 17-acre petroleum lake.

11 February
Ruhrgas has acquired a 20 percent stake in the US gas marketing company, Tenneco Energy Resources, for $47m.

Santa Fe Drilling has been fined £1,000 at Aberdeen Sheriff Court for contravening health and safety regulations after a roustabout injured himself falling nine feet through a mesh grating.

National Power and Powergen have been forced to reduce their prices by up to seven percent over the next two years and are also being asked to try to sell 6,000MW of generating plant by the director general of electricity supply, Professor Stephen Littlechild. The measures are an alternative to referring the generators to the MMC.

12 February
A Haitian depot filled with tens of thousands of gallons of smuggled fuel has been destroyed in an explosion. The blaze, said to be caused by dangerous stockpiling, sent fuel prices soaring from 110 gourdes to 135 gourdes. A UN fuel embargo has been in place since October when the army blocked the return of elected president, Jean-Bertrand Aristide.

14 February
The £3.75bn privatisation issue of Elf Aquitaine was almost three times oversubscribed and attracted over three million applications from individual investors, economy minister Edmond Alphandery announced. As a result of the strong demand, the government is to claw back shares worth £5.6m from the institutional investors.

Exploration carried out to date by partners BHP and Petronas at Dai Hung, off the coast of Vietnam, has yielded disappointing results. The first three wells drilled show oil and gas reserves to be under 400m barrels, half the original estimate.

Kerr-McGee is set to become the first US oil company to drill off Vietnam, after securing a farm-in deal with Cairn Energy and Secab. The company now has a 35 percent stake in a one million acre block, situated in the South Con Son basin.

15 February
Phillips Norway has submitted yet another set of redevelopment plans for Ekofisk to the Norwegian government just 10 days before the country's petroleum directorate was due to deliver its verdict on the company's previous two proposals.

17 February
The OMV Group has announced the construction of a new 120km pipeline which will transport gas between Baumgarten in Austria and Gyor in Hungary. It will have an annual capacity of 4.5bn cubic metres and will be operational in autumn 1996.

The oil price dropped to a new five-year low of $12.96 on the International Petroleum Exchange in London, before recovering to $13.20 later in the day.

21 February
Total and Elf Aquitaine have invited a top Iraqi oil team to Paris for talks over the Nahr Umar and Majnoon fields. It is the first invitation of its kind to be issued by a western country since the Gulf War but no agreement can be reached until UN sanctions are lifted.

22 February
Negotiations between Azerbaijan and a seven-member Western consortium over the exploitation of massive reserves in the Caspian Sea are back on track after a year of stalling. During a visit to London, Azeri President Heydar Aliev decreed that talks should resume immediately.

24 February
Chevron's North Sea Alba field, which began production in mid-January after a month's delay, has been officially inaugurated by The Honourable Lord Cullen, Chairman of the Piper Alpha Public Inquiry.

DATES FOR YOUR DIARY

IP THE INSTITUTE OF PETROLEUM

Monday 11th April 1994
5.00 pm for 5.30 pm – 7.00 pm

'Environmental Regulations – the Trade-Off between Cost and Benefit'

By Jeremy Leggett, Greenpeace
Klaus Kohlhase, Head of Corporate Health, Safety and the Environment, British Petroleum

Chairman: Elizabeth Dower Jeffrey, Managing Director, Oakwood Environmental

The speakers will address the complex and controversial issue of the balance between the cost to the oil and gas industry of implementing environmental regulations, and the ensuing benefit to the environment. The presentations will be followed by a panel discussion.

Organised by Energy Economics Discussion Group

IP Contact: Pauline Ashby

Wednesday 16 March 1994
5.00 pm for 5.30 pm – 7.00 pm

'Critical Success Factors in Safety & Quality Management – Is BS 5750 One of Them?'

By Mr Alan Waring, Safety Management Consultant

Many organisations are disillusioned with the failure of BS 5750 to deliver the promised benefits. Alan Waring will present a talk on the role of standards such as BS 7570 in achieving success in the functionally related areas of safety, quality and environment. Reference will be made to work on a new British Standard for occupational health and safety management systems.

Organised by
Exploration and Production Discussion Group

IP Contact: Sjoerd Schuyleman

Wednesday 23 March 1994
5.30 p.m. for 6.00 p.m.

'One Man Band Experiences'

By Marisa King – Mobil Services
Lorna O'Connor – Lasmo
Grace Kwabla – McDermott Engineering

Three speakers will each talk for approximately 20 minutes on the trials and tribulations as well as the triumphs of managing information units single handedly.

Organised by Information for Energy Group

IP Contact: Lyn Nevin

Tuesday 22 March
5.00 pm for 5.30 pm – 7.00 pm

'LNG and the Japanese Power Supply Industry'

By H Hasegawa, General Manager of the London Office of The Tokyo Electric Power Co. Inc.

Mr Hasegawa will be talking on the growth in the use of LNG for power generation in Japan since 1969 and its long-term future.

Organised by the
Energy Economics Discussion Group

IP Contact: Pauline Ashby

All meetings are held at the Institute of Petroleum. Please tell the IP contact if you plan to attend any of these free meetings. Tel: (071) 636 1004. Fax: (071) 255 1472.

OFGAS predicts major role for electricity companies in gas market

Britain's electricity companies will have a major role to play in the supply of gas to domestic consumers once the market has been opened up to competition in 1996, according to the Director General of OFGAS.

Presenting her first annual report since taking over from Sir James McKinnon in November, Ms Clare Spottiswoode said their large customer bases and billing systems meant the regional companies had 'a natural affinity' with the domestic gas market. At present, they account for 15 of the 35 companies actively trading in competition with British Gas.

'I also hope that gas companies will supply electricity', said Ms Spottiswoode, who believes there will be a strong case in the future for the two industry watchdogs to amalgamate.

Ms Spottiswoode said domestic gas consumers had seen prices fall by 20 percent in real terms since the privatisation of British Gas. However, the introduction of VAT on domestic fuel, over which she stressed OFGAS had no control, would 'largely negate' these benefits.

Ms Spottiswoode also distanced herself from the aims of the Energy Savings Trust in reducing CO_2 emissions. 'Neither OFGAS nor British Gas has any such duty in relation to the environment.'

The regulator welcomed a new era of cooperation with British Gas. She said the company had 'embraced competition', not least because it wanted to be free of OFGAS. However, she warned there would be tough regulations over pipeline tariffs for a long time yet.

Ms Spottiwoode said that competition would bring a range of new products and services onto the marketplace. These could include offpeak gas-driven tumble driers and natural gas vehicles. She also predicted the rapid development of a a derivatives market in gas.

An OFGAS/ Department of Trade and Industy consultative document, giving details on how competition will be introduced into the industry, is due to be published shortly.

Chinese LPG joint venture

Shareholder approval was given last month for Fortune Oil to participate in a joint venture with Guangdong Province Zhanjiang Coal General Gas Co and Vital Asia Pte Ltd.

Six 1,000 cubic metre LPG storage spheres will be operated together with bottling and distribution facilities in Zhanjiang, Guangdong Province. An early start-up will be possible because three spheres have already been built. The total cost of the project is US$8.2 million of which Fortune Oil will contribute US$2.3 million.

The LPG, destined for domestic consumers, will be marketed and sold as bottled gas under the name Fortune Gas, thus introducing the Fortune brand name to China for the first time.

Demand for LPG is expected to escalate fast as shortages of coal and firewood, the traditional fuels, worsen. China as a whole is already desperately short of energy and demand for all fuels is forecast to rise sharply in future years.

This joint venture is a first. LPG sales in other parts of China were previously state-operated.

A Fortune spokesman told *Petroleum Review* that other similar projects, such as the storage and distribution of aviation fuel at airports, are being negotiated elsewhere in China.

Texaco plans Britain's first ever gas-less gas station

A petrol station selling everything from a pint of milk or a frozen-ready meal to take-away hamburger and chips. A whole range of convenience goods to choose from, but there is one particular product that's never in stock – petrol.

Petrol-less petrol stations are soon to become a reality in Britain as Texaco plans to convert selected sites into stand-alone Star Markets.

'We have now learnt skills as a pure retailer,' said Sales and Marketing General Manager John Darnley who believes the first gas-less site could be open as early as this year.

With European Community legislation coming through thick and fast, some of Britain's smaller petrol stations are becoming less and less viable as pure fuel sites but still make good margins on convenience goods. Converting them to pure retail sites would be cheaper than the re-developments required to comply with new regulations. Coupled with this, Texaco believes it has identified a gap in the market when it comes to convenience shopping.

'We believe shopping habits have changed,' said a spokeswoman. 'A lot of people do their main shop in the supermarket but then top up throughout the week. But with the decline of the old corner-shop, this has become increasingly difficult.

'Our sites would also have the advantage of longer opening hours – in some cases offering 24-hour shopping'.

Texaco already has a location in mind for its first conversion. A small, ageing station, it has limited potential for the sale of fuel but the high level of pedestrian traffic in the area means it has considerable scope as a convenience store.

However, Texaco is not prepared as yet to put a figure on the total number of sites earmarked for conversion.

The company has expressed an interest in forming a partnership with McDonald's on some of these sites. The costs of redevelopment would then be even lower, while consumer 'footfall' would be higher.

Branding will be used to distinguish sites with petrol from those without.

Shell said it has no immediate plans to follow Texaco's example but may look at the concept of petrol-free petrol stations in the future.

BP said it had no intentions of following suit. 'Our business is in selling fuel to motorists,' said a spokesman.

Has Texaco identified a gap in the convenience store market?

NEWSDESK

Bitor Europe plans to quadruple Orimulsion sales

The amount of Orimulsion being burnt in Europe will quadruple by the turn of the century, according to the chief executive of Bitor Europe.

Launching an aggressive new marketing drive, Dr Manuel F De Oliveira said that sales of the Venezuelan fuel would rise to between eight and 12 million tonnes per annum by the year 2000.

Successful trials of Orimulsion, which has been the subject of attack by environmentalists in recent years, have now taken place in Germany, Italy, Portugal, the United States, Canada and Japan. 'I am confident that our next supply contract will be for a Continental power station,' said Dr Oliveira.

Bitor Europe, wholly-owned by Petroleos de Venezuela since BP sold its 50 percent stake earlier this year, already supplies two power stations in Japan and two in the United Kingdom. In 1993, Powergen was granted permission by Her Majesty's Inspectorate of Pollution to burn the fuel for a further five years before having to fit clean-up equipment.

Orimulsion is a natural bitumen-in-water emulsion fuel produced from the Orinoco basin in Venezuela. The vast reserves cover an area equivalent to the size of Denmark.

OPEC faces 'potentially devastating' loss in revenue

OPEC may soon be forced to rely on foreign investment if it is to avoid a potentially devastating drop in revenue and the loss of its market share.

According to a new report from the Centre for Global Energy Studies (CGES), an upsurge in non-OPEC production in recent years is threatening any hopes OPEC may have had of a recovery in the oil price.

Last year production outside OPEC and the former Soviet Union increased by nearly 1m b/d. In the North Sea alone, 17 new fields came on stream. And over the past eight years, the report shows that a total of 5m b/d of non-OPEC production has come on stream.

This rapid expansion reflects both political decision-making in non-OPEC countries and lower company costs, says the CGES. The new North Sea fields coming on stream now cost on average 20 percent less to operate than those already in place.

According to the CGES, OPEC will only restore its market share if it develops more of its massive proven oil reserves. But this requires capital and the member states are in a poor financial situation. 'In these circumstances,' says the report, 'they may have to rely on foreign investment.

'Whether the OPEC states embrace political expediency in the face of a potentially devastating loss of revenue remains to be seen.'

First oil flows from Nelson

The Nelson field, one of the UK's largest discoveries in recent years, came on stream on 18 February at a cost of £1.1 billion.

The field has recoverable reserves of around 450 million barrels of oil and natural gas liquids and 185 billion cubic feet of gas.

Developed through a special operatorship arrangement between Shell Expro and Enterprise Oil, Nelson is expected to build up to a peak production rate of 160,000 b/d over the next few months.

While Shell Expro acted as operator for the design and construction stage, the reins are now being handed over to Enterprise. This is the UK independent's first North Sea operatorship.

Dr Chris Fay, Chairman of Shell UK, said the Nelson platform had been built according to many of the principles advocated by the CRINE initiative.

The development was carried out on time and within budget, he added.

Met Office unveils new marine forecast unit

The British Met Office has set up a new business unit geared specifically to the needs of the offshore and shipping industries worldwide.

The Marine Weather Group will be based in Aberdeen and will have a satellite office in Singapore, reflecting the increasing rate of exploration in the Far East.

The Group will offer the latest enhanced wave and wind forecast techniques and electronic information systems. These include two new computer forecast models, one for worldwide locations away from shipping lanes and one, incorporating shallow-water physics and higher resolution winds, for Europe and the North Sea.

Using data from the earth, sea and space, these latest 'supercomputer models' can pinpoint the weather for any given set of coordinates and are initialised twice daily to indicate actual wind and wave distribution for up to six days ahead.

Forecasting is particularly vital for typhoon areas such as the Gulf of Mexico and the South China Sea, where two rigs have been lost over the past decade.

Commercial director Bernard Herdan said the Met Office had amassed 70 million weather observations at sea. 'We are like magpies - we collect all the data we can get.

'This data then helps in the assessment of production time likely to be lost due to adverse conditions, and assists with the planning of transport needs for men and equipment.'

Operators can also make their own forecasts based on graphs and tables, using a new PC-based interactive, on-line weather system called MIST.

Stormy weather

Mr Colin Grant, a BP oceanographer and chairman of UKOOA's metocean committee, welcomed the new unit but also highlighted areas where further development was needed.

He warned that techniques for modelling currents were not sufficiently advanced. 'As we move into deeper waters, such as in the west of Shetlands, this will become more of a problem.

'We also need to improve our ability to forecast small-scale features in extreme storms. In the North Sea, for example, you'll see one platform being hit by huge waves, while the next rig along remains totally unaffected.'

Industry awaits government decision on benzene

The recent recommendation by scientists for a safety limit on airborne levels of benzene could have major implications for the oil industry if it were to be taken up by the government.

The government-appointed Expert Panel on Air Quality Standards has recommended a running annual average of five parts per billion (ppb) in air. It has also recommended that the government set a target date for further reducing the level to one ppb in air.

Environment Minister Robert Atkins promised to consider the recommendations 'very carefully'. Industry expects to know more once the Department of Environment has published its consultation paper on air quality standards, which is due out this month.

While the first recommended limit for benzene may not pose too many difficulties, some sources suggest that a further reduction to a running annual average of one ppb in air could have major repercussions for oil companies.

'If the government were to take such extreme action as requiring the removal of benzene from oil or limiting traffic access to urban areas, this would have a significant effect on the industry,' said Mr Tony Fox, executive director of the UK Petroleum Industry Association (UKPIA).

However, the indications so far are that the government will adopt a more moderate approach to benzene. Secretary of State for the Environment John Gummer, for example, recently announced that he saw no need to limit traffic in urban areas or to prevent cars without catalytic converters from entering city centres.

According to the Expert Panel's report, almost 80 percent of atmospheric benzene in Britain is derived from petrol engine exhausts. A heavy smoker, however, will probably inhale more benzene from cigarettes.

An organic chemical, benzene is known to cause certain types of leukaemia in humans.

According to the report, concentrations in central London in 1991-92 generally ranged between one and four ppb. However, when heavy traffic coincided with very cold, still weather in December 1991, the level rose to as high as 13.6 ppb.

Nevertheless, according to the Panel's Chairman, Professor Anthony Seaton, 'Current annual average concentrations of benzene to which the general public are exposed in the UK's air present an exceedingly small risk to health.'

The report has led to press claims that the health risk from benzene is linked to unleaded petrol, particularly super unleaded. However, oil companies have been quick to point out that average levels of benzene in all UK petrol has declined over the past five years.

According to UKPIA, total petrol-related benzene emissions should reduce to 10 percent of current levels by 2010, even allowing for future traffic growth. One major reason for this is the increasing use of the catalytic converter, which is said to eliminate up to 90 percent of benzene and is now compulsory for all new cars.

BP plans early development of Shetland discoveries

The discovery of a second massive oilfield west of Shetland brings estimated reserves in the area to as much as one billion barrels and has prompted BP to call for an early development scheme.

The find, made in a block held jointly by BP and Shell and named Schiehallion, has estimated recoverable reserves of 250-500 million barrels. This is in addition to BP's earlier discovery of the Foinaven field, which has estimated reserves of a similar volume.

BP Chief Executive David Simon said his company was considering proposals to develop Foinaven via a floating production scheme which would produce around 100,000 barrels a day within the next few years.

He said the challenges of working in such deep waters were considerable.The fields lie at depths of 500 and 375 metres respectively.

BP and Shell plan to drill up to six appraisal and exploration wells in the area around the discoveries during the coming year.

Scottish fabrication yards face closure

One, possibly two, of Scotland's top four fabrication yards will close over the next few years, according to predictions made in a new report by Mackay Consultants.

The Inverness economists estimate that the yards worked at less than 20 percent of their optimal capacity last year. 'UIE at Clydebank did quite well, Highlands Fabricators and Trafalgar House disappointingly and McDermott disastrously, at virtually zero capacity.' The overall workforce at the yards has fallen by over 5,500 in just 18 months.

Nor does Mackay predict a real upturn in work before 1996. 'It is possible that the four yards will continue in business through to then, with similar workloads to those experienced in 1992 and 1993, but we believe it is more likely that at least one yard, and possibly two, will close down.' This is despite the fact that the yards have cut their costs substantially, as shown by McDermott's tender for the Ganymede platform.

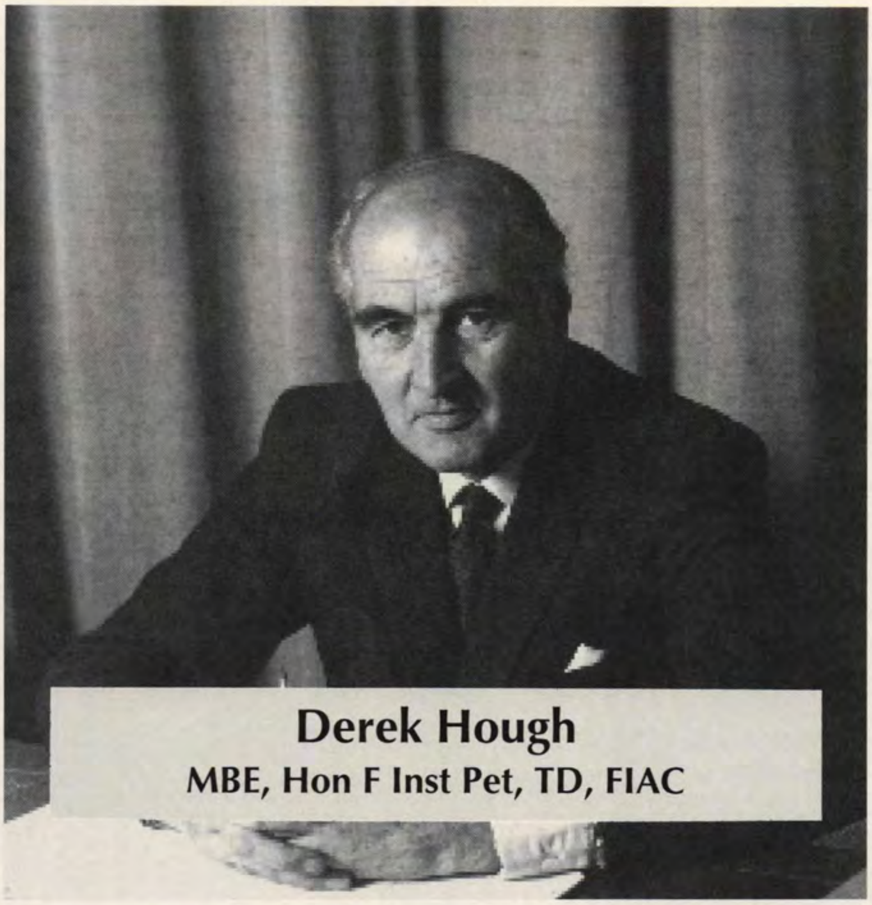
While sympathetic, this report will do nothing to help those calling for the European Community to intervene over accusations of hidden subsidies and 'unfair competition' from overseas contractors. Allegations have been particularly rife since September, when the jacket for the Judy field was awarded to the Consorzio Ital Offshore in Italy.

Mackay Consultants, however, place the lion's share of the blame for the demise of Scotland's yards firmly on the downturn in UK North Sea work and largely dismiss the effects of foreign competition, ranking it as 'probably the least significant of the various factors'. They do admit, however, that the exchange rate value of sterling has not worked in Scotland's favour.

One other reason given for the decline is the move away from conventional steel platforms and towards tie-ins and floating production systems. The larger Scottish yards were orginally set up to build large jackets in the 10,000 to 20,000 tonne range and their equipment and labour forces are much less suited to constructing the small, more complicated modules. 'The fabrication yards in the northeast of England, for example, are much better suited.'

One further problem for the yards is the fact that business rates are much higher in Scotland than England. 'Despite government promises of equalisation', says the report, 'there is still a substantial difference.'

Obituary



Derek Hough
MBE, Hon F Inst Pet, TD, FIAC

We record with much regret the death, at the beginning of February of Derek Hough, at age 85.

Derek joined the Institute in 1947 as General Secretary, after war service in which he reached the rank of Captain in the Royal Signals. The IP staff then numbered six and there were 1,500 individual members. For nearly 25 years he combined the roles of General Secretary of the Institute of Petroleum and Secretary General of the World Petroleum Congresses.

The Institute greatly expanded its role and its membership during his time at the helm and he was actively involved in the work of Council and what was then the Finance and General Purposes Committee. When he retired in 1972, however, he described the work of the Branches Committee as his first love.

(Left to Right) Ian Ward, IP Director General; Derek Payne, former IP General Secretary; Derek Hough, former IP General Secretary; Ted Williams, former IP Director General.

The WPC was also close to his heart and he was Secretary General for the Congresses in The Hague (1951), Rome (1955), New York (1959), Frankfurt (1963), Mexico City (1967) and Moscow (1971).

He received the MBE in 1966 but said that his Honorary Fellowship of the Institute, also held by The Prince of Wales and The Duke of Edinburgh, gave him more pleasure.

Derek was a devoted family man and his charming wife Anne, who died some years ago, was often at his side at IP and WPC occasions.

His greatest talent perhaps was to show itself on the golf course. He was a scratch golfer for most of his adult years before retirement and IP summer meetings often took place near attractive courses, Gleneagles among them. He was invited to play for the England seniors in 1971/72, but felt unable to accept, owing to pressure of work, just before retirement. He played for Surrey and represented his old school, Wrekin College, in the Halford Hewitt tournament for many years. On retirement to The Isle of Man, where some of his family lived, he broke the record on the old Peel golf course at the age of 65. He continued to play golf, usually over nine holes, until the end.

Another anecdote deserves mention. When already a widower, his dog died and he chose a mongrel from the dogs' home to keep him company. A fortnight later, a letter from a solicitor informed him that the dog's previous owner had left £4,000 to whomever took the dog from the home.

We last saw him at an IP Society lunch just before Christmas, sipping ginger-beer and lime, his favourite tipple as a lifelong teetotaller. He was a complete gentleman.

Derek Payne

'Overall, I remain optimistic about the future of the North Sea'

On the third Wednesday in February, according to a long-established IP tradition, oilmen and women together with their guests congregated in London at Grosvenor House for the social highlight of the year, the IP Annual Dinner. A total of 1,500 people came to enjoy the delights of the splendid formal dinner; some even abandoned the excitement of the Winter Olympic Games in Lillehammer to return to London for the occasion. As usual, the dinner was preceded by over 35 cocktail parties hosted in the hotel suites by oil companies and others who dispensed generous hospitality to their guests. IP President Charles M Smith CBE, Managing Director, Chevron Europe and Middle East, invited those sitting at the top table and other special guests to his own President's reception.

After the dinner itself many guests, still enjoying the convivial atmosphere, were reluctant to leave. Relishing the opportunity to meet and mingle with colleagues and friends, they continued socializing until the early hours of the next morning.

The toast to the Institute of Petroleum was proposed by Mr Tim Eggar MP, Minister for Energy, who spoke of recent developments in the North Sea and his overall optimism about its future.

Mr Smith replied to the Minister's toast. He described the Institute's role and achievements before proposing a toast to all guests at the dinner.

Mr Gilbert Gray QC, replying on behalf of the guests, made an extremely witty speech.

Mr Tim Eggar said:

I may be wrong but I am pretty confident that you are not betting on the price of oil doubt. The price related fall in the industry's cash flow has come at a time when new oil provinces are opening up for exploration and development all over the world; when the assets of state oil companies both upstream and downstream are up for sale; and at the same time environmental demands are being put to us.

Clearly this represents a unique set of problems. Problems and opportunities which I am sure the industry will face and respond to in its normal imaginative way. But these problems do not just affect the industry. Governments in both producer and consumer countries ignore these opportunities at their peril.

The UK, as both a major oil producer and consumer, is well placed to see this from all sides. As a consumer country we have deregulated the energy market and pursue the benefits of access and competition. I think I can fairly say that the UK has one of the freest energy markets if not the freest in the world. That has not come about by accident; – but has been the result of a series of sustained policy decisions over 15 years. As a producer, of course, we do not share OPEC's desire and their need to control output.

The role of consumer governments

How does the philosophy of the open market apply to consumer governments? The concept and principle of a free and transparent oil market is accepted within Europe. Having said that, some of you do occasionally draw our attention to pockets of state protection for European refiners. I hope this source of information does not dry up. Anonymous brown envelopes with facts and figures about subsidies to your competitors – or even better your own refineries... gratefully received.

There has been much less progress on opening up the market for gas within Europe; although there are now some welcome signs that our European partners are prepared to look at liberalising their gas and electricity sectors. I can reaffirm, the UK remains firmly committed to liberalised markets in Europe and will be working closely with the European Commission to ensure that this happens.

A key area which consumer governments have got to get right is environmental policy. We have seen over the last five years a flurry of environmental legislation, much of it at the European level; much of it piecemeal in nature. It has been costly; but, in general, it is fair to say that it has commanded consensus support with the industry. However, the proposals now on the horizon tend to be a lot more expensive; for example. European proposals for vapour recovery from petrol pumps and on sulphur in fuel oil. Given the low oil price scenario, consumer governments in my view now have to do three things in the environmental area:

- First, they have to look carefully at their priorities: in particular the pace of new European legislation which simply has to have regard to the financial ability of the industry to implement it - the 'affordability factor';
- Second, proposals need to be subject to rigorous analysis of costs and environmental benefits. This is an area where the industry has a big input to make, where there are sometimes cheaper alternative approaches, and where the less prescriptive the regulation, the more cost-effective its implementation will tend to be;
- The third requirement is that the regulatory framework should be internally consistent. At present we have regulation of product quality, regulation of plant emissions, plans for regulating overall air quality; and to put it at its most charitable it is not always clear how they all fit together.

The role of producer governments

Let me turn to the role of producer governments. Producer governments now have to recognize that we are competing against each other to attract oil company investment. What should a consumer government response be to low oil prices? We should certainly not over-react. Short-term policy instability helps nobody in the industry or government. This is a long-term business with long-term investment and we need to shape our policies accordingly. First of all the tax system must provide a basis against which companies make their long-term plans. I am well aware that the then Chancellor's March Budget measures did divide the UK industry. I am confident that we can put that debate behind us. The industry now has one of the lowest oil tax regimes anywhere in the world. The Treasury will suffer from low oil prices just as you will.

Producer governments should also review their regulatory regimes, not simply to reduce the administrative burden on industry, but also to give as much rein as possible to technical innovation and company initiatives designed to cut costs. This is something which we have been tackling systematically in the UK for two or three years. First, the changes to the safety regime following the Cullen Report. And more recently the streamlining of development consents.

Finally, producer governments can throw their weight behind big infrastructure projects, particularly where these involve cooperation with other governments. The most important current such project in the UK is the proposal for a gas interconnector between Bacton and Zeebrugge. This will undoubtedly add to the UK's security of supply in the long term, improve European security in the medium term and give gas producers and consumers alike much greater flexibility in their business decision. Filling its capacity with UK gas is an important key to the future level of activity in our sector of the North Sea.

Mr T Eggar, Minister for Energy

Mr D A G Simon, Deputy Chairman and Group Chief Executive, The British Petroleum Co plc and Mr K H Taylor, Chairman and Chief Executive, Esso UK plc and IP Vice President

The role of industry

Finally, let me look at the role of the oil and gas industry itself, particularly within the United Kingdom. You have a big success story to report here. The average cost of fields currently under development in the UK North Sea is now significantly lower, in real terms, than it was in 1985. Companies must continue to build upon our competitive advantages, our technology and the skills of our workforce. The UK leads the world in the new skills of cost reduction. Skills in cost reduction are in demand not just in the North Sea but increasingly throughout the world. However, we must not get complacent. We must keep on driving to ensure the UK stays ahead of the game.

I would like to pay tribute to the industry. About 18 months ago the industry set up its CRINE group to look at the problems and possibilities of further cost reduction. I was particularly pleased to find that CRINE saw scope for 30 percent savings in development costs over the next two to three years. Much of this reflects the new relationship between the industry and its contractors. Partnership offers long-term co-operation and a genuine opportunity to reduce costs and administration. This new approach will require a new flexibility and openness, but I am delighted with the positive response to these changes for the industry at a senior level. I think we have to be honest with ourselves that there is some way to go before we have fully effected the necessary cultural changes throughout the industry – which not gone down to junior and middle management.

The Offshore Supplies Office has, of course, been closely involved in CRINE and other cost reduction measures. I can assure you that despite its new functions and title it will continue to take a close interest in this area.

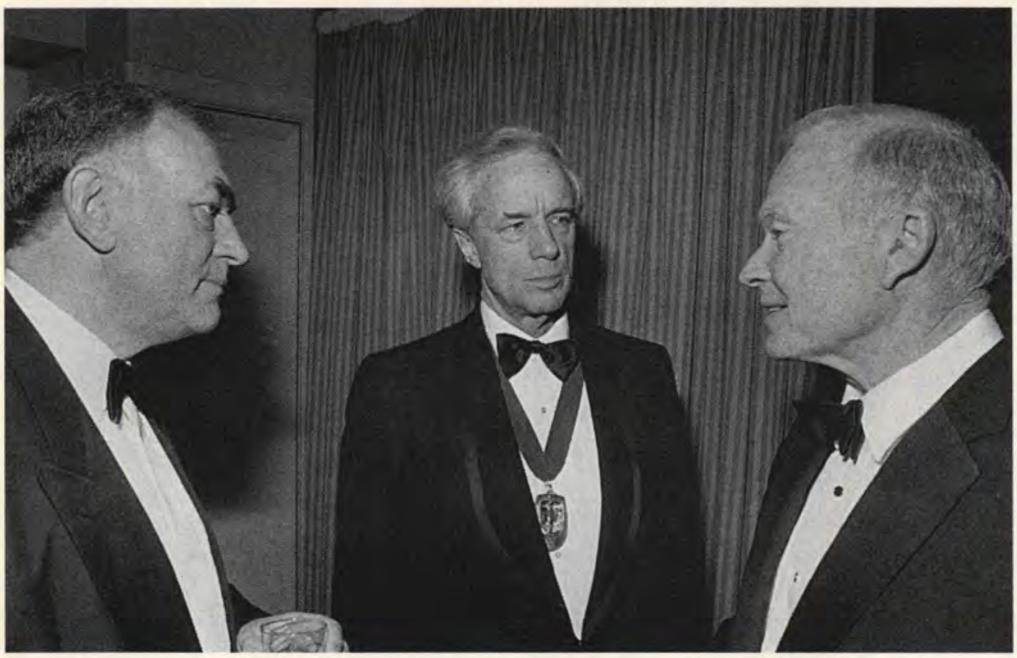
Ms P Horsfall, Managing Director, Oryx UK Energy Co. and Mr L P Tempest, Director General, World Petroleum Congresses

One area which I hope the industry will look particularly close at is the question of easier access to offshore infrastructure. Prompt access to existing pipelines and terminals is particularly important for small gas fields, on which we will be relying more and more in the years to come. I would also like to see pipeline operators simplifying the terms and conditions of access to pipelines and making their tariffs more transparent. I very much hope that the industry will achieve this without the need to use regulation. I am not threatening!

We also need to take a new look at access to onshore terminals. Conditions need simplifying so that new fields have easier access to terminals. Agreement has already been reached to rationalise the contractual arrangements at one multi-user, multi-owner terminal i.e Theddlethorpe. I look forward to other terminal operators following this excellent example.

In my view, the industry is still underestimating the scale of change in the gas market following the MMC report and the announcement before Christmas. Commentators have concentrated on the impact of these reforms on British Gas. Yet the implications are much more wide-ranging. For example it may well be in the producers and purchasers of gas mutual interest to re-negotiate supply agreements – restructure arrangements so that both supplier and purchaser can respond more flexibly to the market.

Overall, however, I remain optimistic about the future of the North Sea. Much of it is a mature province. But we are still getting extremely good success rates in our drilling – one well in four. Ever since early developments, this compares favourably with elsewhere; and indeed it is very pleasing that this low ratio has been sustained throughout the development of the UKCS. You will all have read about the large discoveries that have



(L to R) Mr I Ward, IP Director General, Mr C M Smith CBE, IP President and Managing Director, Chevron Europe and Middle East and Mr E A Blair, President, Hamilton Oil Co Ltd been made west of Shetlands. These suggest a significant new oil province by any standard. I believe there is considerable scope here for using new technologies and new ways of working together. A novel way is required to get a new timeframe, which means new attitudes by government and companies. Success will depend on getting fields into production quickly and in an environmentally acceptable way.

But besides getting costs down, success will also depend on other factors. Training, research, the dissemination of ideas and information, the development of codes and standards, and not least the opportunity to meet and discuss issues are all essential. We all know the work of the Institute in all these areas. I for one place a great value on its role and the independence with which it operates.

I therefore have great pleasure in proposing the toast to the Institute of Petroleum and the Petroleum Industry.

Mr C M Smith CBE

The President said:

Tim Eggar has been Energy Minister for more or less the same time that I have been President of the Institute. I must pay tribute to his sustained interest in our industry, over a period when other aspects of energy policy have been particularly pressing. Throughout the furore over pit closures and the attacks on gas-fired power generation, his defence of market forces, his interest in the efforts to increase North Sea competitiveness, and the energy and enthusiasm he has expended in promoting our sector, have been very greatly appreciated. In fact, I think he deserves his title as Energy Minister on the grounds of his personal style alone!

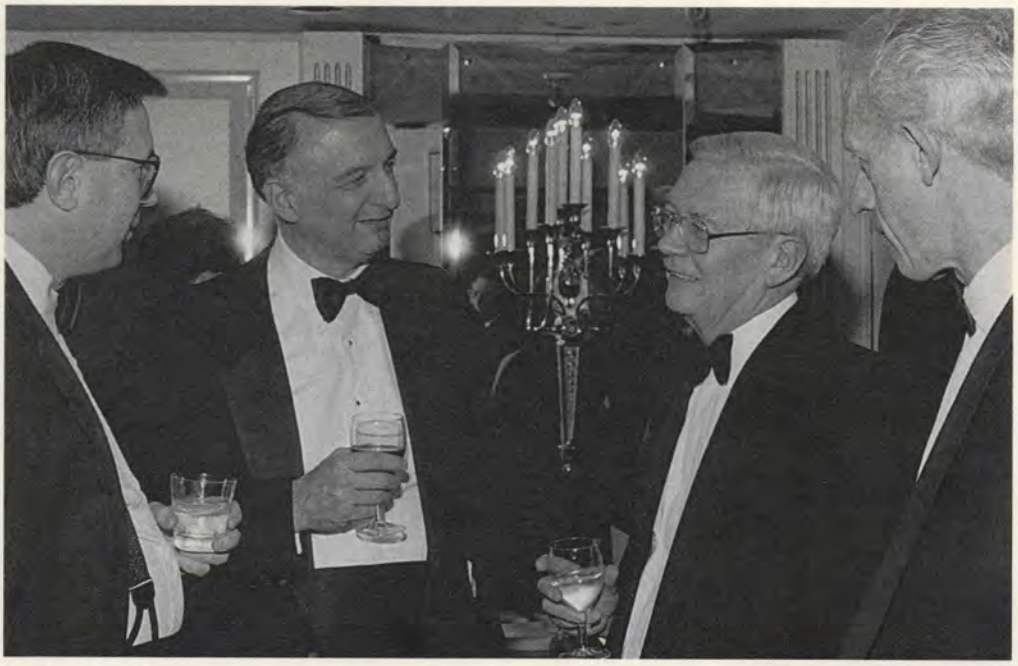
Since last year's IP dinner, we have had a great deal of upheaval in the industry. Perhaps I should suggest that everyone looks carefully at the IP Week programme, because last year we had a conference on Oil Industry Taxation on day one, and look what happened! I hope that the government has no similar surprises up its sleeve this year!

We've seen a decline in activity in the UK North Sea over the last 12 months, not just because of the new tax regime. Low oil prices and reduced revenues have combined with fierce international competition, both for investment funds and for fabrication and supply work. This situation has lead us all to tackle the problem of maintaining the international competitiveness of the UK North Sea.

We must all work together to reduce costs – government, industry bodies such as the IP, oil companies, contractors, fabricators, designers and suppliers. This represents a considerable change in industry culture.

At the end of 1993 we had what I hope will be a turning-point conference which addressed this issue. It was part of the industry and DTI-sponsored Cost Reduction Initiative for the New Era – CRINE for short – which I am pleased to see is continuing into 1994. The IP brought its expertise to the conference organisation and is now finalising the publication of the CRINE Report. The initiative also provides an opportunity to use the Institute's experience on formulation and approval of international standards, and I hope that this will be taken up.

Despite the turmoil within the industry, the IP has enjoyed a successful year. We've published a record number of new codes and guidelines, as well as research reports and educational materials. Membership went up again, to just under 8,000 members – the highest ever! We also significantly increased our role in working on international standards, particularly in the downstream area. This is in response to the industry's need to operate safely and professionally, on an internationally level playing field.



(L to R) Mr P J Dingle, Managing Director, Esso Exploration & Production UK Ltd., Mr J V Parziale, President, Marathon Oil UK Ltd., Mr K H Taylor and Mr J Batchelor, Chief Executive, OPITO

Mr G Gray QC

For the first time, the IP provided the secretariat for a European Standardisation Committee Working Group on Road Tanker Design. We continued to contribute to ISO, CEN and BSI work at committee level. In 1994, this involvement will increase when we take over more BSI secretariat responsibilities in the upstream. Further evidence of our growing role in Europe was provided by the formal registration of the new Netherlands branch of the IP and we have started discussions on possible areas of co-operation with other major European oil centres.

A key part of our longer-term strategy is to provide a focus for the oil and gas interests of the 16 per-cent of our membership based overseas. We already provide an international forum for the exchange of views between the different players in the international petroleum industry.

Last year we held conferences on a wide range of subjects, from drilling technologies for the upstream industry, to environmental challenges to the downstream industry. The IP is making an increasing contribution to the international debate on both upstream and downstream issues. This is borne out by the overseas attendances at our conferences.

We have been keen to make progress with our Mission, Objectives and Strategy in 1993. We've had another series of meetings with Chief Executives of many of our member companies. The discussions have given these CEOs the opportunity to tell us what they wanted. We've been using their wider vision of the industry to identify areas for research and technological development, and we're seeking their help to focus on the main issues and opportunities. A number of key themes have come out of these discussions, and the development of the international role of the IP ran through most of the issues raised. As you can imagine, there are many more than we can handle at once, and we're prioritising them now.

We're already a global industry but recent geopolitical and economic changes are opening up many areas that were formerly inaccessible. Examples which come to mind are the Former Soviet Union, Venezuela, Indonesia, China and India. Clearly more and more nations – including those which previously thought they could go it alone – now believe that outside technology, management skills and capital, can stimulate oil production and protect oil-export income. Experience shows that, even where there is tremendous political upheaval, new administrations are quick to establish energy policies which promote investment growth, particularly in the oil and gas sector.

As Tim Eggar has said, the predictions are that the oil price will stay where it is for the time being. We have to manage our business on that basis for the foreseeable future. The UK North Sea has plenty to offer in terms of stability, experience and the fact that the cost reduction issue is being addressed. Although the sector is reaching maturity, it is not yet entered into a declining phase. We can extract again as much oil as has already been taken, albeit from smaller fields.

Future success will involve not only becoming competitive in North Sea terms but becoming internationally competitive. There is plenty of opportunity out there, both in the future North Sea industry and in the areas of the world now opening up to Western companies for investment.

The idea that we're running out of oil is a popular myth, particularly with environmentalists and nuclear power

(L to R) Mr G F Tilton, Chairman, Texaco Ltd, Mr D L Setchell, Managing Director, Gulf Oil, Mr A Levy, Ideas into Action and Mr J R W Orange, Chief Executive BP OIl UK Ltd and IP Vice President

supporters – an unlikely alliance if ever there was one. The fact is that total world oil reserves now stand at the highest level most of us have seen In 1950, world crude reserves were about 76 billion barrels – roughly a 20-year supply at the rate of consumption of that era. Since then, the world has consumed 600 billion barrels, yet it now has about 1 trillion barrels in proved reserves – a 50 year supply at today's rate of consumption .

It is not hard to predict that continued exploration and development, and new technological developments, could extend the world's resources for an additional 50 years – certainly far beyond any meaningful planning horizon. We're therefore looking at an abundance of cheap energy, which is good news for the world economy and developing nations. The growing market share for natural gas is another wave of change in the international oil industry. ten years ago, world gas consumption was about 43 percent of the level of world crude consumption on an energy equivalent basis. Now gas represents 56 percent of oil use and is projected to reach 62 percent by the year 2000.

Sometimes it is necessary to remind ourselves that our whole way of life depends on energy from hydrocarbons. This is without even considering the petrochemicals and by-products, which frankly we all take for granted and which some people don't even recognise. Research continues into alternative sources of energy, but they are currently expensive, experimental or too small-scale. In the face of projected increases in demand, there is currently no realistic alternative to fossil fuels, either in the UK or globally.

I've no doubt that alternative sources of energy will be developed and we currently have the hydrocarbon resources to wait for new technologies to be available and viable. I'm not knocking the importance of environmental considerations. But sustainable development and scientific fact should be the foundation of environmental policies. It's my belief that strong environmental protection is a fundamental part of good business practice. The Institute takes an independent and scientific approach to the study of environmental issues relating to our industry. We published research reports in 1993 on the possible effects of benzene and automotive emissions, and the fate and effects of marine oil pollution in UK waters. The petroleum industry takes its environmental responsibilities seriously. Indeed, a recent survey showed that the oil sector is in the forefront, when it comes to publishing information about the environmental impacts of our activities.

Over the last 12 months, I believe that the Institute has shown the potential contribution it can make to the industry in the current, changing circumstances. I've been proud to have had a part to play, in taking the IP forward from 1992 to 1994. I know my nominated successor, David Varney, is looking forward to taking up the challenge, to move the Institute further forward over the next two years. Everything that's achieved by the Institute is, of course, the result of the tremendous effort of those who work for the IP. I'd like to thank our Director-General, Ian Ward, and his staff and the Council and Management Committee of the IP, for their commitment and support.

I'd also like to thank the Committee members and branch officers, who contribute so much behind the scenes. I see an outstanding opportunity for the IP, as an international forum for new ideas, at this time of continuing change in the petroleum industry.

In a moment, it'll be my pleasure to propose a toast to the guests. First I'd like to introduce our next speaker, Mr Gilbert Gray QC, Recorder of the Crown Court and Leader of the North East circuit for the past 10 years. As an accountant, it's something of a relief to meet members of a less popular profession! Certainly, there are few professions that can make the oil industry look low cost and poorly paid by comparison! I hasten to point out that our guest speaker is something of a hybrid – sitting in court part of the time but also donning the wig in true Rumpole style to make an honest bob or two. I'm sure that Mr Gray is more than able to defend himself and I'm looking forward to being entertained by him in a moment. Now, I should like to propose the toast – to The Guests.

Mr E J P Browne, Chief Executive, BP Exploration Co Ltd

Mr V R Harlow, Chairman, Sun Oil Britain Ltd

(L to R) Mr J M Banfield, Chairman, Mobil Oil Co Ltd. and Mr S P Cowie, Acting Managing Director, Kuwait Petroleum (GB) Ltd

Forces of change and stability in the global petroleum industry

By L R Raymond, Chairman of the Board and Chief Executive, Exxon Corp.

Over 230 people from many sectors of the oil industry crowded into the Dorchester hotel in London last month to enjoy an excellent lunch and to hear Mr LR Raymond, Chief Executive, Exxon Corp, give his views on the forces of change and the forces of stability that are shaping the oil industry's future. He was reluctant to make prophecies but spoke optimistically about the fundamental political and economic trends running in favour of oil.

This prestigious lunch was one of the highlights of IP Week, the one week in the year which top oilmen and women keep free in order to make straight for London to take part in the conferences, meetings and social events organised by the Institute of Petroleum and to attend other functions which are carefully timed to take place during the same week.

Mr Raymond said:

We come together at a time of year that is sometimes referred to as 'the dead of winter.' That phrase seems particularly appropriate, given the harsh conditions prevailing in the global petroleum industry. By year's end, crude oil prices had declined to their lowest level in more than five years. Weak economic conditions persist throughout many parts of the world, including Europe and Japan. And despite stagnant oil demand, OPEC seems unwilling or unable to curb production enough to allow prices to recover to reasonable levels.

That's a short-term view of our industry – one that brings to mind a phrase Charles Dickens coined – 'the winter of despair.' It may well describe the way many people feel about the global petroleum industry today.

Mr Lee R Raymond, Chairman of the Board and Chief Executive, Exxon Corporation

Spring of hope

But there's another view that might be useful to consider. It's a more promising picture of change and opportunity. Of the Berlin Wall coming down and Germany reuniting. Of communism withering away and new states moving, albeit haltingly, toward market economics. Of trade barriers falling, fostering a rising tide of international investment and commerce.

This picture of the world suggests another Dickens' phrase – 'the spring of hope.' I would like to take this longer-term perspective as I talk about the forces of change – and the forces of stability – that are shaping our industry's future.

(L to R) Hon Colin Moynihan, Colin Moynihan Associates, R J Criswell, Managing Director, Amoco (UK) Exploration Co. and President of UKOOA, and NA Chapman, Amoco (UK) Exploration Co.

Of all the changes that have swept the world in recent times, perhaps the most profound is the triumph of market economics over Marxist central planning. That change has enlarged the area of the world previously available to private companies for economic activity by roughly 35 percent.

The opening-up of these new areas is a tremendous opportunity for everyone involved. The countries themselves gain access to advanced technology, capital and know-how that was previously unavailable to them, and companies and private investors gain access to opportunities that were previously off limits. That's a classic win-win situation.

It's an opportunity – but, I would hasten to add, it won't become a reality until political stability is established in the new states. Much of this political problem stems from the lack of any background or culture in a market-oriented economy. As recent elections and changes in the government in Russia suggest, success in ultimately creating such a system is by no means assured. And the timing is totally unpredictable except that it is likely to be later rather than sooner.

Market principles

To succeed, the people in these countries will have to draw on some basic concepts of capitalism. They'll have to develop new attitudes toward ownership and risk and reward relationships and new habits of self-reliance and individual initiative.

Those are concepts we in market-oriented countries tend to take for granted, and they are crucial to both economic and political stability. Indeed, the studies of Professor Douglass North, who was recently awarded the Nobel Prize in economics for his work in economic history, confirm that these principles are critical to the establishment of stable economic and political institutions. Their existence is the key factor, according to Prof North, in explaining why certain economies grow and prosper while others, without such a foundation, languish.

Today, these institutions are just beginning to evolve in many newly opened countries, and that fact has a serious impact on our industry. As a result, the risks of doing business in the former Soviet Union, for example, are considerable, even for the largest of companies. That's why, in our industry, companies are forming consortia, often in partnership with local participants. Examples abound. Exxon and its Japanese partners are in the process of negotiating a production-sharing agreement offshore Sakhalin Island. In Western Siberia, Exxon and Mobil have formed a partnership to seek attractive prospects in one of the world's largest hydrocarbon-producing areas. In one consortium of which Exxon is not a part, seven oil companies have joined together to study prospects in the northern Caspian Sea area.

I see this kind of risk-sharing as a source of stability for our industry, one that creates a mutuality of interest. It was a very effective instrument in the development of Middle East oil after World War II and in developing challenging offshore and other producing provinces during the past two decades. In the years ahead, I believe it will prove its usefulness in the countries of the former Soviet Union and elsewhere.

Beyond the former Soviet Union, market principles have also been a force for change. In South America, Africa and Asia, for example, oil nationalism has given way to oil internationalism as governments have sought foreign private sector participation, in some cases from the very firms whose assets they had once nationalised. In Europe, several countries, including the United Kingdom and France, have privatised selected government assets, including some in the energy sector. And around the world, market-oriented thinking has influenced governments to reach agreements to open up trade, such as NAFTA, GATT and the European Economic Area agreement.

These are all very positive developments, and I hope they'll continue. But they should not blind us to some very serious challenges we face in so called free-market countries. We may have a much longer history of capitalism than other parts of the world, but we still have many things to learn.

Regulation worries ...

We're still wrestling with the fundamental question of where the invisible hand of the market should end and the highly visible hand of government should begin. That question underlies the whole issue of regulation – which is another major force of change affecting the petroleum industry.

In the regulatory arena, it wasn't so long ago that we faced government-imposed price controls in the United States and other parts of the world. That seems amazing in light of a statement I recently read by the editor of a new encyclopaedia of economics. He said that economic historians have found that price controls have never worked over the 4,000 years that records of their use exist. If that's true, I wonder why it took some governments so long to come to that realization.

Of course, the reach of regulation goes far beyond price controls. It runs the gamut from labour regulations – to employee benefits – to legal liability. And the list goes on. All of these facets of regulation add to the risk and cost of doing business and have a direct impact on industry's competitiveness and willingness to invest. The resulting uncertainty for business is a source of considerable instability.

Environmental concerns – and the regulation that results – represent a particular challenge. In market-oriented countries, economic growth has provided the means for considerable environmental progress over the past 20 years. In the United Kingdom, for example, sulphur dioxide emissions have dropped more than 40 percent over the past two decades.

... and cost

And I could point to numerous other examples of environmental progress on both sides of the Atlantic. But those improvements don't come cheaply. The US environmental bill already tops $100 billion per year and is expected to surpass $200 billion per year by the end of the century. In Europe, environmental measures that have already been accepted or that are being considered by the European Commission could require additional expenditures of $50-$100 billion to the European downstream industry alone.

Some of this spending has produced undeniable benefits. But there's also a trend toward more and more environmental spending to produce smaller and smaller results. In the United States, for example, new automobiles are designed to remove 97 percent of tailpipe hydrocarbon emissions as compared to earlier models. But new regulations require a removal rate of some 99 percent.

The cost of removing this extra 2 percent – and meeting other environmental regulations – could require the US refining industry to make investments of some $37 billion. That amount exceeds the total book value of the refineries themselves. A more cost-effective way of meeting this objective might be simply to adopt measures to take old cars off the road.

Collaboration and partnership

Fortunately, the European Union has an excellent opportunity to develop a more

Mr C M Smith CBE, IP President and Managing Director, Chevron Europe and Middle East introduced the guest speaker

Mr David Varney (Left) , IP President-Elect and Managing Director Shell UK Ltd Downstream Oil and Mr J R W Orange, IP Vice-President and Chief Executive, BP Oil UK Ltd.

rational, cost-effective approach through the collaboration that's begun between the European auto and oil industries and the European Commission. If the Commission adheres to the programme laid out, the results should form a solid basis for achieving economical improvements in air quality and determining the role vehicle emissions reduction should play.

A partnership between government and the petroleum industry is essential if society is to achieve environmental progress at a reasonable price. Our industry has shown that it has the technical capability to develop new products that meet demanding environmental standards.

We have no problem with government setting those standards. But it is inappropriate and counterproductive for government to define the means, specify the recipe or choose the technology by which industry complies with those standards. That should be the industry's and the market's choice.

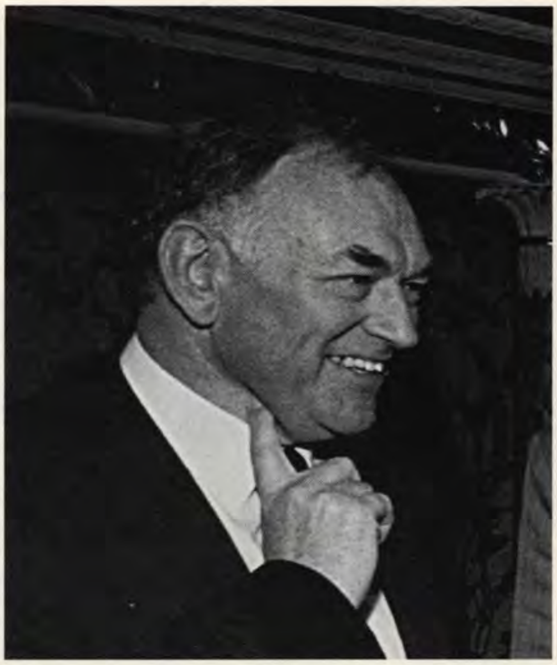
Government does have an important role to play in seeing that a level playing field exists. All the players – big and small – should be subject to the same rules. No competitor should receive special advantages in the contest, such as subsidies or mandates.

Government can also contribute to a more rational approach by insisting on balance and objectivity in addressing complex environmental issues, such as global warming. Unfortunately, there has been far too much heat on this subject – and too little light. Instead of emotional environmentalism, we need environmental improvement based upon sound science and cost-effective solutions.

Environmentalism has been – and will continue to be – a strong force for change. But it should not obscure the most fundamental force of stability working in our favour – the world's increasing need for economic growth and, therefore, energy. Economic growth is essential to meet population growth, create jobs, raise living standards and protect the environment. Certainly, we should reject the call of those who would limit economic growth in the name of the environment. After all, it is the advanced market economies that have been able to devote the most resources to environmental improvement.

The world's most pressing environmental problems are related to poverty. According to the World Bank, one third of the world's population is without adequate sanitation. More than one billion people are without safe water. Millions of cases of disease are a direct result of the lack of these basic needs.

To address these problems, we must foster economic development around the world, and this will require more energy. Despite the current economic pause in Europe and Japan, Exxon projects that the world's economy will grow at about 3 percent per year over the remainder of the decade, with economic activity particularly strong in the Asia-Pacific region.



Mr I Ward, IP Director General

We expect energy demand to grow at 1.5 percent, reflecting the increasingly efficient use of energy.

Oil will continue to be the dominant energy source, with demand rising a projected 15-20 percent in the decade ahead. Natural gas will grow even faster – especially here in Europe. As far out as the year 2010, we project that oil and natural gas will supply 60 percent of the world's energy needs.

After undergoing several years of economic adjustment, Eastern Europe and the former Soviet Union are expected to emerge as major consumers of transportations fuels. China represents a market of enormous potential. Indeed, early in the next century, Asia, by most accounts, will be consuming more oil than either North America or Europe. The oil world's centre of gravity will shift eastward, as will economic activity in general.

(L to R) Mr C Henderson, Department of Trade & Industry, Mr D Clayman, Managing Director, Esso UK plc and Mr P J Dingle, Managing Director, Esso Exploration & Production UK Ltd.

Capital requirements

Large amounts of capital will be required to meet this growing energy demand. In the upstream, both in the OPEC and non-OPEC worlds, investment will have to be carefully targeted to sus-

Mr J K Leggett, Greenpeace Business News

tain production from existing reserves through additional drilling and enhanced recovery. And new sources of oil and gas will have to be found and developed.

In many cases, these new reserves will be far from consuming markets and will require significant investment in processing and transportation facilities. Increasingly, gas will move internationally through either long-distance pipelines or as LNG.

In the downstream, investment will be needed to meet volume growth from refinery to retail outlet and to produce products of increasing quality and sophistication, especially new fuel products that will have to meet increasingly stringent environmental and performance standards.

In the past, the petroleum industry has been the primary source of funds for energy investment. If it is to continue to play that role in the future, the industry will have to earn adequate returns on its growing investment base. Because our industry is so affected by the actions of government, earning adequate returns will require that governments provide a reasonable framework of laws and regulations. Within that framework, governments should work to spur productive investment and promote, rather than hinder, economic growth.

Besides capital, the industry will also need to draw on technology to meet the world's growing demand for energy. Most people think of the technological revolution we are living through in terms of electronics, biotechnology and other 'high-tech' fields. We work, for the most part, in a commodity business. But it is a high-tech, capital-intensive commodity business.

Responding to change

Technology helps the industry along the entire spectrum of its activities. Sophisticated computer applications, such as 3-D seismic imaging, are allowing us to find and develop more oil and natural gas at lower costs. Advanced materials science applications are found in virtually all phases of the business. Computers and modern telecommunications links allow us to manage and coordinate activities that are spread around the world.

As a force for change, technology also has a competitive dimension. Our products do not face obsolescence in a short period of time as do those of computer manufacturers, for example. But failure to apply the latest technology in a timely and cost-effective manner can lead to the erosion of competitiveness over time. In a business where maximizing yields and having the lowest investment and operating costs are critical to competitiveness, technology can make the difference between being a leader or an 'also-ran.'

For more than a century, the petroleum industry has shown that it has the capability to meet the world's energy needs, even under the harshest of conditions. That experience can serve as a source of stability as we deal with the inherent volatility of the oil business, which is so influenced by global political and economic change.

Responding to change will require that those of us in the industry continue to work hard on the fundamentals of our business. We must see that investments are carefully chosen. We must keep a sharp focus on improving operating efficiency and being cost-effective. We must run our business for the long term. To the extent we do these things well and have a reasonable regulatory environment, we will earn the necessary returns, preserve and build our financial strength and continue to meet the world's growing energy requirements.

At the outset of my remarks, I recalled two phrases of Dickens – 'the winter of despair' and 'the spring of hope.' In coming back to those two possibilities, I would quote another British literary light, the poet Shelley: 'The trumpet of a prophecy! O Wind/If winter comes, can spring be far behind?'

My remarks here are not intended as prophecies. History has been unkind to prophets – especially petroleum prophets. And I'm certainly not here to say that a spring of hope will come as automatically as the changing of the seasons.

But I do believe that there are some fundamental political and economic trends running in our favour. And for those companies that manage their costs and resources well, and have the technology and financial strength, the long-term future for them is indeed bright.

Mr Raymond and Mr K H Taylor, IP Vice President and Chairman and Chief Executive, Esso UK plc

Superstore petrol retailing: a change of competitive strategy?

By Alan Treadgold and Andrew Lennox, Coopers and Lybrand, London

For the last 10 years food retailing in the United Kingdom has proved to be a very good business indeed. In particular, the top three players, J Sainsbury, Tesco and Argyll (Safeway), have benefited from strong consumer spending, weak competition from disorganised cooperative societies and local independents, which combined with a liberal planning environment, have permitted them to record huge gains in market share, turnover and profitability.

The engine of growth was the enormously ambitious capital spending programmes of the grocery majors. While some of this investment was made to drive through efficiencies in–store and across the supply chain, much the largest component was capital spending on new superstores in edge-of-town and out-of-town locations. Such stores – single level units in excess of 25,000 square feet of selling space and with extensive car parking – are inherently more profitable than smaller town centre units.

Efficiencies can be realised in in-store operations such as labour scheduling, energy management, stock control and distribution; superstores draw off large catchment areas (60,000 people or more) and allow the operators to extend their merchandise offering into such high margin areas as fresh and prepared foods and new product categories including newspapers and magazines, over-the-counter pharmaceuticals, cut flowers and so on, further enhancing profitability.

By the end of 1992, superstores accounted for 51 percent of all grocery sales floorspace in the United Kingdom and for fully 63 percent of grocery floorspace operated by multiples. In the last five years, Sainsbury, Tesco, Safeway and Asda have together spent £10 billion on new superstores and have continued to invest heavily to secure new sites with planning permission to support ambitious forward superstore opening programmes.

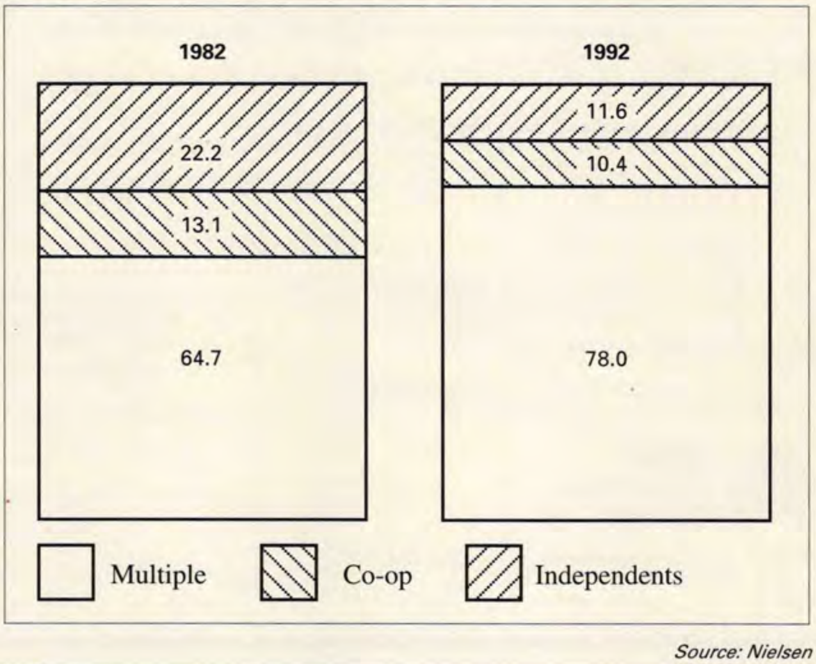
Food retailing in the United Kingdom has changed profoundly in the last two to three years and the future for grocery superstore operators has never looked more difficult. Superstore operators are locked into a high investment, high return mode of trading at a time when consumers are demonstrably becoming more price sensitive and less willing to buy the 'value added' lines which have been such an important source of profit growth for the superstore majors. Obviously this will have an ever-increasing impact on their petrol retailing operations.

Both cause and effect of this greater price awareness has been the rapid growth to prominence of limited line discounters offering a narrow range of merchandise out of starkly functional stores and at prices often significantly lower than the superstore operators can economically charge. Aldi from Germany is certainly the best known of the foreign discounters to penetrate the United Kingdom but others continue to emerge and the indigenous Kwik Save is much the largest operator.

Further activity at the discount end of the market has been added by the arrival of the US warehouse club operator Costco. More of these membership clubs will open in the coming months. Furthermore, the rise of discounting is taking place at a time when superstore operators are faced with a more constrained planning environment which will curtail their forward store opening ambitions and when superstore catchment areas are increasingly overlapping so that the principal operators are competing both with themselves and with the discounters.

One of the results of these pressures is that the investment community

Figure 1: Grocery market share by value (%)



Source: Nielsen

Figure 2: Warehouse club economics

	SUPERSTORE	CLUB
Sales area (ft^2)	40,000	100,000
Gross margin (%)	25.9	11.0
Operating costs (%)	15.1	7.5
Operating margin (%)	10.8	3.5
Construction costs (£m)	20.0	10.0
ROI (%)	17.1	14.0

Source: Goldman Sachs

clearly no longer believes that superstore operators can in future deliver the heady growth in sales and margins which took place during the 1980s.

The superstore operators themselves are being forced to re-examine the fundamentals of their businesses and the options for sustaining growth in the future. Some of the results are already coming through. Both J Sainsbury and more recently Tesco have bought into new markets (the United States and France respectively). Safeway has sought to strengthen its product purchasing position by forming a buying alliance with some of Europe's leading grocery retailers. In addition, both Safeway and Tesco have recently announced substantial reductions in their projected spend on new stores in FY1994/95. Tesco in particular is reorientating store development away from out-of-town space and back onto the high street. Increasingly sophisticated tools are being used to identify precise contributions by merchandise department and by product line. How will these changes affect the motorfuel retailing market?

Motorfuel retailing

Superstore petrol retailing is already transforming the UK motorfuel market. Recent estimates imply that the superstores now sell almost as much as the market leader.

Superstore retailers now sell on average 10.4 million litres per annum per site; three times the throughput as the oil majors.

Superstores are also closing the product/service offer gap with the oil companies. Outdoor payment systems are being introduced to help reduce queuing and enable 24-hour operation. Cross-promotions between forecourt and store help lock in customers. According to some observers, 110 superstore forecourts now have car washes. As a defensive measure Sainsbury and Tesco have now introduced additivised fuel, to counter fears about product quality.

As the grocers continue to both open new superstores with offering motor fuels and to retrofit forecourts onto existing superstores, their market share continues to increase. Superstore motorfuel sales have doubled since 1990. Two-thirds of this increase has come from about 195 new forecourts. The other third has come from increased throughput on existing superstore forecourts (a 36 percent increase since 1990).

24-hour operation

Superstore forecourts now open longer hours, typically 7am to 10pm plus Sunday opening. Outdoor payment systems will enable 24-hour operation. Consumers are also more price conscious. The superstores continue to price around 10-12 pence/gallon (2.2-2.6 pence/litre) below the majors. Prices of essential 'Known Value Items' in the superstore have been cut to increase volume. How low could the superstores sell fuel and still cover the cost of financing?

Figure 3

	Sites	Market share	Throughput (ML)
Esso	2,338	19.0	2.9
Superstores	575	17.0	10.4

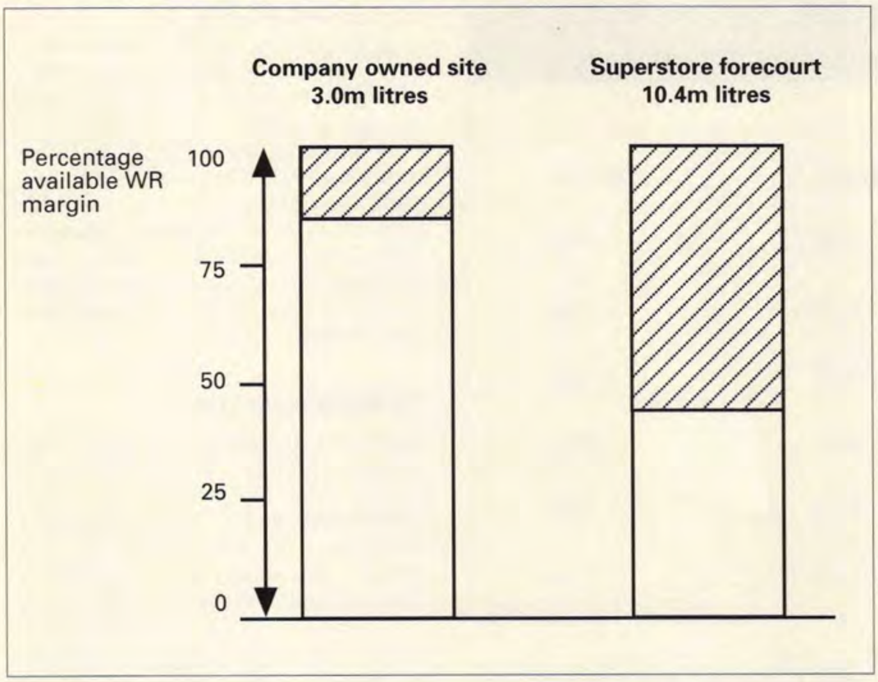
Source: IP, Coopers & Lybrand analysis

Figure 4: Superstore petrol retailing

	1990	1993 (1)
Site numbers	380	575
Average throughput per site (million litres)	7.6	10.4
Superstore volume (million litres)	2,900	6,000
Market volume (million litres)	35,500	35,500
Superstore share (%)	8.0	17.0

Source: IP, Coopers & Lybrand analysis

Figure 5: Forecourt economics: wholesale retail margin



Source: Coopers & Lybrand analysis

Based on a wholesale retail (WR) margin of £90/tonne, a superstore forecourt selling 10.4 million litres per annum could cover its costs at a WR of £40/tonne against £70/tonne on a typical 3.0 million litre company owned site (COS). This implies that superstore forecourts could price 4.3ppl (19.5ppg), including VAT, below the majors and still cover the cost of financing.

'Each new superstore forecourt is equivalent to six oil company service stations'

This analysis assumes that the grocers allocate a finance charge on the land and buildings associated with the forecourt. We have assumed the same rate for both oil company and superstore forecourts but have not built in any synergies between the store and the forecourt either in terms of revenues or in terms of possible shared costs such as staff or treatment of rates. Nor have we built in the effects of outdoor payment systems. These are issues that we are currently examining at Coopers & Lybrand.

Future scenarios

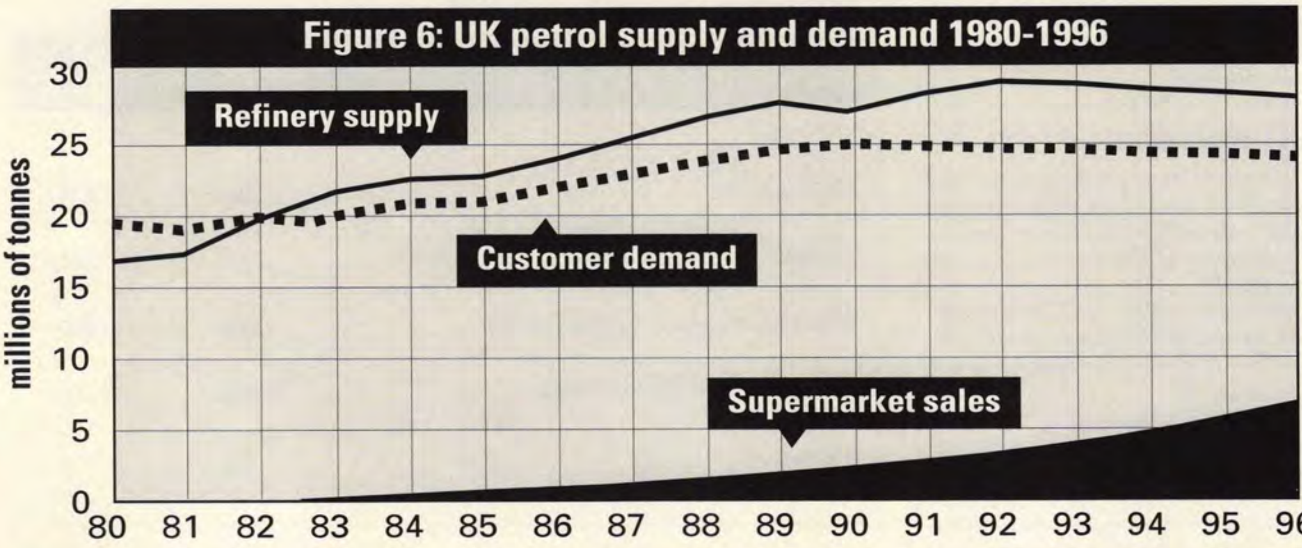
The UK supply/demand balance for gasoline remains in surplus as refiners continue to increment refinery runs until they reach variable cost breakeven. Until this surplus is reduced, the superstore fuel retailers will continue to be able to buy gasoline from the oil companies at marginal cost.

Margins and market share

A reduction in pricing differential between the superstore forecourts and the oil companies might occur if the superstores continue to integrate backwards into trading, storage and distribution. Additivisation will similarly add to superstore retailer costs. The need to sustain operating margins at group level in the face of price competition from the discounters might lead to a gentle reduction in motorfuel differentials. Alternatively, petrol might become a key tool in a limited price war to boost sales volumes confined to 'Known Value Items' as superstore catchments overlap.

Any reduction in pricing differential might slow the rise in 'like for like' throughput. Cutbacks in the superstore programme at Tesco and Safeway should slow the growth in market share but Tesco's plan to target market towns could ironically increase grocer fuel market share still faster, by bringing competition to towns hitherto unable to support a superstore. This depends of course on whether there is room for petrol. Sainsbury still seems intent on aggressive expansion. Some of the discounters are also known to be looking at petrol. Each new superstore forecourt is equivalent to six oil company service stations at average UK throughput (1.9 million litres). Superstore motorfuel share looks set to continue to rise, if more slowly. Total UK site numbers will continue to fall but conditions have changed in the grocery sector; perhaps this points to a change in the way the superstores will choose to compete in the motorfuels market.

Figure 6: UK petrol supply and demand 1980-1996



The future of city centre petrol stations

By Ian Wakefield, Account Manager – Northern Europe, MPSI Systems Ltd

The future of service stations in highly residential areas, and in particular city centres, is a subject becoming of increasing concern to the retail network planner in the downstream petroleum market and, for different reasons, to the planners working for local authorities.

For the network planner, the answer is straightforward – since houses came after the petrol station, move the houses!

The borough or city planner, however, is driven by a more democratic need to meet policies developed by his council members, elected by the very residents concerned, and who have an interest in improving their environment. This can require a reduction in the number of service stations with older, less efficient and less attractive outlets particular targets for removal.

The network planner is driven by the commercial interests of his employer. Naturally, every network planner would like to be rid of the legacy of old inefficient sites. However, there will also almost certainly be the requirement to maintain or increase market share. This is where difficulties can arise.

MPSI has worldwide experience of examining and advising commercial companies about their retail markets. Using operational research techniques, the company developed its Retail Planning System (RPS™) which gives network planners in oil companies an objective and accurate tool to gauge the effects of intended actions in the market-place before they are carried out.

Now, for the first time, MPSI has been asked by a city council, to assist it to reduce the number of service stations in the centre, with the aim of making this as fair and as effective as possible.

There are formidable difficulties in getting such a policy to work, as within such a competitive industry as petroleum retailing, no individual company will want to contemplate any unilateral action that could result in the loss of market share. Considerable differences of opinion may arise on the outcome of closure proposals and proposed replacement options (if any). Disagreement about the present starting position is also likely.

However, solutions to these difficulties are being found, as exemplified by the approach by Helsinki City Council.

Environmental concern

Finland is known throughout the world for its unspoilt nature. It is a land of thousands of lakes and trees and great natural beauty. Enlightened self-interest as much as concern for this natural habitat makes the environment a serious issue, for although the country has undergone rapid industrialisation over the past few decades, a large proportion of the inhabitants continue to depend on sustainable healthy surroundings... and not just in the traditional areas of forestry and paper production.

Oil accounts for around 35 percent of Finland's total energy usage. Gasoline and diesel consumption by motor vehicles has risen steadily over the past decades. Within the metropolitan area of Greater Helsinki (taking the City of Helsinki itself and additionally the Kommuns of Espoo, Vantaa, Kirkkonummi and Kaunianenen), there are now around 390,000 households and 300,000 motor vehicles. This accounts for around 15 percent of the national demand and, to satisfy this, there are 175 service stations, spread throughout the urban area.

In January 1993, MPSI was asked by the Head of the Traffic Planning Department of Helsinki City Council, Mr Heikki Salmivaara, to assist them in reviewing the continuing

Helsinki service station

Helsinki cathedral. **Photo courtesy of Embassy of Finland**

presence of service stations in the City area. A slightly unusual aspect is that, in a large number of cases, the plots of land on which the sites have been built, are actually owned by the City itself, and leased to the oil companies. This gives the Council greater than normal influence.

Fewer outlets

The Council wanted a set of recommendations that would provide a network of service stations which more effectively met the demands of the consumer in Helsinki City. This will mean fewer sites overall but located in areas where consumer demand is highest. This will reduce the number of service stations but increase the effectiveness of those remaining. At the same time, by maintaining the outlets in the areas of strongest demand, additional journeys by consumers to purchase petrol should be avoided.

The growth of modern cities has meant that since the beginning of motoring 100 years ago, a network of service stations will have evolved from the centre outwards. The location of these sites will have most often been based on the driver's need for refuelling facilities to be conveniently situated near to where the driver lived, or where the vehicle was kept, or where it was driven.

Petrol station design has evolved steadily over the years to make them bigger and better. This means, though, that the older sites nearer the City centre will often be of smaller capacity compared with current designs, and very often with no prospect of economically acquiring the additional land to provide for a modern forecourt and shop. This has four consequences:

- **Reconstruction with modern** storage tanks and safety equipment is a costly exercise. It is more difficult to justify and may be delayed to the point of site closure.
- **If the site operation is to be** continued, it may be economically viable only on an unmanned basis – an unpopular procedure with some residents' groups.
- **Small storage may mean more** frequent bulk replenishment, and again nearby residents may have reservations.
- **Lack of land also makes the** creation of safe and convenient traffic ingress and egress from the site to modern standards very difficult.

Initially, MPSI carried out a Standard Scheduled Market Area Study. This covered the City itself and several surrounding Kommuns where city workers and other residents live and keep their cars.

Five retailers, Neste, Kesoil, Esso, Shell and Teboil sell 352 million litres of petrol per year in the study area through 174 petrol stations. Each of these were surveyed together with 32 outlets which were at that time closed, or not yet open. Within the City itself there were 85 open plus four closed sites, of which 55 were owned by the City Council and leased to the oil companies.

Around 150 different items of data were collected for each site including 'Average Available Traffic', numbers of pumps and fuelling positions, price, petrol and diesel sales, shop sales, car wash sales, merchandising practices and consumer brand acceptance. The geographical location of each site was plotted on street mapping, and then combined with demographic mapping and digitised onto the company's Geographic Information System **(See Figure 1)**.

The demand side of the market was defined by taking statistics on car ownership from the City and Kommuns and combining this with annual fuel consumption figures to give a calculated demand pool located by geographical area. It was necessary to compensate for the high level of company-owned cars registered to City businesses but which were kept by drivers living outside.

The computerised RPS™ model was then built by balancing the observed supply total with the demand pool. When this was done, it was possible to look at individual sites to see not only how they were actually performing but how they should have been performing according to their various measured attributes.

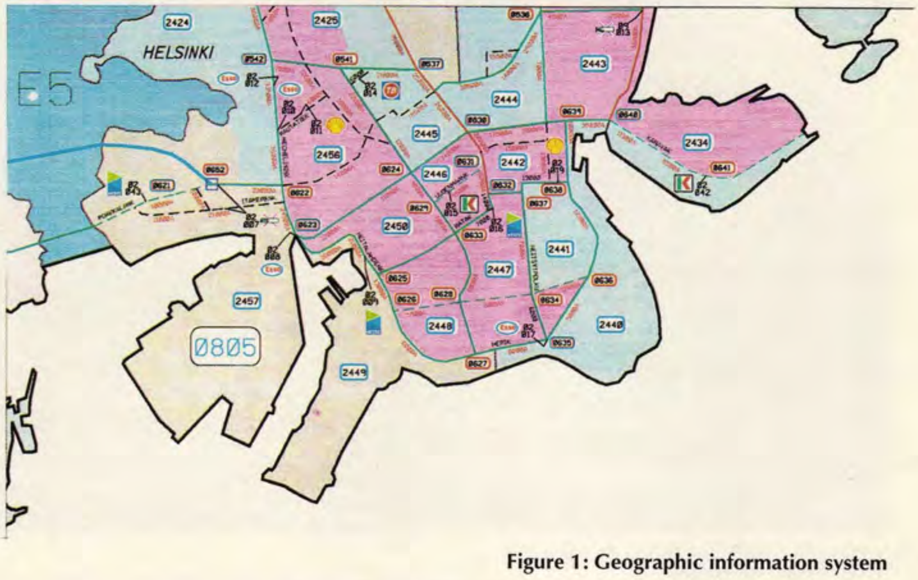


Figure 1: Geographic information system

The workings of this model have been described before (see *Petroleum Review*, March 1989). The model shows that performance is governed by seven major variables:

- Geographical position of the site relative to demand and to competition.
- Available traffic.
- Quantity and quality of facilities.
- Price competitiveness.
- Brand acceptance.
- Extent and effectiveness of the merchandising practices.
- The effectiveness of operations and outlet management.

Using these variables, an expected volume is calculated for each outlet, in four different ways, by allocating the total demand pool to each site, according to its measured strengths.

'The future of service stations in highly residential areas, and in particular city centres, is a subject of increasing concern'

The most fundamental is 'location volume'. For this, only location and traffic are taken into account, with all the other variables – facilities, price, merchandising, brand and operator are assumed to be equal. This is the 'dirt strength' of a piece of real estate and is the most relevant to the consideration here of the future of the set of Helsinki City-owned properties.

The calculated location volume was compared with the 'actual observed volume' and plotted on a quadrant chart **(see figure 2)** and, using this, the locations were categorised in four ways:

- **'STAR'** sites where location and observed volume are above average. These would be strong candidates for lease renewal
- **'CLOSURE?'** sites where location and observed volumes are below average. The would be strong candidates for termination of lease.
- **'SPECIAL'** where the location volume does not support the present actual volume which could therefore be vulnerable to future competition. These could be renewed on a short-term basis and their future reviewed again.
- **'POTENTIAL'** sites where achieved volumes have not matched above average potential performance. Here leases should be renewed on condition that capital or operational steps are undertaken to realize the potential.

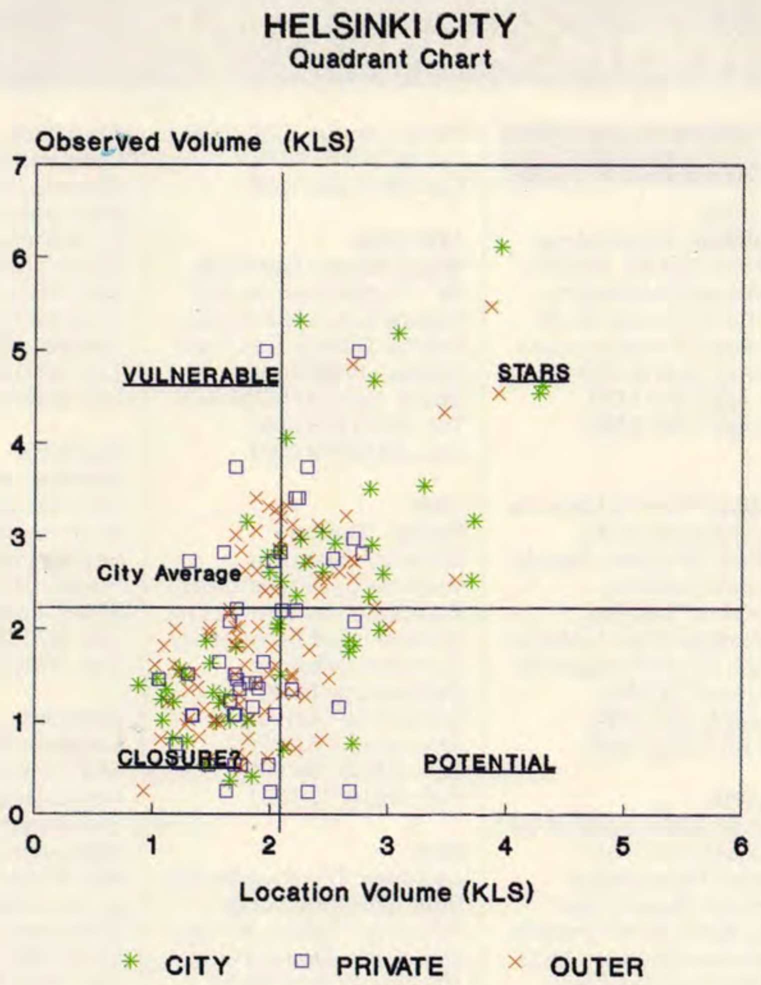


Figure 2: 'Outer' refers to outside the Helsinki city area but inside the study area

	Number	*Average Observed Volume*	*Average Location Volume*
Stars	20	3,551	2,900
Closures	25	1,256	1,455
Vulnerable	3	2,918	1,949
Potential	7	1,485	2,500

All Figures in these charts are KL's000

Results

The analysis of the city centre sites owned by Helsinki City gave the breakdown above. (NB There are a further 44 privately-owned sites within the city area)

Out of the 55 City-owned sites, 25 sell less than 18 percent of the total petrol volume in the City and are judged by the model to have less than average demand potential.

If a policy of maximising the numbers of closed stations, but at the same time minimising the impact on supply is required, then these 25 sites should be considered first.

The model was also be used to assess the effect of a partial implementation of this policy, by for example examining the effect of closing only 10 sites. This may allow some of the remainder to be 'reprieved'.

Future policy

Depending on the final list adopted, different retail companies will be affected in different ways, with changes in market share and effectiveness. A policy of seeking replacement sites away from residential areas may be adopted. The model can be used with a procedure called 'New Site Search' to 'sweep' the area outside the City and come up with all the best alternative locations together with their future potential volume.

FORTHCOMING EVENTS

March

8th -11th
Brighton: 'Oceanology International 94'. Details: Spearhead Exhibitions Ltd, Rowe House, 55-59 Fife Road, Kingston upon Thames, Surrey KT1 1TA. Tel: (081) 549 5831. Fax: (081) 541 5657.

9th
London: 'How to Meet the Requirements of the COMAH Directive'. Details: Christine Lavellee, Petroleum Training Federation, Suite 1, Morley House, 314-322 Regent St, London W1R 5AB. Tel: (071) 255 2335. Fax: (071) 255 1828.

9th-10th
Vienna: 'Distribution of Oil and Gas in the FSU, Pipeline Transmission Systems'. Details: Lisa Bilby, Adam Smith Institute, Conference Division, 11-13 Charterhouse Buildings, London EC1M 7AN. Tel: (071) 490 3774. Fax: (071) 490 8932.

12th & 13th
London: 'Underwater Science Group Symposium', Details: Society for Underwater Technology, SUT, PSTI House, Exploration Drive, Offshore Technology Park, Bridge of Don, Aberdeen AB23 8GX. Tel: (0224) 823 637. Fax: (0224) 820 236.

16th
Aberdeen: 'The Possibilities for Screwed and Polymer Lined Pipelines'. Details: Society for Underwater Technology, PSTI House, Exploration Drive, Offshore Technology Park, Bridge of Don, Aberdeen AB23 8GX. Tel: (0224) 823 637. Fax: (0224) 820 236.

16th
London: 'Markets and the Environment'. Details: Conference Profile Limited, 1 Wardrobe Place, London EC4V 5AH. Tel: (071) 236 4938. Fax: (071) 236 1889.

16th-18th
Hong Kong: 'GasTrade 94' – Conference on the Natural Gas, LNG & LPG Trades. Details: GasTrade Limited, 82 Rivington Street, London EC2A 3AY. Tel: (071) 613 0087. Fax: (071) 613 0094.

18th
Paris: 'Simhole Drilling'– Business Workshop. Details: Jane Kennedy, The Petroleum Science and Technology Institute, Offshore Technology Park, Exploration Drive, Aberdeen AB23 8GX. Tel: (0224) 706 600 Fax: (0224) 706 601

21st
London: 'Effective Marine Emergency Response Planning'. Details: IIR Ltd., 28th Floor, Centre Point, 103 New Oxford Street, London WC1A 1DD. Tel: (071) 412 0141. Fax: (071) 412 0145.

22nd-24th
Birmingham: 'Environmental Technology 1994'. Details: Sara Binns, Reed Exhibition Companies Ltd., 26 The Quadrant, Richmond, Surrey TW9 1DL. Tel: (081) 948 9800. Fax: (081) 948 9989.

22nd-23rd
London: 'The Practicalities of Benchmarking for Continuous Improvement in the Oil and Gas Industry'. Details: IIR Ltd, 28th Floor, Centre Point, 103 New Oxford Street, London WC1A 1DD. Tel: (071) 412 0141. Fax: (071) 412 0145.

22nd-23rd
Warsaw: 'Doing Business with Poland'. Details: Financial Times Conference Organisation, 102-108 Clerkenwell Road, London EC1M 5SA Tel: (071) 814 9770 Fax: (071) 873 3975/3969

22nd-23rd
London: 'Prevent Disaster and Maximise Environmental Protection by Optimising Ship Safety'. Details: IIR Ltd, 28th Floor, Centre Point, 103 New Oxford Street, London WC1A 1DD. Tel: (071) 412 0141. Fax: (071) 412 0145.

23rd-24th
London: 'European Gas Grid'. Details: Sarah Ashmore, IBC Technical Services Ltd, Gilmoora House, 57-61 Mortimer Street, London W1N 7TD. Tel: (071) 637 4383 Fax: (071) 631 3214

23rd-24th
London: 'Eastern Europe and Former Soviet Republics with Planecon Inc'. Details: Patricia Matthews, DRI McGraw-Hill, Wimbledon Bridge House,1 Hartfield Road, Wimbledon, London SW19 3RU. Tel: (081) 545 6201. Fax: (081) 545 6212.

23rd-25th
London: 'Regulation & Marketing in the UK Gas Industry'. Details: AIC Con-ferences Ltd., 63-67 Carter Lane, London EC4V 5DY. Tel: (071) 329 4445. Fax: (071) 329 4442.

23rd-25th
Durban, South Africa: 'Intermodal Africa 94'. Details: Paddy Payne, Baltic Publishing Ltd., The Baltic Centre, Great West Road, Brentford, Middx TW8 9BU. Tel: (081) 847 2446. Fax: (081) 569 8688.

27th-30th
Dubai: 'Maritime Ports and Offshore Services '94'; 'Corrosion Technology'. Details: International Conferences and Exhibitions Ltd, Cromwell House, 51-53 High Street, Kings Langley, Herts WDD4 9HU. Tel: (0923) 661 988. Fax: (0923) 261 669.

29th
London: 'Sources of Energy Information'. Details: Science Reference and Information Service, The British Library, 25 Southampton Buildings, London WC2A 1AW. Tel: (071) 323 7470. Fax: (071) 323 7947.

7th-30th
'Arab Oil & Gas Show'. Details: International Conferences & Exhibitions Ltd., Cromwell House, 51-53 High Street, Kings Langley, Herts WD4 9HU. Tel: (0923) 261988. Fax: (0923) 261669.

April

5th-9th
Estoril, Portugal: '2nd European Congress on Economics and Management of Energy in Industry'. Details: ECEMEI, c/o Prof. Albino Reis, Rua Gago Coutinho, 185-187, 4435 Rio Tinto, Portugal. Tel: 351-(2)-9730747. Fax: 351-(2)-9730746.

10th-13th
Riyadh, Saudi Arabia: 'Saudi Oil, Gas & Petrochemical Engineering Exhibition & Conference'. Details: Will Martin, Overseas Exhibition Service Ltd, 11 Manchester Square, London W1M 5AB. Tel: (071) 486 1951. Fax: (071) 486 8773.

11th-12th
London: 'OPEC in Crisis: Oil Price Implications in the 1990s'. Details: CGES Conference Section c/o PCI, Coxmoor Lodge, Kirkby-in-Ashfield, Notts NG17 7HG. Tel: (0623) 722 2213/4. Fax: (0623) 722 216.

11th-12th
Aberdeen: 'Effectively Managing Optimum Offshore Safety'. Details: IIR Ltd. Industrial Division, 28th Floor, Centre Point, 103 New Oxford Street, London WC1A 1DD. Tel: (071) 412 0141 Fax: (071) 412 0145

FORTHCOMING EVENTS

11th-22nd
Orlando, Florida: Natural Gas Management Development Programme. Details: Cynthia S. Hornketh, IHRDC, 535 Boylston St.,Boston, MA 02222116, USA.
Tel: 1 (617) 536 0202
Fax: 1 (617) 536 4396

13th-14th
Aberdeen: 'Economically Developing the Northern European Deepwater Fields'. Details: IIR Ltd., 28th Floor, Centre Point, 103 New Oxford Street, London WC1A 1DD.
Tel: (071) 412 0141.
Fax: (071) 412 0145.

13th-15th
Luxembourg: 'The Possible Harmonization of European Diving Standards'. Details: European Diving Technology Committee Secretary, 177a High Street, Beckenham, Kent BR3 1AH.
Tel: (081) 663 3859.
Fax: (081) 663 3860.

17th-18th
Beijing: 'Special Offshore Symposium, China 94'. Details: Prof. Jin S. Chung, SOSC-94 Beijing Committee, ISOPE, PO Box 1107, Golden, Colorado 80402-1107.
Tel: 1 (303) 273 3673
Fax: 1 (303) 420 3760

18th-22nd
Leeds: 'Diesel Particulars and Nox Emissions'. Details: Miss Julie Charlton, Department of Fuel and Energy, University of Leeds, Leeds, LS2 9JT.
Tel: (0532) 332 494.
Fax: (0532) 332 511.

19th
Aberdeen: Symposium on Pipeline Stability. Details: Chris Timbrell, Zentech International, 103 Mytchett Road, Mytchett, Camberley, Surrey GU16 6ES.
Tel: (0252) 376 388.
Fax: (0252) 376 389.

19th
London: 'Project Management Seminar'. Details: Laura Allen, CMG (UK) Ltd., Telford House, Tothill Street, London SW1H 9NB.
Tel: (071) 233 0288.
Fax: (071) 799 2017.

19th-20th
London: 'Cost Effective Repair and Refurbishment of Bulk Liquid Storage Tanks'. Details: IIR Ltd., 28th Floor, Centre Point, 103 Oxford Street, London WC1A 1DD.
Tel: (071) 412 0141.
Fax: (071) 412 0145.

19th-21st
Lagos: 'International Energy Investment Seminar'. Details: International Energy Services Ltd., 98 Norman Williams Street, PO Box 54345, S.W. Ikoyi, Lagos, Nigeria.
Tel: 234 (1) 269 4627.
Fax: 234 (1) 269 2734.

21st
London:'Clean Coal Technology: How Soon a Threat to the Gas and Oil Industry'. Details: Caroline Little, The Institute of Petroleum.

20th
Bracknell: 'The Oil Partners Portfolio, best-practice management information solutions for downstream and upstream operations'. Details: Stefan Van Bogaert, ICL Major Companies Division, Observatory House, Windsor Road, Slough SL1 2EY.
Tel: (0753) 516 000.
Fax: (0753) 516 778.

20th
Aberdeen: 'Bruce Western Area Development - A Novel Contracting Strategy Put into Practice'. Details: Society for Underwater Technology, PSTI House, Exploration Drive, Offshore Technology Park, Bridge of Don, Aberdeen AB23 8GX.
Tel: (0224) 823 637.
Fax: (0224) 820 236.

20th-21st
Aberdeen: 'Applying Best Practices in Partnering to improve performance'. Details: IBC Technical Services Ltd., IBC House, Vickers Drive, Brooklands Industrial Park, Weybridge, Surrey KT13 0XS.
Tel: (071) 637 4383.
Fax: (071) 631 3214.

25th-26th
London: 'The Offshore Oil and Gas Supply and Construction Market'. Details: Lynn Van Rooyen, IBC Legal Studies and Services Limited, Gilmoora House, 57-61 Mortimer Street, London W1N 7TD.
Tel: (071) 637 4383.
Fax: (071) 631 3214.

25th-27th
Bahrain: 'Geo 94' The Middle East International Geoscience Exhibition and Conference. Details: Will Martin, Overseas Exhibition Services, 11 Manchester Square, London W1M 5AB.
Tel: (071) 486 1951.
Fax: (071) 486 8773.

25th-28th
Limassol, Cyprus: 'The Fifth European and Middle Eastern Pipeline Rehabilitation Seminar'. Details: Susan Carradice, The Pipeline Centre, Farrington Rd, Rossendale Rd Industrial Estate, Burnley, Lancashire BB11 5SW
Tel: (282) 415 323
Fax: (282) 415 326

26th-29th
Dubai: 'Britain in the Gulf '94'. Details: International Conferences and Exhibition Ltd., Cromwell House, 51-53 High Street, Kings Langley, Herts WD4 9HU.
Tel: (0923) 261 988.
Fax: (0923) 261 669.

27th-29th
Buckinghamshire: 'The Sixth European Gas Contracts Negotiating Workshop'. Details: Langham Oil Conferences Ltd., 37 Main Street, Queniborough, Leicester LE7 3DB.
Tel: (0664) 424 776.
Fax: (0664) 424 832.

27th-28th
London: 'The Future of the Gas Industry in the New Competitive Market'. Details: Louise Pasha, IEA Conference Office, 56-60 St John Street, London EC1M 4DT.
Tel: (071) 490 3774.
Fax: (071) 490 2296.

28th
London: 'Petroleum Retailing – Regulation and Compensation'. Details: Caroline Little, The Institute of Petroleum.

28th
London: 'Process Selection for Environmental Protection'. Details: Society of Chemical Industry, 14/15 Belgrave Square, London SW1X 8PS.
Tel: (071) 235 3681.
Fax: (071) 823 1698.

28th-29th
London: 'Demystifying Energy Options'. Details: IBC Financial Focus Ltd, 57/61 Mortimer Street, London W1N 7TD
Tel: (071) 637 4383
Fax: (071) 323 4298

27th-28th
London: 'Petroleum Trading and International Law'. Details: Abacus International, 214 Inchbonnie Road, South Woodham Ferrers, Essex CM3 5WU.
Tel: (0245) 328 340
Fax: (0245) 323 429

May

10th-12th
Birmingham: 'Control and Instrumentation Exhibition'. Details: MGB Exhibitions Ltd, Marlowe House, 109 Station Road, Sidcup, Kent DA15 7ET.
Tel: (081) 302 8585.
Fax: (081) 302 7205.

'I wish OPEC was a cartel but it is not'

OPEC Secretary General Dr Subroto is interviewed by Jeremy Cresswell, Energy Correspondent, Aberdeen Press and Journal

Oil markets will become increasingly volatile over the next few years unless producers make a concerted effort to co-ordinate production levels and restore price stability.

OPEC Secretary General Dr Subroto believes only sustained market equilibrium will encourage a return to the higher prices necessary to generate sufficient investment income for producers worldwide.

'But we also recognise and assist non-OPEC developing countries that want to play a role in influencing the market, if they show willingness to adjust their production levels in such a way that it will bring overall supply more into line with demand,' he said.

Dr Subroto believed that the recipe for equilibrium was basically very simple and it was time everyone woke up to that fact, including Western producers like the United Kingdom and Norway which, in his view, appeared hell-bent on raising hydrocarbons output without bothering to consult others.

He also said it was time everyone realised that the Organisation of Petroleum Exporting Countries – now in its 34th year – was an association and not a cartel. The image of a cartel was the impression conveyed by most of the world's media and non-OPEC politicians out to score points when OPEC members were allegedly overstepping voluntary production agreements.

While OPEC was seeking close relations with developing nations whose economic wellbeing mostly hinged on oil, Dr Subroto denied that it was out looking for new members or associates... That would be a bonus.

'The important thing is achieving an understanding. They are in the same group whether they are in the outside or inside OPEC,' said Dr Subroto.

'And in any case let's be realistic – countries that are outside the group do not have to pay contributions. If oil prices go up then enjoy the benefits and if the price goes down, they need not reduce their production. But of course it would be better if they joined OPEC.

Who will cooperate?

It became clear from listening to Dr Subroto that he nursed few real hopes that Western producers like the United Kingdom, where oil and gas production makes a relatively small economic contribution, will throw themselves behind the drive for greater international co-operation.

Britain provided a graphic indication of its attitude a few weeks ago when it rejected an OPEC appeal to rein back North Sea production.

'I don't think the UK will co-operate,' said the OPEC secretary-general.

But, although Norway similarly threw out the same appeal, Dr Subroto revealed that he thought the North Sea's largest producer of oil would in time come round. 'I think we need to talk more with Norway since one of her producers – Saga Petroleum – is suggesting that it would be a good idea to work more closely with OPEC. But we have to be realistic in how we interpret what is meant by co-operation.

'When we talk about working together, the aim is to achieve a balance between supply and demand through proper management. For example, timing maintenance to coincide with periods of low demand and bringing in new production capacity when demand is high is sensible. Britain and Norway should bear this in mind.'

Non-OPEC producers comprise two main groups – oil producing developed countries and oil-producing developing countries.

It is of course well known that in oil producing developed countries like the United Kingdom, North America and the Netherlands, oil forms only a small part of their Gross National Product. Norway is an exception to this broad rule as she is both a developed nation and heavily dependent on oil for export revenue.

By and large, oil companies operating in Western developed countries are in private hands and have broadly non-interventionist governments to contend with. 'In this sort of situation we have to recognise that the main interest among such countries is in having low oil prices to help their economies enjoy a better rate of growth while keeping inflation low,' said Dr Subroto.

'So we know their interest in stability of oil prices is there, but at low levels, even if it appears to harm their own oil production industry ... like the UK for example. Low prices may hurt them to an extent but much less so than developing countries who are also producers, because their oil is sometimes the major earner.

'Therefore, our aim is to ask for co-operation from non-OPEC producers so that primary focus is on those countries where hydrocarbons dependency is very high and where depressed prices will hurt a great deal. We expect that among non-OPEC producers, it is the developing nations who are more likely to help our organisation bring stability to the market.'

Dr Subroto listed Malaysia, Egypt, Yemen, Syria and Angola, all of which he said were willing to work with OPEC to bring an improvement to world oil prices.

Relations with IEA

While the main message delivered by the OPEC secretary-general in his keynote address to the MOEX 94 conference in Malta was a call for international co-operation (see page 138), he sidestepped the fact that the then fledgeling consumers' group, the International Energy Agency (IEA), tried to achieve a similar goal in the mid-1970s.

He admitted to the writer that the initiative failed largely because the economic climate was different to what it is now. 'Then it was a buyers market but now it is in the hands of sellers,' he said.

'The first consumers' group/producers dialogue took place in Paris in 1975 and the expectation was that there would be a shortage of raw material and prices would go up and up. OPEC took a rather strong line at the time and we didn't get anywhere because there wasn't a meeting of minds,' said Dr Subroto.

'Later, in the mid-1980s, the situation was reversed and there were fears of a glut, which is when we sought a rapprochement with the IEA and we were told to go away. Now in the 1990s we have recognised that there is some interdependence. They and we are interested in seeking stability and we now have frequent dialogues. My feeling is that there is now a willingness for IEA and OPEC to sit together,' he added.

View of market

Meanwhile, Dr Subroto predicts a weakening of markets during the summer, should OPEC output remain at current levels and the United Kingdom and Norway continue to jack up production willy-nilly, even though Russian, US and Chinese outputs are failing. But, overall, he feels that crude prices have bottomed out and will only increase in the near term, albeit only modestly.

Moreover, OPEC founder member Iraq is unlikely to upset the market as and when the UN embargo on oil exports is eventually lifted. Dr Subroto maintains that fellow producers will adjust individual output levels to stay within an overall ceiling.

He also suggests that Iraq should be allowed back into the market-place when demand is at a seasonal high, which suggests winter, perhaps at around 780,000 barrels a day, rising within a month to around 900,000 barrels a day and later up to 1.5 million barrels a day.

'Clearly everyone else has to reduce their production to protect prices and their ability to invest in the future,' said Dr Subroto.

As far as Dr Subroto is concerned, the sleeping giants – Russia, India and China – are not a threat to market stability ... because of falling output. He pointed out that 'China is set to become a net importer very soon because domestic demand is so high and production is falling. India is still a net importer and is more interested in keeping prices down. But if India becomes a major producer later on, then it will see the need to drive prices somewhat higher to boost revenues.'

He added that the OPEC reference price remained around $21 a barrel but member producers would not be unhappy if crude was fetching $18 a barrel. 'We can live with that... However, we need to cover production costs and have enough in hand to finance the planned increase in production capacity and other development needs of OPEC members. In the past we used $18 as the reference point then, during or after the Iran-Iraq war, $21 was mentioned as the reference point. But a reference point is not the same as a target. You just compare where you are against it and hope you are heading in its direction.

'After the 1986 collapse, we felt that $18 was a price level that OPEC producers could live with. Even the UK and Norway can manage at this price without hardship,' he added.

Speculation worries

But there is another factor upsetting the oil barrel as far as Dr Subroto is concerned: speculation of the kind that generated last year's run on sterling and other European Union currencies.

OPEC recently blamed speculators - oil traders- for contributing to the current market slump. Dr Subroto enlarged on this by saying that the big problem was that buying sprees over past months had induced big fluctuations in the price of crude and this was unacceptable.

'They [traders] like to see this kind of wild fluctuation and they influence the mood of the market because of their electronic systems. In the split second you can see when they expect prices to go up or sag. When they expect prices to go down they all buy together. I don't think they influence the actual price level but they do influence the swings thereby contributing to instability,' Dr Subroto alleged.

He dismissed speculation that OPEC was on the verge of disintegration following wrangles over past months about quota-setting at the regular Vienna conferences. There were powerful political and ideological bonds that held members together, he said.

'I wish OPEC was a cartel but it is not. A cartel is an organisation with a strict discipline and you penalise a member who isn't following the rules. Among all the oil producers, OPEC is still an organisation with a clear-cut objective backed up by a secretariat and a research arm able to do the necessary groundwork needed to define policy.

'We want stability and there are various ways of achieving this, bearing in mind there are four key factors to consider – supply, demand, inventory and the mood of the market.

'For example, we could cut production at the next round of talks, we can stay where we are and exercise stricter discipline so everybody closely follows their quotas.

'That is the case right now. The production ceiling we set last time has been followed very closely. If we keep production at current levels, maybe there will be a strengthening of prices towards the end of the year as demand increases.

'As for membership, those who are in OPEC will not leave unless they become net importers, as one of the criteria of membership is to be a net exporter.

'In any case, OPEC is 34 years old and we have been through much turbulence. We expect more... That is inevitable.'

OPEC's secretary-general claimed that the organisation had not lost its bite and would where necessary continue to take a firm hand with members over the setting of and adhering to quotas.

'If we have to cut production when we next meet on 25 March, we will. The alternative is that we might stay at current levels and enforce even stricter discipline than we are doing now.

'However, I repeat, the current production ceiling we have set ourselves has been followed very closely.'

Environmental standards at M40 Warwick services

The two Mobil Oil-designed petrol filling stations at the Forte Welcome Break Services on the M40 motorway near Warwick in the West Midlands are some of the first to be planned from the outset to use equipment designed to protect the environment.

The front cover photograph shows the underground storage tank farm at the service area, which has been constructed by Mobil Oil to the highest standards using the latest technology in storage tank pipework and vapour balancing systems. Supplier for the tank and pipework project is Purfleet Commercials of West Thurrock, Essex.

Dual-containment supply lines

The pipework on the pressure supply lines is Total Containment Inc.'s Enviroflex dual containment system. The secondary containment pipe is connected via liquid-tight seals to a series of surface-access containment sumps under the dispensers and on the storage tanks.

Designed with no underground joints, the system is water- and petrol-tight. In the unlikely event of a leak in the inner primary pipe, all product is contained in the secondary system, which incorporates a leak detection system in the containment chambers. These chambers allow for safe removal of any leaked product.

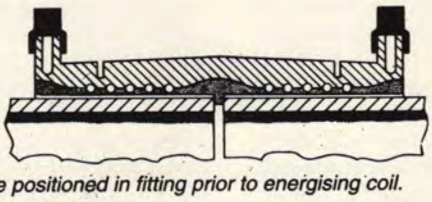


Fig 1 Pipe positioned in fitting prior to energising coil.

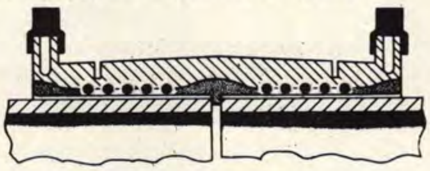


Fig. 2 Material surrounding coils starts to melt.

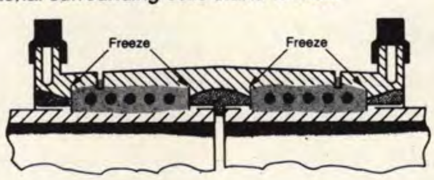


Fig. 3 Melt freezes at the start of the cold zones, thereby sealing the melt zone. Further input of energy causes increase in melt pressure.

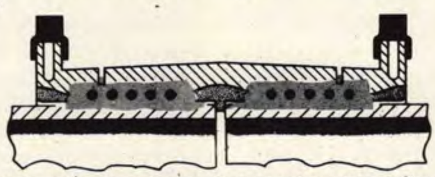


Fig. 4 Melt pressure reaches optimum value at end of energising cycle, pushing molten material up the fusion indicator holes.

Pipes and fittings are jointed using the electrofusion technique.

Advanced thermoplastic pipework

The offset fill, vent and vapour recovery lines use Durapipe's Petrol-line system. Petrol-line is the result of two years' extensive research and development aimed at transferring the pipe extrusion and jointing technology perfected for the water and gas industries to the special requirements of the filling station. The electrofusion jointing system ensures the highest integrity which results in leak-free joints that then become the most robust part of the piping system.

The system is petrol-resistant, easy to install, non-corrodible and suitable for use in confined spaces. Pipes are co-extruded from a combination of modern thermoplastic materials; a specially formulated high-density, low-permeability material is surrounded and protected by an ultraviolet-resistant black outer layer. Matched pipes and fittings are produced in 63mm, 90mm and 110mm outside diameter.

Vapour balancing system

The Stage 1B vapour balancing system designed by Mobil Oil on the Warwick services tank farm has been designed and constructed using large-bore, below-ground manifold pipework, as recommended by the Institute of Petroleum. The large-bore manifold is connected to all product storage tanks via an extractor housing which is designed to isolate storage tanks and incorporate crossover protection valves when required.

The use of large-bore, high-flow manifolds and extractor housings on vapour return lines ensures that the maximum vapour recovery efficiency is achieved. The manifold extractor housings have the facility to be fitted with Stage 2 vapour balancing equipment.

Finally, overfill protection devices have been fitted in each underground storage tank to prevent accidental overfill of product.

In summary, Forte Welcome Break and Mobil Oil have taken care to specify and commission equipment to build the Warwick service stations to extremely high environmental standards. The techniques and products used here point the way forward for filling station design in the future.

A dying breed?

By Susannah Cardy

The smaller petrol retail companies have never had it so bad. As many as 4,000 are expected to go out of business over the next three to four years as flat demand, increasingly stringent legislation, hypermarket competition, and in some cases over-zealous petroleum officers, all exact their pound of flesh. But is it all doom and gloom, or are some garages digging themselves into an unnecessarily early grave?

More than a year after trading standards officials refused to renew his petroleum licence, garage owner Donald Wilson is still serving petrol to the locals of the picturesque town of Aldeburgh in Suffolk. His traditional-style pumps swing out over the pavement, his delivery tankers stick out into the road and he lacks a dedicated drain. He won his appeal, however, on the grounds that Suffolk County Council failed to carry out a proper risk assessment of his site, preferring instead to enforce Health and Safety Executive guidelines on petrol station safety (HSG41) as though there were the letter of the law.

The case hit the headlines and divided opinion within the oil industry: was it a further example of over-zealous officialdom or just another underfunded and 'dangerous' rural garage fit only for closure? Some argued that a risk assessment would have revealed that the station was unsafe anyway. But whatever the viewpoint, many believe the Wilson appeal could prove a godsend to small forecourts struggling to stay alive up and down the country.

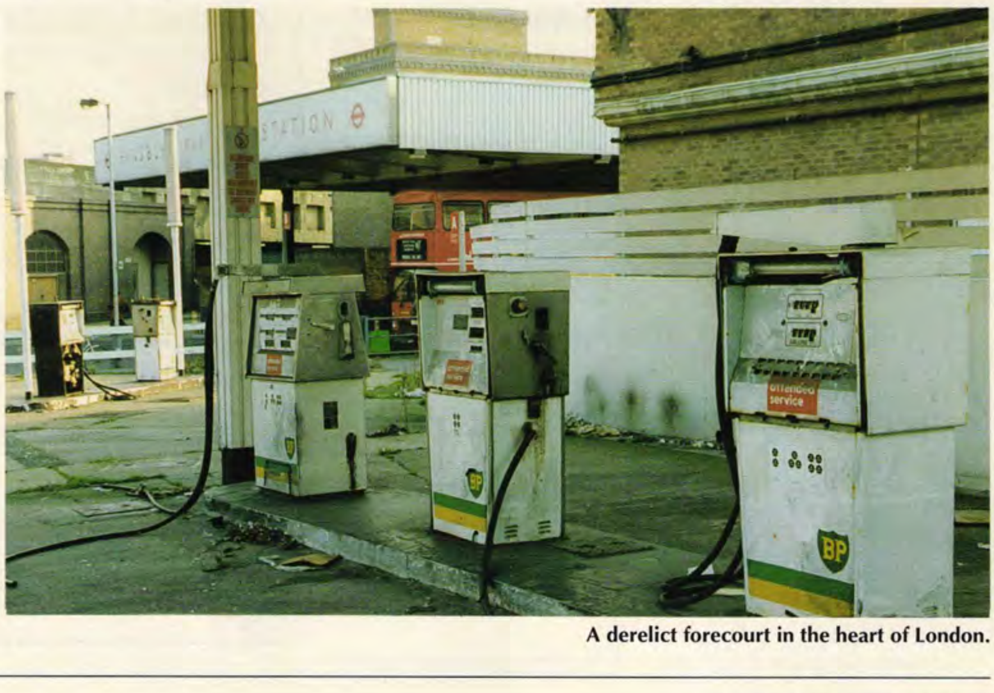
The typical small retailer may groan at the mention of HSG41 but tell him he's due a visit from the petroleum officer and he'll visibly pale. The Petroleum (Consolidation) Act of 1928 gives local authorities absolute power over petrol retailers, leaving them almost totally at their mercy. 'They can demand that the smallest garage-owner puts in double-skinned tanks, or paints his whole site green... and his only hope is a ponderous appeals procedure to the Health and Safety Executive which may take two years to get off the ground,' said Mr Bruce Petter, Director of the Petrol Retailers' Association (PRA).

Arbitrary enforcement

This haphazard form of licensing has resulted in an arbitrary system of enforcement across Britain. The withdrawal of a petroleum licence can have as much to do with the location of a station as with its standards of safety. Devon County Council, for example, is said to take a realistic approach to HSG41, refusing to enforce it rigidly but instead helping sites to work towards its standards. In contrast, one British trading standards officer recently suggested that all sites under a certain size should be closed on a planned basis within 12 years!

But attitudes generally are beginning to soften. 'Donald Wilson's case established a precedent,' said Mr Petter. 'The local authorities know we're going to win any other case of that kind. As a result, there's now an acceptance that the licensing authorities, retailers and suppliers need to get together to form an authoritative body to introduce a quick appeals procedure and a fairer, standard nationwide licence.'

Increasingly, local authorities are cooperating with the smaller retailers rather than see them close down. Instead of enforcing BS7117, for example, which lays down strict standards for second-hand pumps, they'll suggest drip trays. And whilst a sympathetic petroleum officer may not have the power to keep a business permanently afloat, he can certainly extend the life of a site. According to the chief executive of one small petrol retailer, 'There is now a tacit and growing agreement from officials that they will allow small, rural garages to continue in operation until the owner either retires or dies.' Nevertheless, many owners will decide to throw in the towel well before then. The expense of tank testing alone can be enough to close down a business. Computer testing, which has largely superseded the origi-



A derelict forecourt in the heart of London.

Low throughput is just one of the many problems facing rural sites.

nal (and relatively cheap) pressure test, costs approximately £500 per tank. 'If you've got three tanks that's £1,500 and for many that's a yearly expense', said one petrol retailer. 'It's a phenomenal amount of cash.'

EC directives on Stages 1 and 2 vapour recovery are also causing widespread concern. Stage 1, which covers the movement of petrol from the refinery to the petrol station, is now expected to come into effect in Britain by the middle to end of next year. The PRA estimates the cost of compliance at between £2,000-£3,000 per site. The cost of Stage 2, which covers vehicle refuelling at service stations, is even more alarming. The PRA's latest estimate is between £9,000 and £24,000 per site.

However, the threat posed by vapour recovery may not be as bad as first envisaged. Stage 1 will not apply to the smallest sites, which will be subject to a derogation provided they are not located in an environmentally-sensitive area. Stage 2, from which most of the smallest sites would again be exempt, has still to be agreed upon and may not materialise at all. 'It's anyone's guess at the moment,' said Mr Petter. 'There is quite a possibility that the scheme will be abandoned because of objections from the southern countries of the EC.' Moreover, Europe could yet decide to follow the example of the United States and opt for vapour recovery via large carbon canisters (LCCs). The fitting of LCCs on vehicles has been mandated in the States from 1998. And whatever the final outcome, Stage 2 will not be up and running in the foreseeable future.

Certainly some industry sources believe that fears over vapour recovery may have outstripped reality. An intense debate over the past few years has produced some frighteningly high cost estimates, many of which have now been revised. According to Mr Paul du Toit, sales director for Burmah Petroleum Fuels, the independents could be in danger of 'talking themselves into the grave well before their time'.

On the other hand, the threat of environmental legislation is just one of so many problems facing the small retailer. The growth of the British hypermarket, for example, is well-documented. With a current market share of 17 percent, they need only look across the Channel to see what the future could hold for them. French hypermarkets have a massive 40 percent share of the market!

'Petroleum officers are allowing many small garages to stay open until the owner either retires or dies'

There are signs, however, that the British experience will be rather different. Hypermarkets over here are already under pressure from new food discounters. At the same time, planning applications are beginning to be turned down as pressure groups, concerned about the future of their high streets and shops, become increasingly active. All things considered, the PRA puts the final market share for the British hypermarkets at a fairly moderate 20-22 percent. But this is of little comfort to those who have learnt from bitter experience that the effects of one new hypermarket can be felt as far as 30 miles away.

The biggest casualties of the hypermarket boom have been the urban sites. According to one petrol retailer, they will largely disappear while some, at least, of the rural sites will survive. 'They'll always be business outside the

'There will always be business outside the range of the hypermarkets'

range of the supermarkets. People living 20 miles from an urban area aren't going to travel in every day - they'll be prepared to pay a premium to support their station.' A survey carried out by Burmah on its own dealers, who run largely small volume, rural sites, backs up this theory. Only 24 percent were found to be affected by hypermarkets.

'We're buying sites from the majors because we can make a profit out of them and they can't'

Ultimately, however, the Wilson case, delays in the implementation of Stage 2, a petroleum officer turning a blind eye are all successful battles in a war that will be lost. There is no getting away from the fact that the future looks grim for the traditional small retailer who grew out of the horse and cart trade. Undoubtedly, some will survive, bolstered up by their car sales, workshops, MOTs and, in some cases, personal service. But most will close as their owners opt to abandon pumps and concentrate full-time on their slightly more profitable workshops. Others will stumble on for a few more years but only because they are in negative equity and simply can't afford to sell up and retire.

New faces

This is not to say, however, that the heyday of the smaller independent is over. Far from it, according to Mr Petter, who sees a great deal of medium and longer-term opportunity in the market-place for new faces. 'People do still see a chance against the day when a full shake-up has taken place, the number of outlets is down by 3-4,000 and the average site volume has gone up.'

According to James Frost, Chairman of the Frost group, which recently acquired 17 sites from Texaco in the northeast of England, those market opportunities have already arrived. 'We're buying sites from the majors because we can make a profit out of them and they can't. This is because we have the economies of scale of a large organisation, without having a huge head office and bureaucracy to support.' The company, which runs the SAVE chain of filling stations, currently owns 176 sites, plans to buy a further 50 this year and ultimately aims to have 500 sites under its belt by the year 2000. Mr Frost, whose sites undercut the majors by around three pence a litre, believes his success can also be put down to sensible management. 'The major's gin palaces are grossly over-pumped and over-tanked – they spend a lot more money on sites than they need to. It's physically possible to sell two million gallons a year out of four pump hoses – I know, I've done it!'

'Why shouldn't Texas Homecare sell fuel?'

Other independents are also mopping up cheap sites from the majors. The Bayford Group, for example, acquired 22 Yorkshire stations from Elf last month for its retailing division, Thrust. As *Petroleum Review* went to press, negotiations were underway with another of the majors for the purchase of a further 12 sites in the same area.

According to Mr Frost, there is much less demand for small, rural stations. 'I don't like them. At one time they were fashionable, but they cost more to develop because you've got much greater infrastructure requirements in the form of access roads, curbing, drains and sewers. At the same time, you've only got a small captive base.' However, even here there is an opportunity for small, independent entrepreneurs, according to Mr Petter. He envisages unattended rural sites run from central service stations. In extremely remote areas, such as the Scottish Highlands and Islands, he sees motorists being served by two pumps on the back of a road tanker. 'This is a free market and if there is a market need, I think that market will find a solution.'

Mr Petter also believes that, as sites close, another completely different player may enter the fray – the high street retailer. 'What is so different about petrol retailing? Why shouldn't Texas Homecare sell you fuel – or perhaps Peter Dominic? That is what is such fun about this market – it's so dynamic and there will always be new faces.'

Who might realign with OPEC?

By Mojgan Djamarani

OPEC's influence has waned since the heady days of the mid to late 1970s when its concerted actions first quadrupled oil prices in the wake of the Yom Kippur war in 1973 and then trebled again in 1979-80 to almost $40/barrel in the aftermath of the Iranian revolution and the start of the first Iran-Iraq War.

Today OPEC member states are struggling to prevent oil prices from falling below $14/b spot prices. To boost sagging oil prices and to reassert its control over the world oil market, OPEC has been considering widening its membership or at least developing closer relations with other oil producers.

Inherent OPEC weakness

It has been weakness in OPEC's organisational structure and lack of discipline among its member states that has done most to undermine its influence in the oil market. The member governments have failed to diversify their economies away from oil-related industries. Oil export revenues remain the major source of income for the OPEC governments and to maximize their income they have sacrificed their common interest by time and again cheating on their official quotas. In Iran oil export revenues account for 70 percent of the budget and in Saudi Arabia for· more than 97 percent. Since their peak, OPEC's oil earnings have fallen by two-thirds. In the current climate of low oil prices, any production cuts could rock the shaky economic foundation of many OPEC governments. The production ceiling of 24.5 million barrels a day (mb/d) hammered out last September, which has been strictly observed, still constitutes quota increases. The expected resumption of Iraqi exports to pre-Gulf War levels in the near future also deterred member states from accepting production cuts.

OPEC strategy and Central Asian potential

To counter the long-term trend in lower oil prices and to regain some of its influence, OPEC has embarked on a strategy of closer ties with the Central Asian republics which it considers as major future producers. As the Central Asian republics emerge from the last remnants of Soviet domination, the extent of their untapped riches particularly oil and gas are just becoming apparent.

In Kazakhstan, the biggest of the Central Asian republics, two-thirds of the size of the United States, so far 12 oil- and gas-bearing basins have been discovered with recoverable oil reserves of 15.6 billion barrels. Kazakhstan's proven reserves are larger than those of Norway and the United Kingdom taken together. The republic is also believed to have large oil reserves offshore in its share of the Caspian Sea. A consortium of western oil companies in a joint venture with Kazakhstancaspishelf are involved in prelicensing exploration of the area. Currently the republic produces 27 million tonnes per year (mt/y) but expects to increase production up to 48 mt/y by 1998 and 80 mt/y by 2010. Last year oil exports constituted 90,000 b/d (4.5 mt/y) but would have been more had the country not been dependent on the Russian pipeline system for its exports.

Turkmenistan, the world's third largest gas producer, has proven reserves of 2.13 billion barrels and produces 100,000 b/d. Uzbekistan the most populous of the Central Asian republics has estimated oil reserves of 2.1 billion barrels. But its oil and gas reserves have barely been exploited. It produced 66,000 b/d in 1992 and an estimated 80,000 b/d in 1993. The republic is a net importer of oil from Russia and exports a meagre 5,000 b/d.

The other two remaining Central Asian republics, Kirgyzstan and Tadjikistan, are unlikely major players on the world oil scene. Kirgyzstan produces 2,400 b/d and is dependent on imports for its domestic requirements. Tadjikistan does not enjoy favourable geological formations conducive to oil reservoirs.

Although oil production and exports in Kazakhstan, Turkmenistan and Uzbekistan are not significant at the moment, their oil reserves are sufficient to encourage rapid increases as is evidenced by the interest shown by the foreign oil copmpanies.

Widening OPEC's membership to include the Central Asian republics can revive its political credibility. Ecuador's departure from OPEC, although a minor player in the league, and the ongoing debate in Venezuela, one of the organisation's founding members, about the merits of continued membership have harmed OPEC's standing. In the longer-term, as the Central Asian republics become major producers, their membership would allow OPEC to extend its control over the oil market and supply of oil on the market. This is an aggressive policy by OPEC, precipitated by its inability in the current climate of the oil market to persuade the non-OPEC producers to restrain their production voluntarily in order to boost prices.

The Central Asian republics can gain by OPEC membership, in the words of Dr Mohammed Al-Sahlawi, Head of OPECNA and Information Department, 'by having a chair at the top table'. He added, 'OPEC is the single most important influence on the oil market' and can provide the Central Asian republics with the opportunity to assert their interests.

The Central Asian republics would also gain by asserting their independence vis-a-vis Russia. The renewed assertiveness of Russian foreign policy has already prompted Kazakhstan and Uzbekistan, rivals for leadership in the region, to put away their differences and form an 'economic space' to reduce their dependence on Russia. Were the other Central Asian republics to join this union, they could well decide to join OPEC as a bloc which could further enhance their political weight within the organisation.

However, not every one is convinced that membership is in the republics' interest. According to Leo Drollas, chief economist at the Centre for Global Energy Studies, OPEC benefits accrue from higher prices. If these republics join, they would have to agree to production quota restrictions which could limit their potential oil revenues. Quota restrictions could remove their flexibility to increase oil exports to generate a target income should oil prices to fall.

The Central Asian republics' membership could also make OPEC more political, according to Dr Rosemary Hollis of the Royal United Services Institute. It runs the risk of turning OPEC into an overwhelmingly muslim organisation. Some of the more radical OPEC member states could then use the organisation to further their political objectives. Dr Al-Sahlawi, however, believes there is little chance of this. 'All our activities are in the economic field and not in the political and religious fields'. It would also not be in the economic interest of the member states to seize on the religious element given their dependence on oil income.

However, before joining OPEC, it is important that the Central Asian republics resolve their ethnic conflicts that could spill over into the organisation once they become members.

Russia's interest in joining OPEC

While the Central Asian republics will not be able to make a significant effect on the situation on the world oil market in the near future, Russia is already the biggest oil producer in the world. At the World Economic Forum in Davos at the end of January, Prime Minister Viktor Chernomyrdin expressed his country's interest in joining OPEC. According to Dr Subroto, OPEC Secretary General, Prime Minister Chernomyrdin's remarks were stirred by the current low oil prices. The remarks came as a surprise to the Russian oil concern, Rosneft, whose Deputy Director for Foreign Economic Affairs, Valerie Vorobiov, said he would reserve his comments until the prime minister clarified his position.

It is unlikely that OPEC would extend an invitation to Russia to join it at the present time. According to Dr Al-Sahlawi, the situation there is 'fluid' and at present the organisation aims to 'build personal links... as building blocks for more structured formal links which may possibly be formed at a later date'.

Russia's membership of OPEC, should it happen, could provide the organisation, by the sheer weight of its political and military power, with the necessary impetus required to impose discipline on the other members. However, as an industrialised economy compared with the rest of OPEC, Russia would be facing a conflict of interest, on the one hand as an oil exporter and on the other as a major consumer of oil. Particularly so since Russia intends to charge world oil prices to consumers at home. It has a political and economic agenda of its own as a major power which stands in sharp contrast to those of typical OPEC member states. According to Dr Al-Sahlawi, the onus is on Russia to fit in.

How Russia handles its relations with the Central Asian republics also bears on how it would be perceived within OPEC. The organisation has to ascertain that encompassing Russia and Central Asian republics does not lead to further squabbling within its ranks that could make OPEC weaker than it already is. The recent abrupt claim by Russia to a 5-10 percent share in mineral rights in Kazakhstan is one such example.

Conclusion

With three-quarters of world oil reserves within its present member states, OPEC's long-term influence over the world oil market is conditional on continuing to maintain a semblance of its structure and discipline on its membership. Its plans for expansion can be seen as tactical moves to improve its chances of continuing its functions as an influential cartel. It remains to be seen whether western governments will attempt to discourage Central Asian republics and Russia from joining OPEC. Will they see such a move as strengthening OPEC and its control of world oil prices, hence putting pressure on their economies, or as a means of raising revenues to repay western loans and acting as a market for western goods?

Conference report

MOEX – the hub of the Mediterranean

By Carol Reader

The second Mediterranean Oil and Gas Exhibition and Conference was held in Malta from 25 to 27 January. The events were supported by the government of Malta and sponsored by the Institute of Petroleum, the European Union and the Oil Industry International Exploration and Production Forum. The Maltese company, Medserv Ltd, was appointed to run MOEX 94 which was organised on their behalf by Spearhead Exhibitions Ltd.

Now held at the Trade Fair Grounds at the inland village of Naxxar instead of Valletta as on the previous occasion, the two events attracted some 1,000 visitors from 33 countries. This attendance number was considerably down compared with the first MOEX show, with the inevitable result that some of the exhibitors were disappointed at the number of visitors to their stands and the volume of orders arranged.

This year representatives came from nearly every country around the Mediterranean and also from further afield – Australia, Canada, Russia, the United States and the United Kingdom. A larger presence had been expected from Libya (several conference papers had been promised and a big exhibition hall reserved entirely for the National Oil Corporation) but at very short notice the Libyan state company withdrew without giving an explanation. No official reason was ever given – the general consensus blamed 'political sensitivity'. The sole representatives from Libya at the conference came from Veba Oil and Wintershall.

OPEC's capital needs

Dr Subroto, OPEC Secretary General, giving the keynote address at the beginning of *the* conference, described MOEX as the conference on the Mediterranean. He talked of the hope for growth in internal trade with the successful outcome of the GATT negotiations; bringing freer terms of trade and hopefully stronger commercial activity. While adjustments such as these affect everyone, the 'Mediterranean is a microcosm of the challenges faced by the whole world', illustrating the proven connection between energy, development and the environment.

He stressed once again the need for consultation between OPEC and the group of states, known as the Independent Petroleum Exporting Countries. Dr Subroto believed that oil supply management was essential in order to get a broad-based international economic recovery. An inevitable result of this was the need for OPEC's trading partners to become investment partners also. Having made his calculations, he now reckons that the upstream sectors of OPEC member states will need $160 billion in investment before the year 2000 – of which half would be devoted to the expansion of capacity and half to the maintenance of current production capacity.

In conclusion, he said 'OPEC is concerned to pursue a policy of price moderation that would offer an acceptable market environment, serving the interests of consumers, producers and investors alike. We strongly urge others to join us in this cooperative enterprise'.

The conference and exhibition were inaugurated by the **Rt Hon Dr Edward Fenech Adami**, Prime Minister of Malta, who spoke in glowing terms about MOEX, adding that the third MOEX exhibition and conference would take place in 1996. Regarding exploration in Maltese territorial waters, Malta was still waiting for oil to be discovered. The Prime Minister announced that further acreage would be offered in the very near future.

In the meantime, Malta, and Medserv in particular, served as a substantial service bases for operations in many parts of the Mediterranean, while Air Malta provided physical links with 30 destinations. In addition, families of those working in Libya sometimes chose to live in Malta. He referred to Malta as a 'hub' providing financial, maritime, telecommunications and other services to countries on the Mediterranean rim and beyond.

The Maltese government is developing plans to transform Medserv's base on Manoel Island into a major tourist and leisure complex, utilising its superb position in Sliema Harbour, Valletta. An alternative base for Medserv has been promised.

Mr Enzo Millich, speaking in place of Mr Abel Matutes, Commissioner for Energy of the Commission of the European Union, detailed the depen-

(L to R) Mr Frans Said, Managing Director of Medserv Ltd.; Mr Enzo Millich, Head of Division of Energy Technology of the European Union; The Hon Dr E Fenech Adami, Prime Minister of Malta; Prof. David Attard, Chairman of Medserv Ltd. and Dr H E Subroto, Secretary General of OPEC at the opening session of MOEX 94

dence of the European Union on imported energy, in particular oil. Although oil prices are currently low, the European bill for hydrocarbon imports totals $72 billion. At the same time, the European states are vulnerable to any disruption in these supplies.

For these reasons, European energy policy has concentrated on diversification of supplies, the encouragement of indigenous production and especially the promotion of energy efficiency and the development of renewable energy sources.

These latter policy aims have been taken up by the THERMIE programme which in the five years since it was set up by the EU, has distributed 530 million ECU to encourage the development and use of innovative energy technology. Oil and gas have received some 25 percent of this total, concentrating on new technologies for offshore exploration, production, transportation, repair and maintenance.

Moreover, EU interest in these subjects extends beyond its own boundaries. At the Athens conference held last November, the EU and the countries round the Mediterranean agreed on a regional action programme on cooperation in energy matters and the environment, on support for clean energy technologies and the promotion of energy technologies in the southern and eastern parts of the Mediterranean.

The second conference session on the first day comprised country reports from Albania, Algeria, Croatia, Italy, Morocco, Russia, Sicily and Tunisia. The speakers from Albania and Croatia described in graphic detail their needs for foreign capital and up-to-date technical know-how in order to develop the potential of their oil industries.

(L to R) Prof. David Attard, Chairman of Medserv Ltd.; The Hon Dr George Bonello Du Puis, Minister for Economic Services, Malta; The Hon Dr E Fenech Adami, Prime Minister of Malta; and Mr Frans Said, Managing Director of Medserv Ltd.

(L to R): Mr Sandy Maule, Offshore Supplies Office; Mr John D'Ancona, Director General, Offshore Supplies Office and The Hon. Dr E Fenech Adami, Prime Minister of Malta

New acreage on offer

Bulgaria for its part announced a second offshore licensing round, mostly in deep water – applications need to be submitted by end-March. Following the first round in 1991, Texaco as operator found gas which has yet to be appraised. Oil and gas legislation is currently being drafted and should become law later this year.

Among other countries opening up new acreage was Malta itself. Dr Fenech Adami announced that Malta would be inviting applications for production sharing contracts for new blocks in its territorial waters in the near future. During the past six years six companies have signed similar agreements and subsequently carried out seismic surveys and drilled two wells – as yet without success. The last well was completed by Amoco and AGIP; Amoco subsequently pulled out of Malta. Shell and Nimir are continuing their offshore exploration efforts close to the boundary line with Libya.

Welcome foreign interest was reported in the Algerian second licensing round for onshore exploration which opened in January and close on 30 June. According to IEDS Ltd which was promoting this Algerian round, oil company representatives who attended the MOEX exhibition showed considerable interest in all the blocks on offer – in both the mature eastern province and the frontier area of the Tindouf Basin in the west.

A paper on the hydrocarbon potential of Algeria as a whole was presented to the conference by Mr A Attar, Exploration Director, SONATRACH (see next month's *Petroleum Review*).

Technical papers

A further six conference sessions over two and a half days covered a large number of topics all related in some way to the Mediterranean area. The ranged from the geology of Morocco and the geological setting on and offshore Albania to AGIP's deepwater operations in the southern Adriatic; from wide aperture seismic recording in offshore west Sicily to capital projects and economics, a paper from the North Aegean Petroleum Co in Greece. An interesting paper on the planned pipeline across the Straits of Gibraltar detailed the construction options and associated problems. Meteorology and maintenance were not overlooked and an OPITO paper on safety and survival training – how the Mediterranean could benefit from North Sea experience– was fitted in during the final session.

The conference sessions took place on the first floor of the Trade Fair building, over the exhibition halls where some 150 exhibitors from 14 countries had stands. By the end of the show some companies were reporting good business with orders signed on the spot – for instance, NDT Eagle and Racal Health and Safety. Others said that they had made contact with interested visitors and hoped that firm orders would subsequently materialize, while others were not so optimistic, pointing out that the number of visitors was down on the first MOEX.

Capital – and the international black gold rush

By P S Adam

US independents are chomping at the bit, the drill bit, to sink their teeth into Siberian substrata and prospective formations in other overseas territories where, over the past few years, governments have put out the welcome mat, and local citizens and entities have inked numerous oil and gas deals with foreign enterprises. A limited number of such joint venture projects have been underway for a while; some have been reasonably successful, others less so.

But US independents, generally, have had for some time far more international development than they have actually embarked upon. And they have at this point relatively little that is tangible to show for their extensive efforts.The impatience, and frustration, of many US independent oil men was palpable as they listened to various panelists discuss 'Accessing Capital for Independents Doing Business Internationally,' a seminar sponsored by the Independent Petroleum Association of America (IPAA) in Washington, D.C. on 7 February. The focus was on Russia and the role of the multinational institutions in financing overseas joint ventures.

Several of the seminar's panelists confirmed recent indications that more capital may indeed be forthcoming for US independents venturing abroad. It remains to be seen, however, whether these funds will be available soon enough or in quantities sufficient to bring off an international rush in natural resource development over the next decade; one that is capable of underpinning economic reform and political progress in countries of the world which, since the fall of the Berlin Wall, have started, at least to some degree, to embrace free enterprise and democracy.

The promise of certain areas was amply covered – particularly Russia which was detailed by Nikita Dvorets of Russia's Petroleum Industrialists Association. Other speakers, notably Gene Lawson of the US Russian Business Council, were frank in reviewing Russia's problems: unemployment, corruption, the rise of nationalism and anti-US and anti-Western sentiment. So it remains to be seen whether Russia, and the other republics which made up the Soviet Union, where so many US independents have focused their recent efforts overseas remain sufficiently stable for any foreigners to do real business. Regardless of these geopolitical considerations, however, the US independents appear ready and most eager to facilitate economic development via hydrocarbon extraction in countries throughout the world and attempt to enrich themselves in the process; or to put it more simply, denizens of the US oil patch are ready to try to make fortunes prospecting for and producing foreign oil especially in Russia. As one commented, 'It may take a few years for things to settle down in Russia, but if you're not there now, you never will be – at least you'll never get to look at the good deals.'

'If you're not there now, you never will be.'

Political and financial constraints

Geological prospects overseas may be good overall, and in some cases great, but the constraints are significant enough, at least for now, to preclude the US independents (and the international majors) from mounting a full-scale assault on foreign shores. The underlying problems are predominantly political – and, as far as US companies are concerned, largely domestic in origin. But that may be changing. The independents expect the government to participate in helping finance their international activities in a bigger way, and it just might happen.

Of course abroad, and particularly in Russia, international oil and gas outfits face daunting operational and logistical challenges: unstable regimes, poorly delineated jurisdictional authorities, difficult and greedy bureaucrats, local partners who can sometimes prove contentious, as well as legal and tax codes which leave something to be desired and seem to change, unexpectedly and capriciously, quite often. What else is new? As successful international outfits know, all this comes with the territory, or more accurately, with developing territories' subsurface minerals overseas. These challenges can be taken, by some of the more hearty independents at least, in their stride. After all, there is crude and natural gas, as well as other minerals, to be had in generous portion.

Capital is the big problem. It was this need for cash, plain and simple, which brought the US independent oilmen (and women) to the US capital, where, it is becoming increasingly clear, the new world hydrocarbon (and mineral) order, still a glint in oilmen's eyes, will perhaps be conceived – if funds are made available.

The private bankers who participated in the panel clearly had left their cheque books at home; and based on what they had to say, traditional sources of funds for US independents:

commercial bank loans, debt and equity finance from the markets won't be accessible for any major international black gold rush to take place any time soon. Bottom line, the bankers have yielded the field to governments. The outlook, particularly in Russia and the other newly independent states, is too risky for them. Private banks are only going to come up with cash for independents' international ventures to the extent that governments, through quasi-public financial institutions and export credit agencies, guarantee repayment. This makes the entire enterprise of resource development in newly accessible areas, as far as the banks are concerned, relatively riskless but places responsibility for getting the great 1990s international natural resource sweepstakes underway on the backs of governments (chiefly in the United States) and the financial institutions which they have created.

'Capital is the big problem'

A sea change

Policy-makers and multilateral bankers are starting, however, to own up to the fact that the much touted new world order will not arise phoenix-like from the ashes of socialism. If these newly opened-up countries, particularly those which formerly made up the Soviet Union, are going to stabilise politically, they must develop economically. Privatising state-held industry and taking steps aimed at letting markets determine the price of shoes and bread etc are necessary, but not sufficient. These countries must also develop, aggressively, their petroleum and other minerals in the next decade. But they do not have the capital resources to begin such a task. The major private banks, although invited, will not step into the breach. One private banker presented to the seminar the schematic of a joint venture project financing where the role of multilateral loans guarantees was prominently displayed. Another discussed two ventures his outfit had planned in Russia which, 'have stopped going forward.' This as any independent can tell you means the quasi-governmental multilateral financial institutions will have to let their lending officers loose and start signing many and much larger, cheques than they have so far been predisposed to do. There are indications, visible at the seminar, however, that the multilaterals are starting to realize realistically the extent to which they have to be involved in laying the foundation for market-based economic prosperity and how it can be done. And they appear to be getting on with it.

Beyond 'finding seven brothers for seven sisters'

The independents came, saw and listened to representatives of the multilaterals. Spokesmen from the US Overseas Private Investment Corporation, the US Eximbank, and the International Finance Corporation of the World Bank etc gave evidence of an important shift in their approach, which the oilmen welcomed. Representatives of the multilaterals started off by reassuring the independents that they intend to maintain their support for the smaller outfits.

As one of the multilateral bankers pointed out, his mandate was to help a variety of different sized firms not just 'to find seven brothers for seven sisters.'

Charles McPherson representing the World Bank explained that, when the Soviet Union decided to end the Cold War and forswear communism, the World Bank saw its role vis-a-vis the energy sectors in the former Soviet Union states as limited – helping to integrate them into the world energy sector through technical assistance focused in the areas of pricing policies, taxation, legislation, institutional and enterprise reform. The bank did not want to displace the role of private capital in resource development. Businesses and commercial banks were supposed to step in once the World Bank had prepared their way. But attempts at establishing a dialogue with private investors and financial institutions proved to be 'low and slow.'

'Two ventures "have stopped going forward."'

So the World Bank's involvement had to evolve and it has been compelled to extend serious funds to Russian hydrocarbon entities in order to rehabilitate various large integrated facilities already in operation. Mr McPherson noted that more loans of this type were unlikely from the World Bank but that the institution was in the process of undertaking three new smaller projects in Russia: development of a new field through a joint venture arrangement, upgrading refining facilities and debottlenecking export operations.

Most of the representatives of the other multilaterals implied they saw a growing role for their institutions also. A great deal of time was spent discussing the nuts and bolts of getting multilateral support for foreign joint ventures. For the most part, there was little new in these recitations. Obtaining financing through these outfits can be far more difficult than dealing with conventional banks. There are various additional limitations and constraints imposed by the multilaterals: projects must stimulate exports and domestic jobs, and be consistent with development objectives of host countries as well as the US government, or in the case of a non-US based multilateral, with the objectives of the particular country which sponsors the bank. Lending officers at the multilaterals must be particularly sensitive to the power centres of domestic politics as well as the needs of exporting industries and the situation in various foreign countries which means that applicants for assistance have to cross every 't' and dot every 'i' on the applications - more so than is the case with commercial and investment banks generally.

But the representative of the US Eximbank, Tom Moran, did have something new and noteworthy to say. With over $400 million in sovereign exposure there, Eximbank will not take on any new debt guaranteed by the Russian government. In cooperation with the Russian Ministry of Finance, the Ministry of Petroleum and the Central Bank, it has, however, come up with a mechanism for collateralising project lending which could make more funds readily available. An Oil and Gas Framework Agreement as well as a separate Project Incentive Agreement provide for the creation of escrow accounts to hold cash proceeds from periodic sales of specified resources from joint venture arrangements. These funds are over and above regular interest payments. As cash in the accounts builds, so does security that loans will be repaid.

And although it was not mentioned at the seminar, three US senators have introduced legislation mandating that loans to government and non-government entities in the Soviet Union be partially collateralised by petroleum products, minerals or other committees. The plan, when floated as an amendment to the 1994-95 State Department authorisation Bill for foreign aid was defeated recently but it did get 33 (out of a possible 100) votes. Its sponsors plan to reintroduce the bill this summer. Such a law would have far-reaching implications for US-Russian relations, and for US-based international enterprises doing business abroad.

And such a mandate could also impact dramatically industrial commodity markets. Be that as it may, no one seems to be paying any heed - at least for now.

A matter of politics

It seems somewhat ironic that the US government which is doing so little of note, aside from making studies, to stimulate domestic production and deal with the problem of oil imports appears to be moving more aggressively to finance international oil and gas ventures. Of course such activity does stimulate exports and increasingly the US economy is becoming export-driven. But there is another dimension to US actions in this area. Most US administrations discover fairly early on they can be far more successful setting the international agenda than they can be at home enacting domestic reform – the reason being, they can enlist the support of the 'interests' when they act abroad; at home these same companies, industries, interest groups fight the government, any government, tooth and nail whenever their local turf is threatened. The US petroleum industry successfully mounted an assault on the administration's BTU tax and has fought off any meaningful tax on gasoline. If the present administration is to have a lasting impact, it may well be in the international realm – particularly if, as seems to be the case, passage of an ambitious domestic health care reform programme resembling the one it introduced is jeopardised. And the most pressing overall international challenge the administration faces is consolidating the Western Powers' victory in the Cold War. The most obvious and straightforward way to do this is to build up formerly socialist economies. And the most direct approach to take to bring this about is financing natural resource, i.e. oil and gas, development.

When Vice President Al Gore visited former states of the Soviet Union in December, he announced, with much fanfare, three joint ventures in Krygzstan and Kazakhstan which had the backing of the US Overseas Private Investment Corporation; one, a gold mining project involved the US outfit Morrison-Knudsen; the others, two oil projects involving M-1 Drilling Fluids of Houston and Oryx Energy of Dallas. Expect a great many more like these. It seems entirely possible that the politicians in Washington, and other capitals of the major industrial countries, will increasingly become involved, one way of another - and whether they want to or not - through government established banks and export credit organisations, in providing funds to develop the natural resources, of various countries all over the world, particularly the oil and gas of Russia and the other former states of the Soviet Union. The alternative may well prove to be the emergence of a new world disorder. This is what the US independents want to hear and why it was Washington to which they came to look for capital. If the politicians help to finance them, and the political climate in various countries allows, these oil men are ready to find plenty of crude oil – and bring economic development to countries that really need it.

TECHNICAL REPORT

Exploration and Production

The Institute has now signed an agreement with the British Standards Institution (BSI) to provide secretariat services on their behalf to the PSE/17 committee and its subcommittees responsible for the UK national input to ISO/ TC 67 'Materials, Equipment and Offshore Structures for the Petroleum and Natural Gas Industries'.

Work has started on compiling the committee database which will facilitate communication between members and liaison between the numerous committees and panel working on producing standards. A number of meetings in January have been attended and the IP is gradually taking over responsibility.

The IP organised the very successful joint UKOOA/DTI conference 'Strategies for Cost Reduction in the New Era' last December in the Queen Elizabeth II Conference Centre attended by 350 senior industry representatives. Terms have finally been agreed for the IP to publish and market the Final CRINE Report which will be on sale in March.

WS Atkins are continuing their work on the Routine and Non-Routine Cases for subsea equipment operating envelopes to include specific analysis recommendations from the Aberdeen Workshop in October. A meeting was held in January to review progress and the intention is to publishing a Guideline Document very soon.

The Position Paper on the 'Safe Design of High Pressure Shell and Tube Heat Exchangers' is nearing completion.

Refining and Marketing

Aviation Committee has finished the second edition of the IP Filter Monitor Specification, to be published shortly. It has also financed a representative's visit to a recent meeting of a Society of American Engineers Committee in Kansas City.

The draft environmental guidelines for petroleum marketing installations have been discussed with representatives of both DoE and NRA prior to wider circulation within the industry.

The Safe Loading Pass Scheme as revised by the conveyance panel will be published in the near future.

A number of recent incidents have been the subject of debate in Aviation, Electrical and Marketing Committees respectively, with the aim of identifying their cause and to prevent a recurrence.

Sections of the Guidelines for Uplift of Product from Service Stations and Customer Tanks document have been re-written following its ballot and the draft is now being re-issued to the Downstream Operations, Conveyance and Safety Committees for approval prior to publication.

The large volume of comments received from the ballot of the Code of Practice for On-Board Truck Computer (OTC) Systems are now being reviewed. It is likely that the review process will take a considerable time.

Health

A successful workshop on the health effects of urban Air Quality on Respiratory Disease was organised by the IP in February. This was attended by experts in the field together with invited industry representatives.

The research report on the Human Health Effects of Benzene by Dr D Coggon has been published and copies provided to regulatory authorities.

Petroleum Measurement

The committee has agreed the final drafts of outstanding items of PMM Part III: Manual Tank Gauging: Part 1, Non-Electrical Methods: and it is expected that the document can now start to move towards publication.

Agreement has been reached with HM Customs and Excise to draft under IP auspices, in liaison with the Solvent Industry Association, the Independent Tank Storage Association and UKPIA, best industry practice guidelines on oil measurement. This will form a basic reference work for HM C&E for their revised Notice 179: Mineral (Hydrocarbon) Oils: Duty and VAT: Warehousing and related procedures. Drafting will focus initially on metering and will then turn to level and temperature measurement.

Environment

The Halogenated Hydrocarbon Sub-committee has produced a report `Ozone Depleting Substances – Implications for the Downstream Oil Industry'. This contains a number of recommendations for action by various IP downstream committees and the Test Method Standardization Committee. An annex is being produced which will enable the document to be applicable to the upstream sector.

The Refineries Environmental Effects Sub-committee is continuing work on the production of a sector application guide for use with BS 7750.

A conference has been planned for October 1994 – `Environmental management systems - Implications for the oil industry'.

Microbiology

Work by the Microbiology Fuel Group on`Guidelines for the Investigation of Microbial Content of Distillate Fuels' continues and a number of test methods are being developed for inclusion in the document.

Two workshops are planned for 1994 – one on `Biodegradability' and the other will be a hands-on workshop at which delegates will be able to conduct tests in a laboratory environment.

Test Method Standardization

The 1994 edition of 'Standard Methods for Analysis and Testing of Petroleum and Related Products' was published in February. The IP will publish 15 new British Standards in the first quarter of this year. Six are implementations of International (ISO) Standards and nine implementations of European (EN) Standards. The publication of a further four British Standards by the IP is proposed for later in the year. Many of these standards are called up in the European automotive fuel specifications.

Drafts of International Standards based on the IP test methods for determining flash point by the Abel method and density using a digital density meter have passed their first ballot and are now onto the second stage in the development process. It is hoped that both International Standards will be published early in 1995.

John Hayes,Technical Director

Training conference demonstrates oil industry commitment to vocational qualifications

Last November the Institute of Petroleum held its annual conference organised by the Education and Training Group. Because of the overwhelming interest in the topic, the focus was once again on Competencies, with the title: The Myths and Realities of Vocational Qualifications and National Competence Standards.

The conference which was chaired by David Hill, Group Personnel Manager, Fina plc, aimed to provide delegates with an update on developments within the upstream and downstream industries as well as a frank appraisal of the success stories and the difficulties encountered during the introduction and use of standards of competence and vocational qualifications. It was also the aim to foster very active contributions and discussion from the floor.

The wide range of authoritative speakers from contractors and oil companies already using the competence standards in different ways to improve the performance of their workforces together with an industry wide perspective from John Fuller of the Petroleum Employers Skills Council ensured that the information provided met the first objective. The broad cross-section of approximately 60 delegates from both north and south of the border responsible for training or actively involved with line management, participated in a lively interactive debate throughout the day.

John Hillier, Chief Executive of the National Council for Vocational Qualifications, provided a fitting opening to the conference by giving an overview of the national scene. He was able to point to the very considerable progress made already, with vocational qualifications (VQs) now available covering over 80 percent of the UK workforce. The United Kingdom had started some way behind but is now seen as a world leader in the development of a vocational standards framework, having overtaken its major competitors, including France and Germany whose systems are syllabus-based.

SUPPORT OVERSEAS INVESTMENTS WITH UK TRAINING

The only UK-funded scholarship scheme solely for the oil, gas and energy industries is being expanded following its successful launch last year.

In 1993 BP Exploration and Global Gas (British Gas) sponsored candidates from Azerbaijan, Hungary, Thailand and Vietnam. During 1994/95 candidates are expected from Africa as well as countries in the Commonwealth of Independent States, Eastern Europe and Asia. The Foreign and Commonwealth Office (FCO) in conjunction with The College of Petroleum and Energy Studies aims to bring foreign decision-makers, especially managers and engineers, to Britain for specialised training on postgraduate courses at the college and its associated universities.

A jointly funded partnership shares the tuition fees and living costs between a British company, the FCO and a host or national oil and gas company.

Scholarships can be awarded for MSc programmes jointly with Imperial College in Petroleum Production Management; Salford University in National Gas Engineering & Management; Leeds University in Electricity Production; and Diplomas from the Henley Management College in Petroleum Management. Applications should be made directly by the foreign company.

The afternoon panel of experts, chaired by Doug Riach, Training Adviser, BP Exploration, helped pull together the strands from the presentations and discussions earlier in the day.

A number of themes emerged:

- **A recognition that the Cullen Report, following the** Piper Alpha tragedy, has been a significant milestone for the oil industry, highlighting the criticality of agreed competence requirements in key operational roles, and that this has accelerated the pace of development in the oil industry in particular.
- **A recognition also that as companies downsize, it** becomes increasingly important to have standards against which to assess the competence of sub-contractors and suppliers.
- **Concerns over the costs of developing qualifications,** training assessors, the overall length of time required to get standards accredited and the amount of paperwork needed in the certification process.
- **De-linking competence and training is laudable but** as a consequence the vital importance of training to help employees meet the standards is not universally recognised.
- **Whilst the traditional view that vocational qualifica**tions are for the less able is changing, nevertheless there is still some way to go before the significance of the VQ system is widely acknowledged and receives strong buy-in from all employers.
- **It is important to ensure that VQs are made available** to experienced adults. Contrary to popular belief it appears that mature employees are enthusiastic about gaining 'retrospective' recognition for their expertise via a vocational qualification. This was borne out in the presentation on Esso's implementation of the Process Operator standards at its Fawley refinery.There is a fear, however, that not all employers will be enlightened enough to extend schemes to include experienced adults.
- **There is confusion over the number of lead bodies and** who is responsible for which standards. This confusion is ironically increased by the fact that, in order to avoid unnecessary duplication, lead bodies are encouraged to adapt other sectors' standards to their own needs, rather than to develop them from scratch. The Department of Employment is working hard to rationalise the lead body network and minimise any uncertainty of who is responsible for what.

The overall tone of the whole day was one of strong commitment from the oil industry to VQs and a genuine desire to ensure a proper framework for its needs. The careful targeting of delegates for the conference, the key practitioners who are responsible for making the transition happen, ensured that this was not a day of idle flag-waving. Rather it was an excellent opportunity for delegates to increase their understanding, learn from each other and participate in an open dialogue about the challenges which lie ahead.

Frank Penson,
Training and Organisation Development Manager,
Esso Petroleum Co Ltd, and Chairman,
The Petroleum Employers' Skills Council.

Career advisers learn about our industry

Careers advisers from secondary schools who spent an afternoon at the Institute of Petroleum recently were able to go back to their students with a far greater appreciation of the variety of opportunities for young people joining the oil industry today.

The presentations and discussions provided a review of the wide range of different job entry routes, career paths and prospects for graduate entrants. The seminar is part of the IP programme to increase the knowledge and understanding of the oil industry by young people and their advisers. The Institute has held similar seminars in the past but they were discontinued because of the difficulties teachers and advisers had in finding times when they could be away from their schools. On this occasion however we had a full attendance from the advisers drawn exclusively from independent schools.

After an introduction by the Chairman, Ian Ward, and Bob Edmondson, the teachers some of whom had travelled long distances heard Peter Johnston, Manager of Human Resources at Mobil, explain the wide range of different career opportunities available within the industry illustrating this with many examples. He was able to make comparative statements because of his work with the Association of Graduate Recruiters which embraces all industry sectors. The teachers were able to gain a topical insight into the competition, prospects and opportunities for their young pupils as well as an understanding of the key points that companies are looking for during the recruitment process.

His presentations were interspersed with a personal view from a recent entrant to the industry, Katie Hodgson, now working with Shell as a Retail Area Manager. Her presentation certainly opened the eyes of the careers advisers to the high calibre of staff within the industry as well as the early responsibilities, challenges and work situations graduates can face which are vastly different from the academic environment.

Several teachers remarked that they found the presentations informative, interesting and optimistic and considered the afternoon at the Institute very worthwhile. We intend to hold other seminars, possibly at different locations for other groups of teachers.

Vocational qualifications on trial by TV

Channel 4's 'Dispatches' programme, screened in December, and the report on which it was based ('All Our Futures - Britain's Education Revolution') were inaccurate and misleading, says the National Council for Vocational Qualifications (NCVQ).

'Neither NCVQ nor any of our principal partners were given any opportunity to examine or challenge any part of the programme and report, which were peppered with errors and misinformation,' said NCVQ Chief Executive John Hiller.

NCVQ has issued a 36-point statement highlighting the unsound information about the NVQ and GNVQ systems in the programme.

NCVQ's statement shows that:

- **The 'Criteria for NVQs' insist on a 'separate assess-**ment of knowledge' where this is necessary to confirm competence, which is totally contrary to the programme's allegation that 'underpinning knowledge' for NVQs is 'not separately tested'.
- **Conventional written examinations are retained for** many qualifications, contrary to the report's contention that 'Because of the disregard amounting to disdain for "knowledge", there are no conventional written examinations.'
- **The views of employers, as well as organisations** involved in the NVQ and GNVQ systems, were presented in a selective and unrepresentative way.
- **The London Borough of Barking and Dagenham, used** substantially in the programme and report for comment on GNVQs, did not in fact participate in the piloting of these qualifications in 1992/93 and therefore had little practical experience of them.

As a result of the inaccurate and misleading contents of the programme and report, NCVQ has received statements of support from many organisations, several of which have felt strongly enough to write to the press.

NCVQ also acknowledged that objective and balanced criticism will help to overcome the difficulties which have to be faced in creating a system of vocational qualifications which truly meets the needs of industry, commerce and the workforce. They commented, however, that it is unfortunate that the helpful points which were made in the programme and report were overshadowed by the selective and inaccurate nature of much of their contents.

The Offshore Petroleum Industry Training Organisation (OPITO) has signed a joint awarding agreement with City and Guilds. Nicholas Carey, C&G Director General (right) is pictured with Andrew Armstrong Chairman of OPITO. The awards will give a series of National Vocational Qualifications (NVQs) at levels 1,2 and 3 which OPITO has developed with the offshore industry; these will be accredited by the National Council for Vocational Qualifications.

Initial NVQs relate to Gas Terminal Operations and Offshore Safety Services; they will be followed by NVQs for Offshore Drilling Operations. Other offshore related NVQs are in the pipeline.

This agreement with City and Guilds is complementary to a similar earlier joint awarding agreement which OPITO signed with the Scottish Vocational Education Council. This agreement covers awards of SVQs; the scottish equivalent of NVQs. An SVQ for Wireline Operations is currently available.

There is a similar agreement between City and Guilds and Petroleum Employers Skills Council, the lead body for the downstream oil industry, covering NVQ's at Levels 2 and 3 for refinery operations and Level 2 for bulk liquid storage.

Edacom wins contract

ICL Edacom has won a major contract to upgrade the software on each of the 10 POS terminals situated throughout the Q8 nationwide network of company-operated service stations.

Known as the A74 upgrade, the new software has been specifically developed to improve the accuracy of transaction processing, the efficiency of staff and consequently the level of customer service. It also enables Q8 to interface to loyalty card terminals from HTEC and various hot card list management systems such as Cardcast.

New features include a Primary Account Number (PAN) key entry facility, which allows cashiers to enter the card numbers of damaged Access, Visa, Switch, Diners and Amex cards manually. This replaces the former manual fall-back voucher system and allows the transactions to continue to be processed electronically.

In a drive to widen the payment options open to customers, Edacom has also increased the number of plastic cards that can be processed. Latest additions include the TSB Bank Card, the new Overdrive, Visa Delta and various oil company cards.

The new E90/10 POS terminal

To cater further for the ever expanding range of shop stock items, the number of Price Look Ups (PLUs) available has been increased to 5,000.

Q8 has also completed a successful field trial of Edacom's new E90/10 - a small footprint version of the 10 POS terminal, featuring peripherals, a compact multi-station printer and new software features.

One of the most useful additions is an integrated cheque printer.

The E90/10 is the first phase of a transition to a full PC-based POS system. Existing 10 POS users who choose to upgrade their systems will require no additional training.

Get on the scales

The retail packing division of a major international oil company recently replaced its finished product, weight control stations with a new, networked Average Weight System from Stevens Advanced Weighing Systems.

Installed at the company's plant in north-east England, the system handles packs from half a litre up to five litre capacity. It is now being used as the blueprint to extend networking capability to all weigh stations in the plant, a total of around 30 units.

Stevens linked four new Compupak III intelligent terminals to the company's existing simple scale units, so that the whole system could be installed at minimum cost. The terminals are each linked by a single data highway to a remote PC located in the production control office. At each station, sample weighings are carried out to a predetermined schedule, depending on product type.

The terminal records the pack identification and sends the sample weights, along with other quality attribute data, down the highway to the PC.

In the office, a printer logs all warning messages for weight variances and produces detailed management performance reports, analysed by the PC.

These include filling and cost performance tables for each batch, product, filler and operator. Weight variances are signalled by the Compupaks to the operator. If remedial action is required, this too is logged into the reporting system.

Motorists pay up front

A system which allows petrol retailers to receive payment from motorists in advance of the fuel being dispensed has received Weights and Measures 'Prepay' approval from the UK Department of Trade and Industry.

The Octane 2000 site sales and management system, from AT&T/NCR subsidiary, JDC Data, ensures that the customer receives only what is paid for, thus avoiding drive-offs.

The 'Prepay' approval was done with the Gilbarco Euroline pump. According to the company, this is the first point of sale system to ever receive this approval.

Customised keyboards

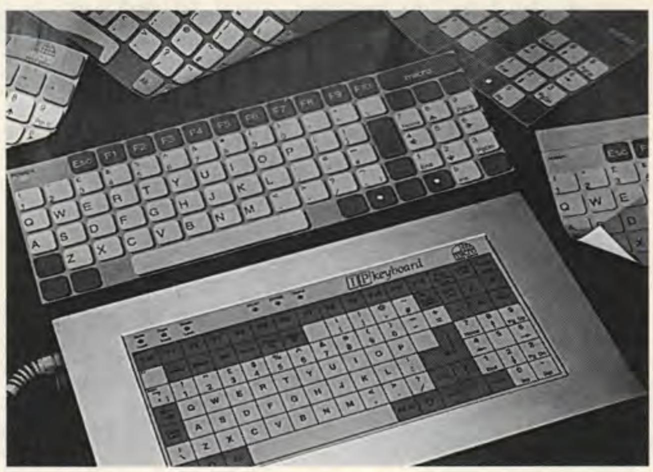
Micro Control Systems has introduced a custom overlay service, providing application-specific tailoring for its industrial, high-durability IP-Keyboard.

Sealed either to IP65 for work in dusty, damp and oily environments, or to IP66 for hosedown situations, the keyboard is designed to provide a highly reliable solution for data entry and control in chemical applications.

As well as standard IBM and ASCII versions, the board can now be supplied with layout variations, customised key functions, choice of colour, and company logo if required. It can also be tailored to any size, right down to a small keypad.

To reassure the operator that data has been successfully entered, the board is constructed with real key switches. It is said to give 'excellent tactile feedback' even through gloves, and also provides selectable audible feedback. The switches are rated for 20 million key presses – 10 years' usage in typical applications. The exceptionally tough overlay has proven resilience to chemicals.

A sealed expansion port is incorporated for connection to devices such as a joystick, trackerball, magnetic stripe reader, barcode reader, mouse, or remote LCD display.



Keyboards for the toughest environments

Testing with no downtime

A service enabling underground storage tanks to be tested with no downtime whatsoever is now available from Geotechnical Instruments (GI).

Developed by Tracer Research Corporation of Arizona, with whom GI has signed a licence agreement to supply the UK market, the Tracer Tight system allows tanks to be tested full, partially full or even empty. Tanks containing fuels, lubricants, heating oils, solvents, wastewater, volatile or non-volatile chemicals and hazardous wastes can be tested regardless of size or type, according to the supplier.

The system is said to offer many advantages over conventional volumetric testing. The initial test cost is low, for example, and repeat testing costs even less because once probes have been installed, they may be used time and time again for future tests.

The system also tests all parts of the underground storage and delivery system, including pipelines, providing an 'unambiguous, absolute result that is not affected by temperature, density or vapour pressure of tank contents'. It can be used to identify the location of leaks to within a few feet without excavation and all tanks on a site may be tested simultaneously.

'This is a true no-downtime system,' said Mr Rob Weeks, Managing Director of GI. 'It can be carried out while a site is in operation, without disruption to business. Even if a leak is discovered, the system's ability to pinpoint the precise location can save a great deal of time and cost in excavation and repair.'

The system works via a series of probes. A specially-formulated 'tracer' is then used to innoculate the product in each tank. This tracer mixes with the product at minute concentrations. If there is a leak, product or vapour carrying the tracer will migrate from the tank or pipeline towards the probes.

Tank testing without disruption

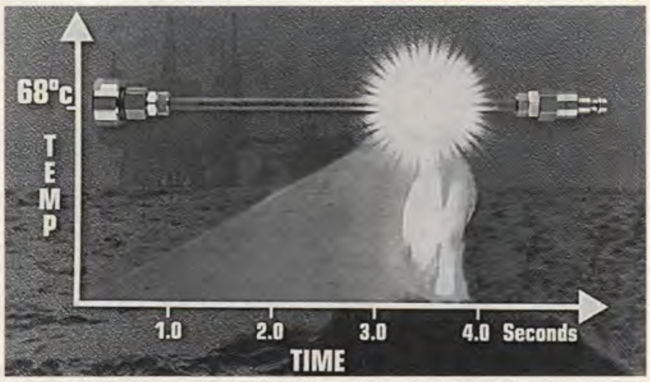
Fail-safe fire sensor

A new fire sensor, specifically designed and developed for critical installations in high-risk industries, has been launched by Brissco Equipment Limited.

The Azflex sensor comprises a low profile, flexible thermoplastic tube charged with an azeotropic cocktail of inert, liquefied gas. This gas is designed to achieve a 'critical point' of 68°C and is held at its positive pressure of approximately 10 bar.

The tube pressure is interfaced with emergency response systems, such as water deluge valves or ESVs, by means of a specially-designed double shut-off, non-return valve. When a temperature rise to 68°C occurs, the contents of the tube vaporise, rupture the tube and evacuate. The resultant loss of pressure vents the pneumatic sensor tube to trigger the required response. The complete system is said to be 'fail safe' and operates almost instantly.

Unlike conventional sensors, which detect fire at intermittent point sources, the new system is a lineal detector, sensitive along its whole length.



The azeotropic fire sensor

New downhole 'shaker' table

A new test facility aimed at reducing downhole and drilling equipment failures and costly downtime offshore has been installed at the International Drilling and Downhole Technology Centre at Aberdeen Offshore Technology Park.

The 'shaker table' is an open access test facility capable of vibration testing complete downhole assemblies. It is able to exert a force of up to 6,000lbs (equivalent to 120g on a 50lb object) to simulate the harsh downhole environment experienced offshore.

Two Scottish drilling and downhole service companies, 3D Stabilisers and Geolink, with support from Scottish Enterprise National (SEN) Energy Group and Grampian Enterprise, have funded the acquisition and installation of this new facility.

As *Petroleum Review* went to press, the table was expected to be operation by early March.

Mr Bruce Robinson, project executive at SEN Energy Group, explained: 'This facility will be of significant benefit to smaller, high technology companies who, in comparison with their US multi-national counterparts, do not have access to their own vibration test facilities.'

Flammable gas detector

The Analox 2000S flammable gas detection system, designed to monitor the level of hydrocarbon emissions, has been approved by the UK Department of Transport for use in marine installations such as oil tanker pump rooms.

Available from Scottish Anglo Environmental Protection, the system is certified by BASEEFA as intrinsically-safe and is suitable for all hazardous areas. It can be used in conjunction with the Analox 1300, 1320 and 2000 ranges of control panels.

The sensor is housed in a sealed stainless steel flammable gas detector head containing a sintered stainless steel filter.

Sensor life is enhanced by using poison-resistant pellistors which give increased protection, in particular against silicones and lead additives. The head has an integral three-core cable, which is terminated in a cast iron junction box, fitted with a Neoprene gasket and rated to IP67.

The system has a range of 0-100 percent lower explosive limit combustible hydrocarbons. It is unaffected by water vapour or carbon dioxide and may be adjusted to give optimum response to hydrogen.

Noise-proofing for car wash installations

With the increasing sophistication of the car wash cycle and the introduction of driers, noise can become a problem in certain areas. Conder Products has worked closely with equipment manufacturers, oil company engineers and acoustic consultants in the development of a complete range of structures, from simple side screens to full roofs, to suit virtually any application.

For example, the company has worked on a number of noise-sensitive Esso sites where acoustic engineers have been appointed to produce readings that will satisfy the concerns of the Local Planning Department.

The Conder enclosure, even with large expanses of glassing, proved more than adequate in every respect, according to the company, with the exception of the automatic door area where significant noise emission was registered. This was easily remedied by closing the gap above the roller shutter and slightly deepening the fascia.

The company's modular construction techniques are said to offer maximum design flexibility and enable even the most sophisticated car wash structure to be completed on site inside a week.

An enclose will also help to prevent freezing during winter months, lessen the risk of vandalism, and reduce evaporation for a water recovery system which may enable continuation of use during drought conditions.


Car washing on the quiet

Soil remediation

Born Environmental Ltd, in association with Thermtech Inc. of Texas, has developed two versions of a soil vapour extraction system – one mobile, the other fixed in-situ - for petrol station forecourts and oil storage depots.

For use where ground contamination has occurred, the units are specifically designed for soil remediation, using proven catalytic combustion technology developed in the United States.

'Unlike some similar systems,' said the company, 'the units are compact, cost-effective to run and negate the need for expensive excavation or soil washing processes.'

Each one is self-contained and fully-computerised, with systems achieving up to 99.99 percent efficiency, depending upon clients' requirements.

Innovative computer replaces mechanical dispenser unit

Hockman-Lewis Limited, a New Jersey export management company with distributors located throughout the world, is offering the Suntronic Series 90 Solid State Computer to station operators who wish to replace existing mechanical computers in dispensers.

Installation takes approximately two hours and kits are available to easily upgrade Series 80 computers to the Series 90 configurations.

The unit provides an easily visible liquid crystal readout that displays total sale, volume dispensed, and price per unit in gallons or litres. The computer can operate in a stand-alone or key-authorisation mode.

The computer head is capable of English or metric price postings to 9.999 per gallon or .999 per litre. A floating decimal is available for non-dollar applications.

The Series 90 also records sales transactions, measures customer usage, provides a price change record, features automatic prepay slowdown near end of volume purchased, and contains self diagnostics.

Deep water sidescan sonar

A new water swathe imaging sidescan and sub-bottom profiling system has been developed for seabed surveying operations in the 50-1,500 metre depth range.

The development, known as Project ISIS, is the work of Ultra Electronics Ocean Systems UK, together with the Institute of Oceanographic Sciences Deacon Laboratory.

The performance specification of the sonar, which will have the product name Deepscan 60, is said to be well beyond the capability of other sonars and is tailored specifically to the needs of offshore survey operators. Image resolution will be at least as good as 100kHz shallow water sonars but with the added advantage of an integrated bathymetry capability and a much larger swathe width.

The sub-bottom profiler element of the new system pairs narrow beam multi-element acoustic waveguide transducer technology with an Ocean Systems' digital chirp processor.

Sea trials are expected to start next month using Subsea Surveys' vessels and facilities.

CONTACTS

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Geotechnical Instruments	0926 338111
Brissco Equipment	0272 642400
Scottish Enterprise	0224 626310
Scottish Anglo	0642 457771
Conder Products	0962 863577
Born Environmental	0273 596868
Hockman-Lewis	(201) 325 3838
Ultra Electronics Ocean Systems	0305 784738

INSTITUTE NEWS

NEW COLLECTIVE MEMBERS

HMC Hamburg Marine Consulting GMBH, Warnstedtstrasse 68, D-22525 Hamburg, Germany.
IP Nominated Representative: Mr A Mai, Managing Director

HMC Hamburg Marine Consulting GMBH are cargo and damage inspection, consultation regarding loss and damage prevention, in particular in respect to sea transportation and storage of liquid and solid commodities.

MRC Business Information Group Ltd., 5 Worcester Street, Oxford OX1 2BX
IP Nominated Representative: Ms C Lewis, Manager, MRC Oil Division

MRC Business Information Group Ltd is an independent research and consultancy company operating in the maritime and oil industries. Oil related activities centre on corporate research on oil traders; refiners and distributors for use in assessing risk in oil trading. Other services include regional oil sector surveys, political risk, market analysis and retainer bulletin service covering oil trading.

Hydra-Tight Limited, Morgrip Products, Balmoral House, Longmore Avenue, Bentley Mill Industrial Estate, Walsall, West Midlands WS2 0DA
IP Nominated Representative: Mr P Maxted, Product Manager

Hydra-Tight Limited are designers and manufacturers of MORGRIP mechanical pipeline connection systems, providing sales and service of hydraulic bolt tightening and in-situ machining equipment.

DEATHS

We regret to announce the deaths of the following members:

	Born
G J Boyle, Orpington, Kent	1922
A E O Cooke, Hampton, Middlesex	1900
D H Desty, Walton-on-Thames, Surrey	1923
R K Dickie, Oxsted, Surrey	1900
L W Kilbourne, Mickleover, Derby	1923
J G S Longcroft, London	1929
J McArdle, Eastwood, New South Wales, Australia	1919
C A F Rattray, Renfrew	1941
S J Taylor, Birchington, Kent	1920
J Wheeler, London	1943

STUDENT PRIZE AWARDS

The IP Student prize for outstanding performance was presented to Marcus Ridgeway, a student on the MSc Petroleum Geology course at Aberdeen University. Ramsay Spence, a John Wood Group Plc director and past chairman of the IP branch, presented the award to Marcus recently. Looking on are committee members Richard Green (left) and Ken Hollamby.

The Cargill Educational Trust and the West of Scotland Branch of the Institute of Petroleum Education Trust prize winners are pictured together with Mr Bill Beaton, West of Scotland Branch Chairman, after their lunch at the University of Strathclyde. The value of the prizes was £1,000. This year the competition was open to postgraduate students from the university whose research has a bearing on the oil industry. The winners were Gordon Love, for work on the chemistry of oil shales, Morten Jakobsen (from Demark) for work on sea-bed scouring of pipe-lines, and Jean Luc Hospital (from France) for work on light-weight walk-ways.

UK DELIVERIES INTO CONSUMPTION (TONNES)

Products	*† Dec 1992*	** Dec 1993*	*† Jan-Dec l992*	** Jan-Dec 1993*	*% Change*
Naphtha/LDF	295,894.0	332,893.0	3,280,943.0	3,117,033.0	-5
ATF – Kerosene	468,806.0	517,428.0	6,665,651.0	7,062,526.0	6
Petrol	2,039,321.0	1,851,935.0	23,906,314.0	23,085,747.0	-3
of which unleaded	1,006,904.0	1,017,187.0	11,204,286.0	12,157,129.0	9
of which Super unleaded	127,357.0	112,775.0	1,414,362.0	1,420,790.0	0
Premium unleaded	879,547.0	904,412.0	9,789,924.0	10,736,339.0	10
Burning Oil	332,624.0	310,176.0	2,500,378.0	2,625,311.0	5
Derv Fuel	922,276.0	911,307.0	11,086,412.0	11,785,179.0	6
GasjDiesel Oil	69,807.0	670,156.0	7,188,392.0	7,694,934.0	7
Fuel Oil	1,055,900.0	1,122,646.0	11,266,992.0	10,722,041.0	-5
Lubricating Oil	50,781.0	55,777.0	761,070.0	757,047.0	-1
Other Products	1,211,334.0	543,104.0	7,680,500.0	7,249,648.0	-6
Total above	**6,446,743.0**	**6,315,422.0**	**74,336,652.0**	**74,099,466.0**	**0**
Refinery Consumption	530,370.0	561,733.0	6,080,395.0	6,382,781.0	5
Total all products	**6,977,113.0**	**6,877,155.0**	**80,417,047.0**	**80,482,247.0**	**0**
*† Revised with adjustments *Preliminary*					

INSTITUTE NEWS

AROUND THE BRANCHES

Aberdeen
12 April: 'Policing the North Sea', Dr Ian Oliver, Chief Constable, Grampian Police.

Essex
9 March: 'A "Duty of Care" in Respect of Waste Management', H Pullen, Cleanaway Ltd.
18 March: Annual Dinner Dance.

Humber
17 March: 'Oil Industry Rationalisation'.
14 April: Ladies Night.

London
26 April: Annual General Meeting. 'Stage 2 VOC Control', Speaker from Esso Petroleum.

Midlands
16 March: 'Environmentally Acceptable Hydraulic Fluids', Ken Walton, Ethyl Corporation.
20 April: 'Petrol Retailing Through the Next Decade', David Rae, Q8 Petroleum UK.

North East
22 March: 'Abandonment of Offshore Oil & Gas Fields', Mr A McEwan, Stena Offshore.
22 April: Annual Dinner Dance.

Northern
15 March: 'Water Based Additives', Mr R Stubbs, Polartech.
11 April: Hot Pot Supper.

South Wales
17 March: 'Combined Heat & Power Systems', speaker from Powergen plc.
26 or 27 March: Visit to Dinorwig power station.
26 April: 'Local Justice', Mrs Julie Ratti, Barrister.

Stanlow
15 March: 'Water Based Additives', Mr R Stubbs, Polartech.

West of Scotland
17 March: Petroleum Dinner.

Yorkshire
18 March: Annual Dinner Dance.

NEW FELLOWS

Dr R J R Cairns
Graduating with a first in Chemistry, Dr Cairns joined BP's Sunbury Research Centre and worked on novel lubricating greases. He was seconded to Bristol in 1969 as BP's Dunstan Fellow, gaining an MSc and PhD in Surface Chemistry and Colloids. Returning to Sunbury, he worked on oilfield water problems, moving to Aberdeen to lead an oilfield water management group. He then became BP's UKCS lead gas co-ordinator before a posting to Qatar, where he was involved with technical and planning aspects of the onshore oil and gas fields. In 1983 he joined the newly-formed Oil and Gas Division of Trafalgar House, rising to Managing Director in 1989 and playing a major part in its demerger the same year to form Hardy Oil and Gas plc.

Mr V N Lucas
After graduating with a degree in Chemistry, Mr Lucas served as a deck officer in the Merchant Navy. In 1980 he started as a Cargo Inspector with Caleb Brett. In 1986 he moved to the position of Manager, Quality Assurance and now holds the senior position of General Manager of Inchcape Testing Services (UK) Ltd, formerly Caleb Brett, which covers operations in Great Britain and Ireland as well as West Africa and southern Mediterranean countries. He is actively involved in improving measurement standardization and is currently Chairman of the IP petroleum measurement committee PM-C-3, and also serves on three other IP committees.

NEW STAFF MEMBER

Tracey Connellan joined the Institute of Petroleum as Head of Membership Administration on 1 February 1994.

After graduating with a degree in English from Sunderland Polytechnic, she travelled in South East Aisa for seven and a half months. Returning to England she began her career as an Administrative Assistant before joining the Communicable Disease Surveillance Centre as Senior Administrative Assistant for the Immunisation Division. Her duties included creating and maintaining databases and producing analytical reports.

NEW MEMBERS

Mrs N Abdalla, 2 Typleden Close, Hemel Hempstead, Herts HP2 5YL
Mr S Akinboyo, Nigerian National Petroleum Corp, 7 Kofo Abayomi Street, Victoria Island, Lagos, Nigeria
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Mr M Andrews, Flat 1, 5 Waldegrave Gardens, Twickenham TW1 4PQ
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Mr D Baxendale, Sarawak Shell, Locked Bag No 1, Miri, Sawawak, Malaysia
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INSTITUTE NEWS

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