OSO’s Formative Years
1973–1980

With its high public profile and association with ‘headline grabbing’ issues, OSO is often seen as the key determinant of British industrial performance in the North Sea. In fact, its importance is easy to exaggerate. Its activities were only some of the forces at work and many key decisions had been made before it came into existence.

It was a Conservative administration that established OSO and most of its life was under Conservative administrations, mainly those of Mrs Thatcher. Conservative hegemony was interrupted by the Wilson/Callaghan Labour government of 1974–1979, a period which combined the most frenzied period of UKCS development with OSO’s own formative years. OSO’s existence and functions never became a party-political issue. The Ministers of State (MoS) for Energy to whom it was politically responsible pursued a broadly bi-partisan policy of ‘constrained support’ for the British supply industry, although with varying levels of vigour and commitment. There were occasional variations in how OSO conducted itself, even though the broad themes of activity showed a high level of continuity. The variations reflected economic, political and technological changes as well as the personal inclinations of a particular MoS or Director General (DG).

Constraints were numerous and ever-present, varying in relative importance from time to time. They reflected major policy issues, such as security of oil supply, the balance of payments, employment, industrial policy and the nationalised industries, government revenue, fisheries, the containment of Scottish separatism as well as relations with the USA, Norway, the EEC, and its member states. This list demonstrates that interest in what OSO did extended well beyond the confines of its own host department. The Treasury, Bank of England, Scottish Office and Foreign and Commonwealth Office (FCO), in particular, all saw a need to be involved, especially in these early years. Many other parts of government from the Prime Minister downwards became drawn in on specific issues.

The 1973–1980 period exhibited characteristics that distinguished it markedly from the years that followed. It opened with the tail end of the so-called
‘Barber boom’, which was soon to give way to deepening economic crisis, rising unemployment and political upheaval. It saw ‘real’ oil prices reach a peak in 1980 not seen again until 2008, bringing in their wake sharply increasing levels of oil taxation. It was most the intensive phase in North Sea development generating the fastest rise in UK oil production ever experienced. The UK’s first offshore oil was produced in 1975, with national self-sufficiency achieved only 5 years later.

It was against this volatile background that establishment of the Offshore Supplies Office (soon almost universally to be referred to as OSO) was announced in January 1973. Crucially, the new organisation was not to have the independence recommended by the IMEG, being located within the Industrial Development Executive (IDE) of the DTI in London. Similarly, IMEG’s more radical financial proposals aimed at relieving private sector investors of some of their financial risks (see p. 100) were not pursued. However, modest funding under the Industry Act was envisaged and an Interest Relief Grant (IRG) Scheme, to enable British suppliers to match foreign export credit, was set up.

Inevitably, OSO’s early months were occupied with internal issues. Its first Director (soon to be upgraded to Director General or DG) was an engineer, Peter Gibson, previously the Managing Director of Lummus (a UK subsidiary of a U.S. process engineering contractor). After 4 years, Gibson was succeeded as DG by Alan Blackshaw (a career civil servant). In autumn 1978, the writer (with a private sector background in industrial marketing and corporate finance) took on the position, having immediately previously served as OSO’s Industrial Director. During this early period, other senior positions were also filled from the private sector on secondment or short-term contract bases. This strong private sector management component was a feature that did not persist. From 1981, OSO was entirely civil service staffed. Nevertheless, by then OSO had developed a structure and methods of operation that were to remain broadly unaltered for most of the remainder of its existence. It had also achieved a degree of maturity and broad acceptance within both the offshore industry and the government machine.

5.1 THE COURSE OF DEMAND

Offshore expenditure grew from around £300 million in 1973 (over £2.7 billion in 2008 prices) to its first cyclical peak of over £2.5 billion in 1976 (about £13.5 billion in 2008 prices), mainly fuelled by an increase in development expenditure, readily apparent from Chart 4.1 (see p. 94). As Chart 4.2 (see p. 102) shows, exploration and appraisal (E&A) drilling activity also expanded substantially.

The pace of expansion reached an unsustainable level; changes in government policy, particularly in respect of taxation and the establishment of the BNOC, as well as uncertainty over the future direction of oil prices provided
additional reasons to delay investment decisions. The period ended with a decline in activity clearly entrenched. This was unfortunate for OSO and British suppliers since it meant expectations raised by the initial ‘boom’ would often not be met. As early as September 1975, UKOOA was complaining that UK suppliers were still basing their plans ‘too readily on an extrapolation of the buoyant state of the market a year or more ago’ and would be ‘too late to benefit from the initial surge of activity . . .’. It accused OSO of encouraging this.

Reference to Chart 4.1 (see p. 94) shows that expenditure had fallen to about £10.4 billion in 2008-terms by 1979, recovering slightly in the following year. By this time, operating expenditure was expanding rapidly as the UK approached self-sufficiency in oil, reaching over £2.2 billion in 2008-prices by 1980. The overall decline in absolute terms was borne mainly by development expenditure, although E&A activity suffered a greater proportionate decline, with the number of wells drilled more than halving between 1975 and 1979. By contrast, development drilling, still mainly fixed-platform based, continued to expand rapidly, increasing nearly sixfold over the same period (see Chart 4.2, p. 102).

The UK share of orders placed increased substantially, reaching its first peak at 79% in 1979, a figure influenced, according to UKOOA, by ‘. . . some degree of ‘bunching’ of orders.’ In the development sector (over three-quarters of the total orders), the share was 83% as compared to 70% in operating expenditures and only 40% in E&A – Department of Energy ‘Brown Book’ (1980). These relative positions were fairly constant for some years from the late 1970s onwards, reflecting the fact that UK firms had been relatively successful where existing labour skills and only relatively modest new capital expenditure were needed to enter the offshore market (as in fabrication) but much less so where specialist ‘core’ skills in short supply (as in drilling and well services) or large scale new capital expenditure was needed (as in drilling and installation).

Both fluctuating demand and the lack of a serious UK presence in large and important areas of the market were to persist throughout OSO’s existence, posing difficult problems for the organisation.

5.2 OSO OPERATIONS IN CONTEXT

Initially, activity was mainly concentrated on the collection of quarterly expenditure returns from Operators, their subsequent ‘audit’, the definition of a ‘British’ company and the introduction of venture management, probably the more radical of the novel introductions to the civil service machine. Unlike the audit of quarterly returns, venture managers – largely short-term appointees from the private sector – were not a direct response to the IMEG Report.

Their introduction reflected recognition that new entrants to the offshore business would need more from OSO than information on market opportunities, such as contacts with oil companies and lead contractors and, possibly, financial
and other assistance. Gaps to be met included ‘know-how’, which might be filled by foreign licences or joint venture associations, and private capital, particularly for new enterprises where Industry Act funding was likely to be insufficient or impossible to obtain in a realistic time frame. As brokers and advisers, the role of the venture managers was to help British companies fill such gaps, rather as a merchant banker of the time might, though without the direct access to private sector funding. In the event, the limited success of the venture managers in accessing private sector equity was to hamper their effectiveness, which would have been surprising to OSO’s new Director, who, in his first month, was reported as saying that there was “...plenty of money in the City looking for investment in offshore industries” (Glasgow Herald, 26th January 1973).

Gibson may have had in mind the £20 million (about £194 million in 2008-terms) raised by a new Edinburgh-based investment company, NSA a few months previously. This was to be the largest British public issue for portfolio investment in offshore support industries and at the time was considered sufficiently important to be brought to the attention of the Prime Minister by the Chancellor of the Exchequer – TNA: PRO PREM 13/925.

OSO remained part of the DTI for barely a year before being transferred to the newly established DEn. During this period it established working relationships within its host department in respect of the operation of the Industry Act and its regional representation. Thus, its Newcastle venture manager and the Scottish Petroleum Office (in Edinburgh) were within the local DTI organisations. Because Industry Act assistance continued to be administered by the Industrial Development Unit (IDU) and because the DTI remained responsible for foreign trade promotion, the transfer introduced additional management complexity.

At the same time, OSO was continuing to accrue new functions. In this early period, the emphasis in OSO’s work shifted to a considerable extent from supporting British industry to helping to expedite oil production. Some longer-term issues continued to be pursued, with an research and development (R&D) and market evaluation branch being added in response to the establishment of the Offshore Energy Technology Board (OETB) in 1975 and with steps to encourage nascent supply industry firms to export.

More functions demanded expansion in OSO’s original staffing, something not easy to achieve in its technical grades, given the high demand for such skills at the time. In 1974, the new Labour Government authorised a substantial increase in numbers, combining this with a decision to move the organisation’s headquarters to Glasgow and to close the Edinburgh office. A substantial presence was to be retained in London and close links kept up with DTI regional offices, particularly Newcastle. Later, representation was established in Aberdeen.

Headquartering OSO in Glasgow was mainly rationalised on the grounds of the actual and potential importance of oil supply business to the industrial belt of West Central Scotland and the need to be closer to oil industry operations. Such practical reasons were probably less important than for the Labour Party’s
need to show its Scottish heartland that it would enjoy benefits from North Sea oil, with the intention of easing the electoral threat from the SNP.

Whilst a move to Scotland was probably both unavoidable and justifiable in the circumstances of the time, it imposed additional stresses on an OSO management, already stretched on a number of fronts. The organisation expanded in numbers over the period mid-1973 to mid-1975 from 40 to over 150 (Jenkin, p. 90). The detachment of its senior management from their peers in other DEn divisions, from their departmental superiors and from Ministers – through whom such sanctions as OSO had were largely exercised – could only be partially rectified by continual Glasgow – London – Glasgow travel, a burden unequally borne by Glasgow based personnel. This same small group also had many visits to make to elsewhere in the UK, as well as periodic trips overseas.

The choice of Glasgow as the main Scottish location could be questioned. At the time little more than a forward exploration base, Aberdeen could not then have been considered as an alternative. However, politics apart, there was much to be said in favour of Edinburgh, strategically positioned along the east coast of Britain where the offshore industry was concentrating. The Scottish Petroleum Office had been located there and, importantly, Edinburgh was home to the Scottish Office, with which OSO had much dealing in its early days. In addition, the two most important Scottish banks, the main financiers of Scottish offshore supply firms, were headquartered there. Its transport links were at least as good as those of Glasgow, its industrial base had a greater high technology content than Glasgow’s and one of its universities (Heriot Watt) was soon to challenge Imperial College for the role of the UK’s premier higher educational establishment for the offshore and petroleum industries. Eventually, OSO settled down in Glasgow but – in the author’s opinion – the city was never its ideal home.

OSO’s policy continuity was little disturbed when in 1979 the Labour Ministers to which OSO was responsible were replaced by Conservative ones, although changes in other aspects of the new government’s energy policies (e.g. the decisions to abolish BNOC and vary oil taxation) had ‘knock-on’ implications. The continuity stemmed from the fact that the ‘ground rules’ that defined OSO’s operational scope, particularly FFO, definitions of a British company and British content had already been settled within a framework set by the previous Conservative administration. The government, the oil companies and foreign owned, British-based service and supply companies had no desire to re-visit these issues, though this consensus did not extend to all parts of the British-owned industry.

Where important changes did occur, they reflected changes in the market place or external pressures. The most obvious of the latter was the discontinuation in 1979 of the IRG scheme in response to pressure from the European Commission (EC), pressure reinforced by allegations (exaggerated in the author’s view) that OSO had administered the scheme badly, resulting in over-payments. It was little noted that the other EEC members agreed not to offer export credit
terms in respect of the UKCS and there is nothing to suggest that the scheme cancellation had serious consequences for British industry, a view to which Cook and Surrey (p. 23) subscribed. The concurrent market contraction had a more marked effect. OSO continued to administer repayments under contracts already accepted until about 1987.

The IRG scheme apart, the Commission did not seriously impact on OSO operations in this period, despite periodic threats. According to one OSO official of the time, this was due to the political balance within the EEC. He recalled the Dutch as the main complainants, but without backing from the French with their much larger oilfield support business, they had little influence. The French did not want “to rock the boat” because they were at the same time cosseting their own, for the most part ‘high-tech’, offshore companies and quietly nurturing them with public funds.

OSO’s senior management and some of its technical staff remained under great pressure, but it became clear that the move to Glasgow and the simultaneous authorising of a staff complement of 180 had led to an over-inflation of support staff. Given the rigid structure of Civil Service staff relations, reversing this was to prove a long process. The staff in place in 1979 totalled over 120 against a reduced complement of 135. They had been organised into up to seven branches. With a view to increased efficiency and to further staff reductions, one of the writer’s early decisions as DG was to concentrate as many activities as possible into three branches, Engineering, R&D and Administration, assigning the venture managers to specific tasks within them. According to one of their number, by this time, the reality was that venture managers could “neither venture nor manage”, with their effectiveness constrained by a lack of strong direction, an absence of funding and the difficulty in assessing results.

5.3 OSO AND THE MACHINERY OF GOVERNMENT

With probably twenty or so central government departments having an actual or potential interest in offshore matters, OSO’s activities attracted the attention of arms of government from the Prime Minister downwards. Thus when the Inland Revenue proposed to take away the self-employed tax status of North Sea divers, with the consequence of sharply cutting their net incomes, OSO’s development programme monitoring function required it to report that it anticipated an exodus of experienced saturation divers, with serious programme delays in consequence. When all other efforts to have the decision rescinded had failed, the matter was referred to Prime Minister Callaghan who ensured the proposal was dropped. Whether or not Prime Minister Thatcher intervened as directly in an OSO-related matter, she was undoubtedly well informed about its activities.

Although ultimately responsible, neither the Labour (Tony Benn) nor the Conservative (David Howell) SoSs in position for most of the 1973–1980 period intervened much in OSO activities. This they delegated to their respective MoSs, J. Dickson Mabon and Hamish Gray. Both of these became
intimately involved, not only because they were specifically charged with OSO’s supervision but also because both were MPs for Scottish constituencies containing considerable numbers of oil-related jobs.

This gave them a close interest in chairing the Offshore Industry Liaison Committee (OILCO), which provided a communication channel between OSO, UKOOA, major contractors and trade unions representing in particular Scottish fabrication yard workers. Separate meetings also took place between two or more of the same parties. OILCO was among the mechanisms that helped to maintain a generally good climate of labour relations in the industry, although it would be wrong to claim that disputes were entirely absent. Completion bonuses continued to be strongly opposed by the oil companies and most were unenthusiastic about the unionisation of the offshore work force, a Labour government aim. In 1977 UKOOA nonetheless agreed guidelines with the Inter-Union Offshore Oil Committee (IUOOC) on how union recognition might be achieved on offshore installations.

Within DEn’s internal structure, OSO’s DG reported to the Deputy Secretary overseeing the oil and gas divisions, then John Liverman. OSO worked with the other oil and gas divisions and relations were generally good though somewhat distant. Tensions could on occasion arise, for instance, if the Petroleum Engineering Division (PED) suspected OSO wanted to use regulations in the interest of British industry.

That said, sometimes the mere reference by a Minister that the DEn had powers over offshore operations, which, if exercised, might restrict, delay or even stop cash-generating production, could lead to an outcome in line with OSO’s view. Where temporary flaring consents were needed to maintain oil production, the companies concerned had often made little recovery of their heavy cash outlays and were thus anxious to be as accommodating as possible towards departmental concerns. Needless to say, not all conversations took place in a formal setting where they could be officially minuted, although civil servants were usually assiduous in their efforts to ‘protect’ Ministers from making unguarded statements.

OSO participated in the formal departmental discussion of most oil and gas policy issues, but was clearly disadvantaged by the location of its headquarters, which prevented its top management participating in short notice meetings (often the important ones) or in the informal discussions within a ‘peer group’ that frequently determined the decisions reached formally. As a result, the writer sometimes found himself in the difficult position of raising OSO objections to a decision already taken.

The most intimate inter-action between OSO and the other oil and gas divisions took place during licensing rounds. During the 1973–1980 period, these were confined to the Fifth Round (1977), the Sixth Round (1979) and preparation for the Seventh Round (1981). The succession of (small) licence rounds has been attributed in part to government concern for the work-load of the offshore supplies industry, see Cook and Surrey (p. 25). If true, the writer believes this
was misconceived. As long as the DEn was able strictly to enforce licence round drilling obligations (broadly until the 1986 oil price collapse), there was a demand benefit for the (foreign dominated) exploration sector, not for the (British dominated) development sector. Once the first generation giant fields were in production, succeeding development decisions were more likely to be driven by oil price and tax considerations than the results of new exploration, particularly as early exploration campaigns had already identified many marginal accumulations, with few new giants anticipated on post Fourth Round acreage.

Despite the high profile of ‘UK content’ in government oil industry relations and the government target of 70% plus, its direct influence on new license awards may have been less than the applicants thought. Personal recollection suggests that, certainly at times, OSO representatives on the intra-departmental group that interviewed applicants and made the initial award recommendations commanded only some 10% of the total ‘votes’. In order to maximise the influence of OSO, OSO representatives needed to use OSO votes entirely in favour of a single favoured applicant for a particular licence or not at all.

With OSO’s role demanding liaison with so many government departments and agencies, it is possible to consider only the more important. With the Scottish Office, after a hectic beginning, few issues demanded much OSO top management attention, but at lower levels co-operation over matters like platform sites continued. There was almost no contact during this period with the newly established SDA. From the viewpoint of relations with English companies, this may have been a good thing. The move to Glasgow had already led some to think that OSO had lost its UK-wide remit and become part of the Scottish administration.

Contact with the FCO tended to focus on two matters. One was the EC, where OSO found the FCO generally supportive. The other was Norway, where relations were less cordial. It was easy to conclude that the FCO was anxious to avoid offending the Norwegians for strategic (military) reasons, even at the expense of UK economic interests.

The other two departments of state most closely concerned with OSO activities were the DTI (and ‘outliers’) and the Treasury (and ‘outliers’). Given the origins of OSO and its dependence on the DTI services in respect of exports, operation of the Industry Act and regional representation, a close relationship was unavoidable, but made the more so by DTI’s responsibility for two nationalised industries involved in the offshore business, BSC and BS, where the relationship could reach ministerial level. One DTI ‘outlier’ whose actions sometimes disturbed OSO was the ‘Invest in Britain Bureau’, responsible for encouraging inward investment. OSO’s concern centred on the Bureau’s apparent keenness to encourage (usually with regional aid) foreign new entrants, regardless of the potentially harmful effects on established suppliers.

The Treasury’s main interest in OSO was in its use in monitoring the development programme and helping to keep in ‘on track’. The latter led to a specific relationship with the Bank of England. This relationship centred on preventing
actions by commercial banks impacting on field development ‘critical paths’ but could be extended to the use of Bank exchange control powers to delay the foreign take-over of ‘strategic’ companies.

Contact with the Oil Taxation Office (OTO) took two forms. In the first case, OSO was able to advise of changes in oil company procurement practices that seemed to be PRT driven. One example was the shifting of the burden of construction finance on to contractor prices as a means of gaining interest relief against PRT (so-called contractor finance), something OSO feared disadvantaged smaller British-owned suppliers and favoured larger foreign-owned firms, particularly when coupled with a requirement for performance or completion bonds. Another was the manipulation of contract dates to defer or reduce PRT liability.

In the second case, OSO approached the OTO to establish whether or not certain capital expenditure was allowable for relief against PRT by being field specific. An example was the expenditure on multiple-support vessels (MSVs) committed to a sector of the North Sea but ‘based’ on the dominant field in that sector.

5.4 SOME KEY OSO ISSUES OF THE PERIOD

The main issues that preoccupied OSO’s management in its early years were those that were to remain central for most of its existence. One exception was OSO’s role as an expeditor and facilitator of offshore developments, which declined in importance after the achievement of self-sufficiency in 1980.

5.4.1 OSO as Monitor and Expeditor

One of the few causes for optimism about the UK economy during OSO’s early years was the prospect of substantial North Sea oil production. Both Conservative and Labour administrations were anxious that this should happen as rapidly as possible, an objective broadly shared by the oil companies for commercial reasons. OSO was soon seen by government as a tool to help bring this about, leading at times to a diversion of OSO resources from its primary aim of developing of British offshore capability.

The initial such diversion took place during the state of emergency that followed from the 1973 miners’ strike. OSO was given the task of granting exemption certificates to firms engaged in the North Sea development programme from power supply restrictions, allowing it to ease itself a few months later into a more general, ‘monitoring’ role (Jenkin, p. 79). The appointment of OSO monitoring engineers was intended to keep Ministers aware of sources of potential timetable slippage and in some cases allow government intervention. A Brief for the Secretary of State revealed that 12 of OSO’s 40 specialist professional and technical staff were engaged ‘... with monitoring the progress of major UK contracts’ – TNA: PRO BT 241/2580. The same document
detailed the various ways in which OSO was contributing to the avoidance of programme delays.

During 1974 OSO also worked with UKOOA and BSC to resolve what UKOOA described as the ‘UK Tubular Goods Crisis’. BSC was the major supplier of well casing to the domestic market, as well as having an important export trade. UKOOA members were concerned that BSC could not meet an expected surge in demand. The fear of a crisis proved to be exaggerated due to over-ordering and slippage in platform installation and thus development drilling.

A perceived lack of platform construction sites – particularly for concrete structures, which had been imported initially – led in 1975 to the establishment of OSO’s Platform Sites Directorate. During its brief existence, this unit was made responsible for all aspects of the government’s platform sites policy, including site acquisitions, preparatory work on site construction and leasing to contractors (Jenkin p. 85). This led to some mainly abortive public expenditure, as within 2 years it had become apparent that platform demand had been overestimated and that concrete platforms had fallen from favour. OSO had to extricate itself from the concrete platform sites initiative, with minimum further cost to the public purse.

The extent to which OSO’s efforts were directed to attempts to improve the speed and efficiency of the first stage of North Sea oil development was not confined to the issues discussed above. Confidence in a British firm’s ability to meet delivery obligations necessarily became a factor in the extent to which OSO could promote its interest with Operators. An arrangement was set up with the Bank of England whereby no bank operating in the UK could enforce a receivership or liquidation of a supply business on the critical path of an oil project (as confirmed by OSO) without the agreement of the Bank, which would seek a less disruptive solution. Further, according to Jenkin (1981, p. 127), the government put emphasis in choosing projects for Industry Act financial assistance on their relevance to speed of development, impacting on the work of the venture managers.

Often linked to the question of project slippage was costs escalation. Here, OSO played a lesser role, though it did make an input into the report on the subject commissioned by the government in 1975. A key conclusion was that over the period September/October 1973 to March/April 1975 costs escalated at an annual rate of 80%, with unexpected increases in input costs of 20–30% overshadowed by increases in work content of 80–100%. While this experience had parallels in other projects with high development content, their short timescales gave North Sea projects a higher rate of increase – Department of Energy et al (1976c, p. 18).

The authors offered an illuminating insight into the environment within which OSO’s monitoring function was carried out. It painted a picture of complex interactions between such factors as:

i. a hostile physical environment demanding a major extrapolation of established design and fabrication practices;
ii. exacting timetables requiring fabrication to begin before the design process was complete;

iii. the extremely high rate of spending resulting from upwards of a dozen Operators undertaking developments at much the same time, ensuring an escalation of pressure on technical expertise and other scarce resources;

iv. the need to marshal diverse sources of manpower, materials and services, at times in out-of-the-way locations;

v. the high premium placed on avoiding slippage so that offshore installation could be carried during the target summer ‘weather-window’;

vi. the general economic background of very high inflation.

Interestingly, the perceived weaknesses of traditional British heavy industry–poor management, labour militancy and poor productivity – did not feature as major causes of costs escalation and the report’s authors found ‘no evidence’ that the British fabrication industry (its main field of study) was ‘significantly uncompetitive’ (Department of Energy et al 1976c, p. 81). It also correctly foresaw that the ‘learning curve’ experienced by all parties in the first wave of offshore oil development, and the probably less frenzied pace of further development, would mean that in future costs escalation would not be as serious a problem. As had been found by NEDO a few years earlier with onshore projects, not having finalised the design before the start of construction exerted a particularly malign influence (see Table 1.4, p. 16).

As the initial over-heated development ‘bubble’ subsided, the general emergence of excess capacity and the approach of UK oil self-sufficiency lessened the importance of the monitoring function and enabled it to be combined with expenditure auditing. The maturing domestic market and the need to support future export markets increased the focus on British industrial capability, for which a separate unit was established within OSO’s Engineering Branch. An early priority of the Industrial Capability Section was to assume responsibility for specific field developments, initially working with the relevant engineers in the Audit Section, though involvement with the field development approval (or Annex B) process would inevitably follow. When it eventually did, the emphasis would be upon ‘UK content’ rather than upon avoidance of programme slippage, important as that remained.

5.4.2 Quarterly Returns and Full and Fair Opportunity

Adherence to the two key IMEG recommendations of collecting quarterly expenditure returns and establishing Full and Fair Opportunity, or FFO, for British suppliers were central to OSO’s operations.

Establishing the Quarterly Return was straightforward and produced few complaints from Operators, beyond those to be expected about ‘bureaucracy’ and ‘time-wasting’. The latter led to ‘to-ing and fro-ing’ over issues such as the minimum individual order size to be recorded, which in turn could vary
according to OSO’s interest in a particular market sector. Though introduced in 1973, the returns and their audit did not become fully established until 1975.

The resultant statistics enabled OSO to brief its political masters on overall levels of UK content and to provide useful leads for British industry. During this formative period, the statistics were published separately each year in the so-called OSO ‘Blue Books’, the formal titles varying slightly between years. Thus the first publication was entitled Department of Energy (1975), Offshore Oil and Gas: A Summary of orders placed by operators of oil and gas fields on the UK Continental Shelf During 1974. From the following year (Department of Energy 1976a), it was simplified to Offshore (Year): An analysis of orders placed. In 1979, in an attempt to reduce media interest in the figures, a decision was taken to incorporate the figures in the DEn’s annual ‘Brown Books’ and to cease to publish them separately.

Their mere collection provoked an angry response from the U.S. government, no doubt anxious to preserve the market leadership its companies held in the oil and gas supply business. Following earlier representations in Washington, on 8th March 1973 the U.S. Embassy wrote to the FCO requesting that the reporting be dropped and not replaced by other measures ‘...designed to influence procurement decisions’ and seeking assurances that ‘...future drilling rights will not be linked to the question of sources of supplies and equipment’ – TNA: PRO BT 241/2580. Despite U.S. threats to make this a General Agreement on Tariffs and Trade (GATT) issue and pressure on the definition of a British company for FFO purposes, the British government held its ground. However, the episode must necessarily have highlighted early the limitations to what FFO might achieve. The files examined showed no sign that the British side drew attention to the protection afforded to U.S. marine operations by the Jones Act – long-standing legislation reserving U.S. coastal shipping for U.S.-flagged and -owned vessels, which was also applied to U.S. offshore oil and gas operations.

Meanwhile, there is much evidence on the same file (and some elsewhere) that OSO was actively pursuing FFO from the start, often invoking Ministerial support. Perhaps the earliest example, since it took place in February–March 1973, related to the Phillips terminal on Teesside, ironically intended to handle oil from the Norwegian Ekofisk field, the first major North Sea oil field to be developed. According to Jenkin (p. 181), Phillips’s original intention of awarding the contract to a U.S. company when there was demonstrable UK capacity available ‘...would have been very damaging to the UK industry’. In the event, the contract went to a British company, SimChem. Jenkin evidently believed that, although OSO denied putting political pressure on Phillips, it had ‘...played a substantial role in encouraging the oil company to’ ... ‘give the contract to a UK firm’.

Records in the National Archives suggest Jenkin’s version omits to mention two key issues. First, ‘the American firm’ was actually the UK subsidiary of an American firm (Parsons). Secondly, OSO genuinely believed that SimChem
had not received FFO – essentially because the competing bids were for different work packages and on ‘a like for like’ basis the SimChem bid was cheaper – PRO BT 241/2580. The same file also contains accounts of four occasions when OSO intervened in the interests of British firms.

A by-product of the Teesside affair was a request for a Ministerial meeting from U.S. contractor J. Ray McDermott seeking clarification of the position of its own newly established Scottish platform-building subsidiary. At the meeting on 3rd November 1973, the Minister stated that McDermott would be favoured over bidders without UK facilities but that “more British bidders” (i.e. UK owned companies or joint ventures involving a UK partner) would be given the opportunity to compete against McDermott.

Interventions were not always successful. OSO’s attempt to obtain FFO for British loading buoy supplier, Woodfield Rochester, failed to win an order for the company in Hamilton’s Argyll field on the grounds of ‘non-operational’ experience. OSO was suspicious of the role played by the U.S. office of Bechtel, Hamilton’s engineering contractor. Another unsuccessful case involved an £8 million (about £72 million in 2008 terms) design and project management contract for a compressor station and platform for the Leman Bank gas field. The situation here was that broadly similar bids had been received from Power Gas, a British-owned company, and B&R.

Amoco claimed it preferred B&R because it had recently completed a similar task and because there was more confidence it would complete on time. However, OSO had prevented Amoco from confirming the award to B&R because it suspected that FFO had been compromised by contacts between B&R and Amoco in the USA, which had led to the reversal of an earlier decision in favour of Power Gas. Furthermore, OSO’s request to review the bid evaluation was rejected on grounds of commercial confidentiality.

A meeting between the Minister and the President of Amoco Europe was held on 27th June 1973. It was followed on 9th August by a meeting between the Director of OSO and the General Manager of Amoco Exploration UK when, it appears from the written record, the exchanges were somewhat less than cordial Amoco questioned British government policy, OSO’s ability to maintain confidentiality, the judgement of OSO’s Director and the capability of British industry.

OSO considered it of great importance that procurement decisions relating to the UKCS were taken in Britain. The second meeting exposed that Amoco Exploration UK was not necessarily the arbiter of its own contracts and that contracts placed with Heerema and de Groot of the Netherlands showed Amoco’s interest in encouraging ‘local’ (sic) suppliers. With both those companies having had close associations with B&R, which was well acquainted with Amoco from GoM and German North Sea operations, a picture emerges of the established contact networks with which British new entrants to the offshore supply business would have to compete. For its part, OSO stated that without further information, it could not be satisfied that there had been FFO. Its
experience led it to reinforce its view that ‘...Amoco was the least co-operative licensee’.

This was a reputation that Amoco was not to live down with the DEn for the remainder of the decade and for which it was to pay a price in terms of poor exploration licence awards. Amoco was by no means the only foreign operator to refer potential UKCS procurement decisions overseas. OSO knew that when TH sought to promote its ‘Cleveland Colossus’ platform design for Occidental’s Piper field, it was referred to Bechtel, the company’s engineering consultant, in the USA. The order went to McDermott’s Scottish yard, which admittedly offered quicker delivery.

UKOOA records for 1975 reveal that OSO’s DG had provided examples of the failures of some of its members to give British firms FFO, going on to state that of the 12 Operators then carrying out developments, one had been ‘guilty’ three times and three or four others at least once.

This experience highlighted the difficulty of ‘policing’ FFO without a frame of reference agreed between the Operators and the government, an issue that came to a head after the formation of a Labour government in 1974 and its decision to expand OSO. At first, it considered legislating to assist British suppliers.

However, this approach was dropped in favour of negotiating a non-statutory MoU and CoP between the DEn and UKOOA, representing the Operating companies. The fact that the government declared its intent to legislate should agreement not be reached, no doubt helped concentrate the mind of the UKOOA Work Group set up to negotiate on the basis of the original government draft. Although the stated position of UKOOA was in favour of FFO for British suppliers, there seems to have been less than wholehearted internal agreement on where the primary responsibility for the support of British industry lay. At least some in UKOOA held the view that rather than ensuring the offshore Operators offered UK firms FFO, it would be better if the government created ‘...the right financial climate to permit suppliers to compete with those from foreign countries’.

Little more than a month after the UKOOA Work Group was established, there was a further government threat of legislation. Agreement was reached in November 1975. It dealt with proposed purchases of over £100,000 for goods and over £500,000 for construction and services (respectively, about £600,00 and £3 million in 2008 terms), or such lower figures as might be agreed in cases of special interest to OSO. Although responsibility for implementation lay with individual UKOOA members, the Work Group continued as UKOOA’s FFO Committee, maintaining general liaison with OSO and on occasions offering advice in specific situations.

The MoU and CoP, to which Addenda were added in 1977 and 1981, gave OSO not only a greatly enhanced knowledge of procurement processes and an agreed means of intervening in them (though not the power of decision) but also formally committed the Operators to FFO. The Code provided that tender documents were in a form that did not disadvantage UK companies, allowed OSO to
suggest additional UK bidders, made bidders provide UK content estimates, established criteria for bid evaluation and required the Operator to inform OSO before announcing a non-British contract or (major sub-contract) award, giving OSO, ‘a reasonable time’ for ‘representation and clarification’. Additionally, OSO was to have prior access to information on anticipated procurement programmes, specifications and tender documents, lists of proposed bidders and bid summaries. To reassure the oil companies, the MoU contained an undertaking that it would be employed in a way consistent with the provisions of the EEC Treaty.

The MoU and its code enabled both sides to believe that they had achieved their most essential objectives. For OSO, it saw formal acceptance by the Operators of a key government policy and provided both the right and the mechanisms for it to intercede in procurement decisions. For the Operators, the voluntary code was clearly preferable to legislation and their right to take the final procurement decision and to place the order with a foreign supplier where there were strong reasons to do so was confirmed.

As industry executives and OSO’s audit engineers became familiar with the arrangements, their operation soon became embedded in industry practice and involvement by top managements was increasingly confined to a relatively small number of large high-profile contracts. Increased confidence probably contributed to an increase in oil-related product development by British suppliers.

As long as most expenditure was of a capital nature for fields liable to PRT, any complaints about additional costs resulting from FFO were difficult to sustain, since they were (after a delay) largely borne by the British taxpayer. The most common complaint on the part of the oil companies concerned supposed breaches of commercial confidentiality by OSO officials.

The personal recollections of senior OSO officials responsible for the FFO policy throughout its existence were positive, believing it to have become a practical policy tool. When bid lists were prepared, the relevant audit engineer would review them and seek to add additional British companies where necessary. He would also pick up any discriminatory features of the specification that might work against British bidders. The oil company could not place orders above a particular size until OSO was satisfied that there had been FFO. Where a British company had narrowly failed to be preferred, OSO would sometimes make ‘behind the scenes’ endeavours on its behalf, which might result in a re-bid on the grounds of lack of FFO.

Once the oil companies recognised that UK content was an important factor in licence awards, the FFO system functioned smoothly for many years. It became more difficult to operate when oil companies began to move away from widespread direct procurement in favour of ‘bundling’ orders through main contractors that were not themselves parties to the MoU or licence bidders, as began to happen as the 1980s progressed. Overall, the main problem was oil company resentment of government interference in the ‘business process’ either for practical or ideological reasons, although problems with the definition of ‘Britishness’
could sometimes arise. OSO always had to be careful not to imply that the government ‘stood behind’ a particular British company.

In any event, according to figures published in the Department of Energy’s ‘Blue and Brown Books’, the overall UK content of orders placed rose from 40% in 1974 to 57% in 1976. In 1979, the figure (at 79%) passed IMEG’s 70% target for the first time. Thereafter, it was only to drop below it once (1981), eventually rising to a peak of 87% in 1987. However, as will become apparent, OSO’s UK content figures were to become contentious.

Although the government never published UK content of orders for individual companies, companies occasionally themselves released them. Shell UK 1982 (p. 4) claimed Shell Expro’s UK content had risen from 75% in 1975 to 86% in the first half of 1982. Companies seeking additional licenses were anxious to achieve a UK content that at least equalled, and preferably exceeded, the industry average, thereby exerting upward pressure on the average. At the time of the Sixth Licence Round interviews, for companies already active in the North Sea, the latest UK contents for some individual applicants had reached only the low 40%s, whereas the latest published figure (1978) for the industry as a whole was 66%. Often there were good reasons for a company to have a low figure (e.g. only E&A activity thus far) but where this was not the case, the companies felt themselves to be vulnerable. Nevertheless, it is difficult to pinpoint cases where an award was denied or made solely on OSO considerations.

5.4.3 Defining ‘Britishness’

Without a workable definition of what constituted a British company, no measurement of UK content was possible. This issue was to trouble OSO throughout its existence and it surfaced early. Within the first half of 1973, British-owned companies, American subsidiaries established in the UK and the U.S. government all raised the nationality of ownership question.

Perhaps attracted by a desire to emulate the sort of partnership Wimpey had established with B&R, TH had approached the U.S. firm McDermott (with discussions taking still place as late as 1979). However, McDermott remained unaffiliated with any British partner. When TH complained that U.S. firms like McDermott’s saw no need for a British partner when they were already in receipt of government grants, the Minister responded that it would be difficult for the government to discriminate against foreign contractors when it was keen to encourage inward investment, particularly as some forms of government support were almost routinely available – TNA: PRO BT 241/2580.

Among other related material on the same file, no record was found of the response received by a much longer-established British subsidiary of an American company – Foster Wheeler. Its UK managing director wrote to the Secretary of State asking whether it would be fair to discriminate on the basis of ownership against his firm, which had only one American (himself) among its 1000–1500 employees in the UK and which was the first UK engineering
firm to have received the Queen’s Award for exports. In its attempts to help the FCO answer the American government’s request for a definition of a British company, OSO made it clear that for the purposes of the quarterly returns, foreign-owned companies registered in the UK and having substantial establishments there would be regarded as British. Nonetheless, in order to develop a potential export capability in the longer-term, it had a particular interest in ensuring that British-controlled companies were not discriminated against in the home market. There was to be little advance on this position. In some market sectors, including such critical ones as drilling equipment and down hole tools, there was little need to maintain the distinction because participation by British-owned companies was either minimal or totally absent.

Cook and Surrey (pp. 68, 69, 87, 88) make it clear that at the end of the day, OSO had no choice but to conform to a general British ‘open-door’ policy towards inward investment, which precluded discrimination on the basis of ownership. It, therefore, had little or no option in its day-to-day business to do other than to treat all firms with substantial UK employment as domestic businesses, whose supplies to the offshore oil and gas Operators counted towards ‘British content’. Needless to say, this policy was not universally popular.

5.4.4 OSO and the E&P Companies

During OSO’s early years, state energy companies were important North Sea ‘players’, BNOC particularly so. By 1977, BNOC was sufficiently developed to begin to influence North Sea procurement, support for UK suppliers being among its aims. Since a new management with purely commercial objectives (culminating in privatisation in 1982) was installed after the return of a Conservative government in 1979, its influence was short-lived.

BNOC itself had arrived too late on the scene (in 1975) to have any influence on major procurement decisions for the first generation of developments. During the period under review, BNOC’s own procurement activity was focused initially on the Thistle field and later on the Beatrice field. In both cases, it was the successor to earlier operators, respectively, Burmah and Mesa Petroleum. Thistle came into production in 1978 and most important procurement decisions had been made much earlier. The position at Beatrice, a smaller field in much shallower water, was different. It did not come into production until 1981, so that more procurement decisions were more open to BNOC influence. Assessments of BNOC’s UK content made in this period placed it at the lower end of the range at around 40%. Some saw its commitment to FFO compromised by the large number of Americans in senior positions, most formerly employed by Burmah following the latter’s acquisition of Signal Oil and Gas of Houston. However, there were clear signs that BNOC’s top management were motivated to adopt supportive attitude towards British business.

For example, on arrival in Houston the senior OSO representative to the May 1977 Offshore Technology Conference was asked to meet executives from
U.S. gas turbine manufacturer, GE, which complained that it had been displaced from an order for the supply of U.S.-built turbines for Conoco’s Murchison field in favour RR, a matter of which OSO official no prior knowledge. It transpired that OSO had played no part in this but that BNOC exercised its position on the Murchison field operating committee to favour RR, which went on to become a major supplier of offshore turbines.

BNOC also had exploration interests, but did not survive long enough to mount exploration campaigns on the scale of those of BP and Shell. Unlike them, it did not operate its own mobile rigs, though it became involved financially in their construction on two occasions during this period (McKinstry 1998). Thus, when in 1976 Marathon’s Clydebank yard faced large-scale redundancies due to a lack of orders, BNOC had placed a speculative order for a jack-up, with the possibility of a second following, although the rig and its possible follow-on were sold to a foreign buyer before delivery. In 1979, the yard received another such speculative order for a rig, again in due course sold on to a foreign contractor. In this case, BNOC had assigned the contract to a company in which the Scottish Office held 50%, BGC having declined to take on this role. These orders fell outside OSO’s remit and it was relatively little involved.

Generally of less importance to OSO than BNOC, BGC had limited exploration and no development operations during the 1973–1980 period, although the preliminary stages of the Morecombe Bay development began towards its end. Initially at least, OSO found relations BGC much less cordial and supportive than those with BNOC.

After losing its E&P interests to BNOC, the NCB had retained subsurface activities some of which had developed oil and gas expertise and which included control of Horizon Exploration (established in 1973), the UK’s principal domestically owned marine seismic contractor. It therefore was an OSO ‘client’ as a supplier. At one juncture, it considered establishing a reservoir engineering joint venture with Franlab, an IFP ‘spin-off’ at the time seeking a UK partner. The idea was dropped when it became clear that many oil companies would not be prepared to disclose reservoir data to what they considered part of the French state oil sector.

Whilst BP had a substantial government shareholding at the time, it always behaved as a private sector company and was treated as such by OSO. Shell was also usually regarded as a private sector British company, but as part of an Anglo–Dutch venture operating on a 50:50 basis with a U.S. partner (Esso), its position was actually significantly different from that of BP. As Burmah all but was eliminated before OSO was fully ‘up and running’, other purely British private sector participation in North Sea E&P was limited to the British independents, which were generally passive and not involved in operating (except in a limited way in exploration).

Until they came to recognise the importance of UK content to licensing awards, U.S. companies were inclined to be hostile, generally the more
so the smaller they were. Total and AGIP were subject to pressure (in favour of their own national suppliers) from their own governments as well as the British but sought to accommodate OSO’s requirements. Elf, then the French state oil company, was not an Operator on the UKCS during the period of the FFO policy. It is important to note that whereas the sheer scale and scope of the UKCS operations of BP and Shell Expro demanded an almost continuous engagement with OSO’s senior management, with all the other companies there was more of an ‘ebb and flow’ with major interactions normally associated with individual development decisions.

At the collective level, although complaints from member companies about OSO were not unknown, UKOOA records for the period show relations between OSO and UKOOA after the MoU and CoP had been settled could generally be described as ‘settled’, with few seriously contentious issues. Thus, when reporting to the UKOOA Council, the Full & Fair Opportunity Committee could state that OSO had agreed to leave the Operator with the initiative to define a supplier as British, whilst Council endorsed the Committee’s recommendation that OSO’s request for a reduced contract pre-notification level for the special interest areas of ‘Diving and Submersibles’ and ‘Specialised Maintenance’ should be accepted. In July 1977, the Council also approved a letter from OSO to Operators drawing attention to its special interest also in ‘Feasibility and Design Studies’ and ‘Consultancy/Appraisal Studies’ for long-term structure maintenance and endorsed the continuation of quarterly returns. Some 18 months later there is evidence of continued harmony in the Committee’s acknowledgment ‘of the excellent co-operation’ developed between it and OSO under the direction of Alan Blackshaw, the outgoing OSO DG. It was also noted that Mr Blackshaw’s successor as OSO DG (the author) had: ‘... expressed his intention of continuing the same policy’.

The IRG Committee also reported regularly to the UKOOA Council, covering both the progress of negotiations with the EC and administrative issues. There was usually little difference of opinion with OSO. The Committee subscribed to the view that the PAC’s criticisms over OSO’s administration of the IRG scheme were ‘an overreaction’.

The year 1979 saw an extension of OSO/UKOOA co-operation when there was a joint study of the future demand for inspection, maintenance and repair (IMR) services, broad agreement that UK content (in the context of capacity) was ‘approaching the optimum’ and a desire to understand OSO’s specific areas of interest in creating new capability.

Unlike those with UKOOA, where an essentially ‘top management to top management’ relationship existed, contacts between OSO and individual Operators were multiple. Different officials handled auditing, the IRG and quarterly returns, with only major issues requiring top management inter-action. Consequently, it is difficult to generalise, particularly as little of the written record seems to have survived. However, the fact that UKOOA was little used as a lever on OSO in pursuit of individual company interests does give
credence to personal recollections that, on the whole, relations were best described as ‘placid’. Nevertheless, there were considerable differences on a company-by-company basis.

It is perhaps best to consider the major British (or part British) Operators separately. With the effective absorption of Burmah by BNOC, whose special position has already been discussed (see pp. 125–126), these numbered only three, as compared with nine foreign Operators with oil fields in production or under development during the period. If companies undertaking exploration were also included, the preponderance of foreign companies was even greater. At the time UKOOA had over thirty members, only two of which (Cluff Oil and Premier Consolidated) were UK independents. Indeed, even including the two state corporations, there were only six British (or part British) members.

On other measures such as capital expenditure, wells drilled and production, Shell Expro and BP loomed much larger. For instance, they accounted for about a third of oil fields in production or under development, including the two largest. Indeed, in a preface to a 1984 publication commissioned by Shell, the then managing director of Shell Expro stated that his company alone had cumulatively accounted for ‘about one third’ of UK North Sea expenditure (The Economist Intelligence Unit Limited). Given the broadly comparable scale of BP’s activities, it is clear that these two Operators alone would have accounted for well over half of total UKCS expenditure to that point.

By comparison with this concentration, the expenditure of the foreign Operators was very fragmented. Moreover, by virtue of their massive engineering and other technical resources, their service sector investments and the British nationality of most of their senior managers, Shell and BP stood apart from the other Operators. Success or failure for OSO depended heavily on them and therefore they received disproportionate attention.

Both companies generally sought to maintain an attitude of positive co-operation with the British government and stood high in the ‘British content league’. However, neither readily succumbed to pressure to act in a non-commercial manner, particularly if this was in support of what they regarded as uncompetitive British enterprises. BP’s resolve to resist was strengthened by a desire to demonstrate to opinion in the USA (where its large Alaskan interests were politically sensitive) that – despite the British state then holding 48% of its equity – it was not a state oil company subject to government direction. In the case of Shell, ultimate control rested in the Netherlands where the government had its own offshore supplies industry to support and was an enthusiastic founder member of the EEC. Moreover, Shell Expro acted as operator of a 50/50 joint venture with Esso, a U.S. company. During the peak of its North Sea development expenditure, which occurred in the 1973–1980 period, the ‘Britishness’ of its UK based staff became diluted with Dutch engineers drafted in from the Netherlands and Americans seconded from Esso, helping make Shell the more difficult of the two for OSO to influence. Nevertheless, adverse financial consequences from delays and cost overruns in its massive Brent
complex made it sensitive to government pressure, particularly prior to the commissioning of the oil and gas export pipelines.

The difference in the approach of the two companies to the construction and operation of MSVs for their respective ‘Sector Clubs’ in 1978–1979 was clear. The slump in shipbuilding demand and the resultant unemployment gave a strong political incentive to have these expensive vessels – themselves the result of a government/UKOOA initiative – constructed in the UK. Nevertheless, both Shell and BP were rightly fearful of the delays and cost overruns likely to result from placing the orders with yards belonging to the newly nationalised BS. Following lengthy discussions involving the top managements of the companies, the Minister and senior OSO personnel, different ways were found of reaching an acceptable compromise.

In the case of BP, an order was placed with the Scott Lithgow yard on the Lower Clyde for a vessel to be known as the *Iolair*, to be operated in-house. However, as insurance against late delivery of the *Iolair*, BP also asked Salvesen Marine (a British company) to design, convert, and manage a back-up vessel, the *Fasgadair* (Jamieson 2003, p. 140).

Shell remained implacably opposed to ordering its MSV (eventually named *Stadive*) from a UK yard. However, it did respond to an OSO initiative whereby British company Seaforth Maritime, in association with a Norwegian semi-submersible designer, received a contract to assist in the design and construction supervision of the vessel in a Finnish yard and to operate it. At £100 million (about £368 million in 2008 prices), the initial operations contract was worth twice as much as the build contract.

With respect to the other Operators, OSO contacts were focussed on those with current field development programmes, at this time all American. Though never as close as with BP and Shell, on the whole, relations were generally reasonable and in the case of Conoco became especially close during the development of the Hutton field. The smaller companies had limited engineering resources and depended heavily on the major U.S. design and project management companies, benefiting in UK content terms from the progressive transfer by the latter of their North Sea operations to the UK.

An exception was Chevron, which used Anglo–American joint ventures for project management (Taywood-Santa Fé) and jacket design (CJB/Earl & Wright) for the Ninian field, but this choice resulted from the fact that (as at Thistle) it was Burmah that had placed the initial contracts, prior to its loss of the Operatorship, (Jenkin 1981, p. 155).

Amoco was probably the most difficult of the U.S. companies for OSO to deal with. It had a history of difficult relations with the government (see p. 122) and had been the last company to accept BNOC participation. During early 1980, an OSO visit to Amoco’s headquarters in Chicago provoked a strong attack on British industrial performance, OSO and British government policies. After lack of success in licence awards, there was a change in attitude and personnel at Amoco UK.
5.4.5 OSO and Two Major Technological Issues

Towards the end of OSO’s formative years, the key development decisions were made for two fields based on use of new technology. These were Cormorant Central (onstream 1983), where Shell Expro was the Operator and Hutton (onstream 1984), where Conoco was the Operator. In both cases, the importance OSO attached to ensuring that British industry benefited from projects meant that the procurement issues were mainly handled directly between the company top management and the DG (then the author), supported by the head of OSO’s Engineering Branch. In each case, a critical element of the supply chain was Vickers at Barrow-in-Furness.

Shell Expro’s Cormorant Central was developed as a subsea satellite to the South Cormorant platform. Although subsea well completions already had a long history, with both Shell and Esso among the innovators, Cormorant Central was not only the first field in the northern North Sea to be developed through their use but also for many years was the largest such field in terms of the reserves base, number of wells and peak production. Maintenance was intended to be diver-less, with a sophisticated dedicated ROV and through flow line (TFL) well intervention. Indeed its size and complexity were such that it was more akin to a full subsea field development, for which it could be seen as a prototype, than to a satellite as normally understood.

A key element in the design was an underwater manifold centre (UMC), weighing some 2200 tonnes. The detailed design of the UMC was entrusted to Vickers, then the main UK-controlled source of subsea technology. Senior management in both Shell and Esso independently assured the DG that they fully intended also to have the structure constructed at the Vickers facility at Barrow-on-Furness. This intention was determined by the perceived need to ensure total reliability by the highest possible level of manufacturing quality. They believed that Barrow’s nuclear submarine experience made it the most appropriate facility in the UK, the more so since Barrow also housed the UMC design team. Shell Expro did not intend to call for tenders from possible alternative providers.

Vickers Barrow prided itself on constructing prototypes, so-called ‘first in class’, a previous example in the energy field having been the LNG carrier Methane Princess. However, on this occasion, Shell Expro’s plan was frustrated by the refusal of the Vickers shipyard management to undertake the construction task. The reason given was that the facility did not have the capacity to do so because of defence contract commitments. OSO was in no position to ascertain whether or not this was so, but strongly suspected there were other reasons. In anticipation of shipbuilding nationalisation in 1977, there had been a separation of ownership between Barrow’s core shipbuilding and engineering facilities on the one hand, which passed into state ownership, and its offshore activities, which remained in the ownership of Vickers as the Vickers Offshore Engineering Group (or VOEG) on the other. Moreover, the retirement of
Sir Leonard Redshaw, responsible for both the nuclear submarine programme and the decision to enter the offshore business, had deprived Vickers Barrow of strong leadership.

Following this rebuff, Shell Expro advised OSO that it now wished to negotiate a contract with a firm in Rotterdam, with an 18 month construction cycle to be followed by a further 18 months of testing. OSO put forward British alternatives. After much effort on OSO’s part, Shell Expro agreed that one other UK company – the Teesside heavy engineering firm of Whessoe (then heavily involved with civil nuclear work as well as offshore fabrication) – was capable of meeting the necessary quality standards. Although Whessoe could meet the client’s requirements on price, it was unwilling to commit to the requested 18 months delivery, believing 3 years more realistic.

Consequently, the order was placed in the Netherlands, eventually being delivered about 18 months late. An acceptable UK content had to be achieved by other means, such as UK manufacture of the subsea wellheads by McEvoy and of the subsea controls by TRW Ferranti, both UK/U.S. joint ventures, and by UMC testing being undertaken at Bacton in Norfolk rather than in Rotterdam (Figure 5.1).

The story of the world’s first commercial tension-leg platform (TLP) for use in Conoco’s Hutton field has many similarities with that of the UMC. TLPs had long been studied as a means of developing fields in water too deep for the use of fixed platforms, without the need for subsea completions. Conoco’s real interest in TLPs was for the GoM, but it probably concluded that using Hutton, well within fixed-platform limits, as a test facility had the advantage that the operation of PRT could potentially shield the project from the adverse effects of cost overruns. Several of the field partners continued to favour the use of a fixed platform. Anxious to see the UKCS as the location for another significant technological ‘first’, OSO helped persuade them to accept their Operator’s plan.

Work on the TLP concept had been undertaken in the USA, on the Continent and in the UK. Indeed, according to Conoco’s engineering leader on the Hutton project, the first test of a (small) TLP-like structure took place in Scottish waters in 1963 (Mercier 1995). He was almost certainly referring to the test of their ‘Tritton’ platform concept by International Marine Development Limited of London (McDonald 1974).

The multi-party nature of the Hutton development group demanded a tender process. Conoco is believed to have initially focussed on two preferred bidders for design and construction of the hull and deck – both Continental. When discussing the proposed bid list with Conoco, it became clear to OSO that Conoco was unaware of the fact that VOEG, working with BP and in part EC funded, had carried out extensive development work on TLPs. Conoco quickly became persuaded that VOEG should be on the design bid list, though it rejected BP’s offer ‘to share and buy into the technology’.
Conoco wanted the design contract to extend to the topside facilities where Vickers was not qualified, leading to OSO initiating a bidding joint venture with B&R. Although the latter was willing to act as sub-contractor, VOEG’s management opted for that role. The combination was awarded the contract in early 1980. By this time the ownership of the former VOEG design unit was in the hands of BS. An unconnected Vickers unit, the Design and Projects Division, won a sub-contract to design and supply the tensioned moorings, while yet another Vickers company, Brown Brothers, also provided some of the hardware.

The UK manufacturing subsidiary of Vetco received the contract for the subsea template and the wellheads, with associated development work also
carried out in the UK. OSO pressure resulted in a Vetco 100% UK manufactured content, along with an estimated 80% UK technical ‘know-how’ content. Hi-Fab carried out the construction of the hull structure and McDermott’s Scottish yard that of the deck, with the two elements being mated in the Moray Firth (Figure 5.2). Overall, a very high UK content was achieved.

Further TLP developments followed in other parts of the world, particularly the GoM. Unfortunately, the UK never secured other benefits from its pioneering role.

5.4.6 Research and Development

The size and diversity of the offshore supplies industry, the limited public funds available, the speed of development and the relative lack of British companies with the technical and commercial credibility needed to introduce new technology, all militated against creation of effective public R&D policy. The strictures did not apply where the ‘drivers’ were essentially non-commercial, such as safety and regulation. Commercial spin-offs might (and indeed did) occur but they were by way of a bonus.

An additional complication was Britain’s ‘open-door’ policy towards foreign companies. The fruits of global R&D in the oil and gas sector were readily
available for application on the UKCS. Unlike most contractors, large oil companies and oilfield services firms, particularly in the USA, were spending heavily on R&D during this period. Though deficient in large domestic oilfield service firms, Britain was home to three large oil companies. BP alone carried out major upstream/offshore R&D activities within the UK. Burmah as befitted its much smaller size did only a little; work on drilling mud at Birmingham University representing a large part of this. Shell UK’s R&D was downstream oriented, with Royal Dutch handling most general upstream R&D in the Netherlands and Shell Oil in the USA concentrating on offshore issues.

Over and above the foreign private sector effort, varying degrees of public research funding existed in France (see p. 51) and several other European countries, in Japan and in the USA. As would be the case with the UK, many of the foreign schemes involved co-financing with industry, often involving repayment in the event of success.

The perceived need for UK offshore R&D aroused considerable interest among politicians and others. Some saw it as a possible means of ‘leapfrogging’ established competition and others as a means to open up export markets while facilitating the long-term exploitation of UKCS resources. The implication was that these benefits were to be conferred on British-controlled companies, which would exploit them from a UK base. However, the definition of ‘Britishness’ imposed upon OSO would necessarily lead to public support being also provided to foreign-owned businesses. Fortuitously, this issue rarely arose during the early period because few of the foreign-owned businesses in the sector then carried out R&D in the UK.

The IMEG Report (pp. 80–84) devoted only four pages to R&D, playing down its role in achieving market penetration. It concluded that commercially oriented work should be in support of ‘large-scale contracting opportunities’. An emphasis on structures and pipelines was the predictable result, though dynamic positioning (DP), seabed completions and manned submersibles were also mentioned. Although IMEG did not postulate any budget, it recommended selective grants ‘of at least 50%’. It envisaged the proposed PSIB would work co-operatively with the existing government R&D support mechanisms and did not suggest the creation of any new specialised agency.

The Select Committee on Science and Technology for the 1973–1974 and 1974 sessions evidently judged IMEG’s limited R&D prospectus as insufficient. Their work resulted in a report on offshore engineering – Select Committee (1974). It took evidence from ministers, civil servants, supply companies, trade associations, research organisations and a journalist. It drew on the IMEG Report and more particularly on the Interim Report of a DEN Working Party, which was reproduced in full as Annex 11 (Select Committee 1974, pp. 43–50). The Working Party considered the main objective of research to be the development of a deep-water capability (i.e. up to 2000 m).

Although the Select Committee (1974) dealt with technological issues, it did so in the context of the government’s general policy towards the offshore
supplies industry. The MPs were broadly supportive of this but not uncritically so. For instance, the Select Committee (1974) saw a risk of too many platform sites, criticised the small size of OSO, considered the value of the IRG Scheme and noted a disconnect between industry and the experience and facilities of the Royal Navy and defence establishments generally. It also believed that government figures underestimated the likely scale of eventual oil production (Select Committee 1974, pp. 7, 8, 13, 26, 29). This last observation is of some interest in the light of the earlier discussion of the resource base (see pp. 53–56).

Committee members were critical of the tardiness of British industry in responding to opportunities both in existing areas like offshore construction and pipelay and new ones such as seabed completions. However, they accepted OSO’s view that UK supply companies would have to prove their worth to offshore Operators with current technology before they could expect successfully to introduce the next generation.

Nevertheless, it saw benefits in increasing government support for R&D and in creating a Marine Technology Board, though a plea from the British National Committee on Ocean Engineering (a committee of the Council of Engineering Institutions) for the establishment of a well-funded British Oceanic Authority went unheeded. (Select Committee 1974, p. 209).

Recommendations (Select Committee 1974, pp. 7–8) extended beyond the scope of OSO into areas like education, broad UKCS policy and safety regulation in fields as diverse as diving, platform certification and seabed clearance. OSO-related recommendations ignored by government included further OSO expansion, government industry joint ventures in the fields of subsea completions, subsea reserves enhancement, a more generous replacement of the IRG scheme and government project launch aid. Others, such as greater involvement of defence establishments with the offshore industry, were attempted but proved ineffective. OSO’s R&D Branch initiated a dialogue with those branches of the MoD with underwater interests, in line with the wishes of the Select Committee. However, they appeared to have little they could offer in areas of OSO interest, although MoD research establishments did in due course undertake a number of projects receiving OETB funding.

Government reaction to the Select Committee’s proposals came in 1975 with the establishment of the OETB located within the DEn. This assumed responsibility for all DEn offshore R&D support, whether existing or new. Among inherited programmes, marine technology was overshadowed by geological and environmental projects.

DEn published its R&D strategy in the following year. It described a Board that was essentially advisory in character with responsibility for ensuring oil industry views were taken into account but decisions consistent with Departmental policies. Of the original 15 members, four were from the British-owned E&P companies, five civil servants, three from the private supply sector, one from UKOOA and another an academic, with DEn’s Chief Scientist as Chairman (Department of Energy 1976b).
OETB’s responsibilities fell into three areas, only one of which was directed primarily at OSO. They were:

A. ‘Acquisition and analysis of geophysical, geological and reservoir engineering data’.

Within this category were two areas of commercial relevance – enhanced oil recovery (EOR) and reservoir simulation models – both seen as necessary to assist the DEn in exercising proper supervision and control of oil company operations.

B. ‘Safety’.

Work in this area mainly related to acquisition of the metocean data required to improve design codes, of vital interest to designers, certifiers and regulators. Other important areas of interest to the same groups, but also to contractors and manufacturers, were structural monitoring, materials corrosion and fatigue. OETB wished to work with the supply sector to generate commercial spin-off where appropriate.

C. ‘Assisting industry in the United Kingdom’.

This was meant to complement OSO’s other activities in developing British capability. It was accepted that the OETB financial contribution would be minor and that the area was a high risk one. The intention was to support commercial initiatives from businesses already established in the North Sea, to place as much work as possible with industry and to encourage cost-sharing and joint programmes. There was to be a major effort ‘...to ensure that successful work is carried through to the development and manufacturing’ (Department of Energy 1976b, p. 12).

Given that in most cases these later stages were likely to cost a multiple of the research cost, this statement sat uneasily with the recognition that funds were limited and risk high. There was also no explicit recognition that a potentially insurmountable obstacle to commercial application would arise if no offshore Operators were prepared to undertake prototype testing, which was clearly likely to be a problem given the government and commercial pressures to maintain or, better, increase production.

The list of candidate areas for support contained few surprises. It singled out deep-water drilling and production capability, pipelaying, positioning, mooring and anchoring techniques, subsea completions and production, and underwater services including diving, unmanned vehicles, power sources and tools. Nor did it neglect to mention two subjects that would become increasingly important in the years ahead – marginal field production systems and IMR, both above and below the sea’s surface. The emphasis on gathering data on the UKCS environment (in the broadest sense) and on the design and maintenance of the current and future infrastructure necessary to sustain oil and gas production is entirely understandable, given the immediacy of the problems in those
areas and the scarcity of credible British firms in the traditional ‘core’ sectors of the industry.

The lack of credible British suppliers did not inhibit support in the areas of reservoir engineering and EOR, both of which formed part of the ‘core’. Here, DEn considered that the creation of an independent British capability was vital to the proper execution of its regulatory role. In areas where OSO’s research priorities got closest to the ‘core’ – subsea production and deep-water drilling – there was no comparable imperative for independent national capabilities. There appears to have been little or no consideration by OETB of the implications to British industry of the fact that once the North Sea infrastructure had been put in place, the offshore expenditure pattern would come more closely to resemble the onshore, with a heavy emphasis on traditional ‘core’ areas, such as well services. This in fact happened in the mid-1980s when exploration and operating costs combined began to exceed development costs on a year-to-year basis.

Establishment of OETB did not end other limited UK government R&D support for the offshore industry. In particular, the Science and Engineering Research Council (SERC) continued to fund university research, mainly through the Marine Technology Directorate (MTD); product and process development and prototype construction occasionally qualified under existing DTI schemes.

The activities of MTD deserve due recognition. Established in 1976, many projects were of a generic nature working on such subjects as fatigue, corrosion, tubular structures and hull design, with published results absorbed into the industry’s knowledge base and incorporated into its codes, guides and practices. These university-based programmes also introduced many young engineers and scientists to the offshore industry, thereby helping to increase the industry’s stock of technical personnel.

However, the results of a small number of projects were commercialised in a more conventional sense. Of these, the most significant was the ‘Vortoil’ separator, a space and weight saving device for use on platforms developed at Southampton University. Its considerable commercial significance was better appreciated outside the UK than within it and ownership of the intellectual property rights passed first into Australian and then American hands.

Although formation of the OETB did represent a simplification of government R&D funding, it clearly stopped well short of total unification and the money directed at commercial projects remained small. ‘Legacy’ programmes, particularly those dealing with the geological and geophysical investigation of the UKCS and with safety, dominated expenditure in the OETB’s early years, accounting in 1976–1977 for over 80% of the total of £9.6 million (around £50 million in 2008 terms). This distribution reflected not only the high cost of some of the elements but also the fact that, unlike the industrial support programme where government funding did not exceed 40% of project cost, the UKCS data gathering and safety programmes were in the main totally government-funded. On the whole, they were also undertaken by government-owned research organisations. The existence of such organisations was given
as one reason for not establishing a new national offshore technology R&D centre on the lines of France’s IFP; other reasons given were the advantages of carrying out applied R&D within industry and the lack of time to establish an organisation capable of making a timely contribution. Many believed this decision was a serious error.

At the European level, there was also a system of support at the 25%–40% level (repayable from a successful outcome) from the EC’s Technology Development in the Hydrocarbons Sector (TDHS). According to Cameron (1986, p. 55), from its establishment in 1973 until 1985, some £200 million in ‘money of the day’ was made available, with a further £84 million budgeted for 1986–1989. In the first period, British firms received 25.5% of the amount available, whereas French firms enjoyed 34%. The high French success rate was widely attributed to the co-ordinating role of the Groupement Européen de Recherches Technologiques pour les Hydrocarbures (GERTH). With OSO encouragement, British participation had improved from a low starting point, although cross-border projects were to become increasingly the norm.

Integrating OSO’s R&D and techno-economic appraisal branch in response to the addition of R&D to OSO’s responsibilities, into the organisation’s mainstream proved far from easy. Unlike those dealing with FFO or venture management, the staff was almost entirely recruited from within the Civil Service, mostly from the scientific grades, and initially lacking either oil industry or business experience. By its nature, their work was unlikely to generate the headlines or overseas trips that made other parts of OSO attractive to politicians.

While the main vehicles for government funding for R&D for the offshore industry remained the OETB and MTD, there was a steady growth of joint industrial projects (JIPs) where a number of parties – oil companies, suppliers, OETB, and sometimes the EC – jointly part co-funded a project.

As a DEn undertaking, the OETB was of much concern to OSO and its DG was a Board member. A large part of its R&D branch’s work was devoted to the assessment of projects submitted for OETB financial support. Most projects supported were determined by the original strategy of the OETB. As far as the industrial support programme was concerned, a major change occurred in 1979 when DEn’s new Chief Scientist (Professor Sir Herman Bondi) launched an initiative which had as its primary aim the development of robotic technologies that would eliminate the use of man underwater. A secondary aim was to compensate for the lack of British-owned subsea completion suppliers by developing a British competence in subsea systems integration. The formation of an Advisory Group on Underwater Engineering (AGUT) was an early outcome. Partly as a result of this initiative, the OETB funds available for industrial support rose faster than the total budget, reaching £4.1 million in fiscal 1979–1980 (about £15 million in 2008 terms). Industrial funding nonetheless remained overshadowed by the funding available for the primarily resource assessment and regulatory programmes and it still accounted in 1979–1980 for less than a quarter of total OETB expenditure.
In early 1980, at the point of his leaving OSO, the author made an evaluation of the OETB industrial support programme. It was critical of the complex organisational structure underpinning OETB. The OSO and/or PED sponsored projects, but the Programme Committee (PC), or OETB itself for large or special projects, denied or granted financial support, subject to DEn approval. The Offshore Technology Unit (OTU), also responsible for financial control, provided administrative support to the OETB and the PC. Actual project supervision was sub-contracted to the Marine Technology Support Unit (MaTSU) at Harwell. The cost per man-day of MaTSU staff was twice that of DEn staff. As well being the DEn’s agent, MaTSU was also represented on both the PC and the OETB itself. With more than a dozen internal interfaces, this structure was cumbersome and not without conflicts of interest. The swift decisions so valued by industrial applicants could rarely be achieved. Moreover, much of the system’s administrative controls involved inter-action with the ‘client’ companies, absorbing much management time and acting as a disincentive to small companies in particular from applying.

As well as being inefficient, the arrangements were expensive. The combined annualised expenditure of OSO and MaTSU on OETB industrial support in early 1980 amounted to £525,000 (about £1.9 million in 2008 terms); total expenditure would have been higher, given costs elsewhere in DEn, and not less than £550,000. This figure represented some 11% of new commitments for the year in question or about 6.5% of expenditure on projects in hand. Since the same management methodology was applied to small as well as to large projects, the cost burden applied disproportionately to the latter. For the 72% of projects receiving support of £100,000 or less, the cost of administration could have added an average 30% to the direct cost of support.

Another criticism related to whether it made sense to have the PC and OETB handle both projects driven by regulatory and data gathering needs sponsored solely by PED along with those having industrial/commercial drivers sponsored solely by OSO. It was also pointed out that by virtue of their memberships, advisory groups suffered from internal conflicts of interest and that their independence was questionable.

The report found that up to the point it was written, out of 160 offers of OETB support for industrial projects, 140 had been taken up involving a total DEn commitment of about £14 million (probably around £59 million in 2008 terms). It was noted that among the cases where an offer had been made and declined, OETB’s endorsement had sometimes raised the confidence of commercial backers to the point where the development could go ahead with all private sector finance, the Gall Thomson marine beak-away coupling being a notable example.

Although the average scale of support was £100,000 (probably about £360,000 in 2008 terms), the median was only £43,000 (probably about £155,000 in 2008 terms). The smallest project received support of £3400 (around £12,000 in 2008 terms). The 28% of projects of above average size accounted for 75%
of total expenditure, with the average support of the four largest being nearly £820,000 (probably around £3 million in 2008 terms).

Of the 99 organisations that had to that point received support, just 11 had received about 73% of the total. Three companies (Vickers, BP and Taylor Woodrow) received between them more 37% of the total. Vickers alone (with 14 projects) accounted for about 14%. Its withdrawal from the industry shortly before the report was written was a serious set-back for OSO as it appeared to be the one UK company with the potential to become a contractor capable of competing with the U.S. majors in innovatory activity.

About 80% of projects – representing about 20% of funds committed – were with SMEs or operating units, including roughly 25% with companies employing less than 100 people. As OSO came to recognise, it was important to establish that such small companies had the financial and managerial resources to undertake a project successfully and without compromising routine commercial activities. The risk of small companies becoming externally funded R&D ‘junkies’ was seen as a real one.

Nevertheless, while projects of less than average size had tended to have a higher probability of commercial success, no relationship was found between likelihood of success and size of organisation. However, since at the time most work was still ongoing or had only very recently been completed, such judgments were then difficult to make. Of the minority where the outcome was already clear, success and failure were fairly equally balanced.

None of the larger projects completed had been judged a success and problems were apparent with the ongoing ones. Most such large projects were production system design studies, some ‘stranded’ by other technological and market developments, others lacking any credible means of market entry. The case for continuing with them depended on other factors, such as the benefit in keeping engineering teams in being during a period of slack demand and/or the potential value in individual component parts of the overall project.

The report suggested there should be a simplified form of administration for small contracts, including the abolition of the recovery levy, and a closer integration of OETB activities with OSO industrial capability objectives. An important part of achieving this aim depended on OSO adopting a ‘holistic’ approach to a company and its OETB funded project(s), which required bringing OSO’s Engineering and R&D branches more closely together, which proved very hard to achieve, in part due to the personalities involved and in part to different perspectives.

Paradoxically, one of the earliest and most successful commercial pay-offs from OETB funded R&D came from its regulatory side rather than the industrial support programme. The government needed to be able to monitor reservoir performance and in the mid-1970s was reviewing the then commercially available numerical simulation models (Department of Energy 1976b, p. 10). At that time no such models were of British origin and the commercial sensitivity of reservoir simulations meant that the most advanced models were internal to
the major oil companies. Simulation models were indispensable to the formulation of field development plans as well as performance monitoring and equity determinations in situations where reservoirs crossed licence or international boundaries, making it essential for DEn to have unrestricted access to independent models of at least comparable quality to those of the major Operators.

OETB, with support from BNOC and BGC decided to use the resources available in computing, mathematics and physics at the Atomic Energy Authority (AEA)’s Harwell site to develop an entirely new simulation model known as PORES. It was not made available commercially until the mid-1980s when PORES was marketed through a British consultancy, Robertson ERC (Smith Rea Energy 1990a). The same source refers to the ECLIPSE simulation programme emerging as a ‘world leader’ and PORES having become ‘obsolete’. ECLIPSE was developed at ECL Petroleum Technologies – a British company – by part of the former PORES team.

The AEA’s Winfrith site in Dorset went on to develop other reservoir engineering software and to build up laboratory facilities capable of undertaking pressure volume temperature (PVT) analysis, geochemistry, logging tool calibration and experiments on high pressure core flooding, well stimulation and EOR. It thus became an important centre within one of the most technically sophisticated elements at the ‘core’ oilfield service industry, perhaps its very heart. From a commercial viewpoint, the strengths of AEA’s Winfrith Petroleum Services remained largely unexploited since they were for long generally available only to government.

Not all R&D benefited from the OETB, MTD, or other public programmes. Some projects went ahead at a firm’s sole risk. For instance, BGC’s development of its intelligent pipeline inspection pig, ultimately to form the basis of a significant independent service company (now American owned), was internally funded.

5.5 THE SUPPLY INDUSTRY

OSO interacted both with oil and supply companies. The former was the far easier. The oil companies were few in number and licensed by the DEn. The even smaller number of active Operating companies, around a dozen at this time, were in almost continuous dialogue with the DEn. Although the companies differed in many ways, the nature of what they did and the requirements of the licensing process imposed some degree of homogeneity and all belonged to a single trade association – UKOOA.

With suppliers, the situation was entirely different. Given fluctuations in activity and the prevalence of subcontracting, it is impossible to know exactly how many firms were involved at any one time. Some firms became permanently and totally dedicated to the industry, whereas others were involved only to a marginal extent and/or intermittently. At the bottom of the supply chain, it was even possible that firms could be involved without their knowledge.
Nevertheless, it soon became clear that the number of British suppliers was very large. Jenkin (p. 17) quoted a 1974 government estimate of nearly 3000, of which 55 were major contractors, 800 major sub-contractors and 2000 supporting suppliers. There was no homogeneity of function among the suppliers. At one end stood the designers, fabricators, and installers of offshore structures and at the other the providers of catering and cleaning services. In between were a myriad of suppliers of standard industrial goods and services, logistics operators and a relatively small number of businesses engaged in the subsea and subsurface areas, including the manufacture of equipment and provision of subsea, drilling and well services. The latter could be decidedly ‘high-tech’ in character and the spectrum of technological sophistication ran across the supply sector from the highest to the most basic. All in all, the offshore supplies market proved to be a ‘market’ only in the narrow sense of having a common group of ultimate end-users, the oil and gas Operators.

Although a close relationship eventually developed between OSO and many major suppliers, particularly in politically high-profile activities where credible British contenders existed, suppliers generally were under no compulsion to contact OSO and many never did. However, after the introduction of monitoring and the signing of the MoU, OSO sometimes had incentives to initiate contact itself.

Monitoring compelled OSO to become acquainted with difficulties oil companies faced with their suppliers, though OSO’s ability to intervene directly was very limited. At various times, price, delivery, industrial relations and steel supplies were all issues, with delivery dates being the issue to which the oil companies and governments attached the greatest importance. By developing direct relations with trade unions as well as management, OSO helped both sides focus on the importance of meeting delivery dates as a means of winning further contracts. As a result, in the author’s opinion, industrial relations within firms in the supply sector, although not perfect, were generally better than those in comparable, longer-established industries.

A traditional channel of communication between government and industry is the trade association. Though it was gradually to change through greater familiarity by all parties and the coming into being of new more focussed bodies – of which the Module Constructors Association (or MCA) was among the first – this did not function efficiently for OSO in its early days. The heterogeneity of the offshore supplies industry was the cause, as various established trade associations took on board the offshore interests of their existing memberships.

As a result, Jenkin (p. 17) identified some 16 trade associations with a significant number of members involved with the offshore industry. Ten attended a meeting on FFO with UKOOA, which noted that the most protectionist trade association representative (from the Process Plant Association) did not receive ‘much support’ from his peers.

OSO tried to focus its attention on the more responsive and relevant associations, such as the long-established (see p. 41) CBMPE/EIC, the Association
of British Oceanic Industries (ABOI) and the British Marine Equipment Council (BMEC). It was nonetheless not much relieved of the need for direct contact with individual firms. An additional complication was that some associations, CBMPE being a prime example, had many U.S.-owned members.

In an attempt to assess the attitude of supply firms to OSO and their level of contact with it, in 1976, Jenkin carried out a postal questionnaire survey of the membership of an anonymous trade association. A hundred responses were received, mainly from small and medium sized enterprises or SMEs (Jenkin pp. 136–145). Jenkin, while admitting that his survey could not be regarded as statistically representative, concluded that a large number of firms had had contact with OSO. They mainly sought market intelligence, introductions to oil companies and FFO. The level of ‘customer satisfaction’ was not high, which Jenkin – unlike the respondents who blamed a lack of experience and expertise on the part of OSO staff – attributed to its limited powers.

Jenkin’s conclusions on why companies contacted OSO can be compared with what OSO’s management itself thought. The originator of an internal OSO memorandum of January 1975 wrote of the ‘steady work-load’ of enquiries from firms interested in supplying the offshore market. He went on to list seven headings under which most enquiries could be classified. Two related to marketing, one to material supplies and one to technical standards. The remaining three lay in the areas where Jenkin had found little demand – licenses/joint ventures, government financial assistance schemes and R&D support – TNA: PRO EG10/64.

As to the criticisms made by Jenkin and his survey respondents of OSO’s effectiveness, the author would make three observations. First, 1976 was still very early in OSO’s history and staff inexperience was unavoidable. Second, few beyond those directly involved would know of OSO’s successful interventions with Operators or of the ability of its Ministers occasionally to threaten sanctions to bring a recalcitrant Operator ‘into line’ with government policy. Third, it was too early to judge the effectiveness of applying FFO and UK content criteria to licence awards.

During its early formative years, OSO developed close relations with a small number of large British-based supply and contracting businesses. Contact was infrequent, if not absent, with the majority of the medium sized and small companies, which vastly predominated numerically. Overall the number of companies contacting OSO probably declined with time, reflecting not only ‘market saturation’, but also the fact that the North Sea was widely seen as having lost its ‘growth status’, with doubts about the longevity of the domestic offshore industry re-surfacing.

As the market turned down from its first cyclical peak in the mid-1970s (see p. 111), excess capacity emerged and margins as well as volumes declined. A number of companies, particularly in the design, fabrication and mobile drilling sectors, were faced with the possibility of being forced out of the offshore business altogether unless they could obtain further remunerative
contracts. Inevitably, there were accusations that foreign competitors (particularly Continental) were in receipt of subsidies, leading in 1979 to OSO commissioning an external report, which failed to find conclusive evidence of subsidies.

In some cases, companies decided voluntarily to withdraw from parts of the offshore business. Prominent examples included McAlpine Seatank (concrete platforms), Laing Offshore (steel platforms) (Figure 5.3), Foster Wheeler–John Brown (modules), and Salvesen (drill-ships). In other cases, such as Weldit (specialist fabrications) the companies failed. Often, companies in difficulties turned to OSO for increased support. This was especially true of the fabrication business, one of particular political resonance, since the yards concerned tended to employ large numbers of unionised workers in areas with little alternative employment. OSO – with considerable Ministerial input – was remarkably successful in ensuring that the ‘lion’s share’ of such fabrication work as was available went to UK yards, which increased their share of orders in this sector from 63% in 1977 (Department of Energy 1978 ‘Blue Book’) to 84% in 1979 (Department of Energy 1980 ‘Brown Book’).

In drilling, there was much less OSO could do. The Salvesen vessels were unsuitable for the North Sea. The companies operating new-build semi-submersibles were inexperienced and highly geared new entrants to a shrinking market, offering equipment little in demand outside the North Sea. The incumbents

**FIGURE 5.3** End of an Era: Thistle jacket at Laing Offshore Yard. Reproduced with permission of Energy Institute and BP Archive.
were on the whole more experienced, financially stronger and frequently held term contracts let in an earlier period of stronger demand. Even with FFO, the British companies were seriously disadvantaged when bidding for those contracts that did become available. A policy much stronger than FFO, which would focus not only on increasing the chance of a British contract award but which could also ensure a cash break-even rate, was needed to help the drillers; it was not available.

The result was consolidation. Since it took place among British companies, OSO had no reason to become involved. In 1978, Ben Line became sole owner of Atlantic Drilling’s two rigs and the following year BP acquired the rig it was already chartering from Celtic Drilling (Jamieson p. 140). At 40% Norwegian owned Kingsnorth Marine Drilling (also with two rigs), there was a struggle for control between KCA and Houlder, culminating in 1980 in the latter assuming both management and voting control.

In late 1978 or early 1979, OSO correctly foresaw the prospect of an up-turn in mobile drilling. The number of E&A well starts nearly quadrupled between 1979 and 1984, (see Chart 4.2, p. 102). In an attempt to stimulate British mobile drilling capacity, the Minister sought to enlist the co-operation of the state-owned BNOC and BGC. BNOC’s chairman (Frank Kearton) was supportive. His opposite number at BGC (Denis Rooke) was not, claiming the British industry lacked entrepreneurial leadership. Though not formally abandoned, the initiative languished.

The depressed home market focused attention on export opportunities, although in the mid to late 1970s both the nature of the British service and supply industry and the then relatively limited overseas demand for the ‘harsh environment’ products it offered, restricted what might be achieved. Nevertheless, OSO – again with considerable Ministerial support – worked closely with the trade associations, prominent suppliers, British diplomatic posts and the British Overseas Trade Board (BOTB) to generate more export business. A major problem with many foreign buyers was to convince them that it made sense to deal with British suppliers rather than go direct to the U.S. industry, not helped by the fact companies participating in the missions were sometimes U.S.-owned.

The greatest export success of the period was probably for the Brazilian offshore development programme being undertaken by its state oil company, Petrobras. CJB Offshore won a structural design contract. Worley Engineering (a William Press subsidiary) was awarded a major topside design contract and McDermott (Scotland) a construction contract for a large steel jacket. Whilst the design contracts were successfully executed, the jacket sank ‘en route’, showing the hazards of long-distance international trade in such products.

Many British companies had routinely sold into the Norwegian market but increasingly faced protectionist barriers in the oil sector, not solely due to the growing role of Statoil, although this became ever more important in ‘strategic’ areas. During the late 1970s, at a succession of routine meetings between the British minister and his Norwegian equivalent, the same item always figured
on the agenda – the use of a Norwegian language test to exclude Scottish electricians working on the contract which the Glasgow company, James Scott (another Press subsidiary), held from Phillips Petroleum on its Ekofisk complex. Another ‘bone of contention’ was the Norwegian requirement for British supply boats to carry a Norwegian pilot when on the Norwegian Shelf; the UK did not require a British pilot on foreign ships on its Shelf. British rig owners also complained that the Norwegians used national regulations to exclude them. There was little beyond raising such issues that OSO could do for British suppliers in the light of the FCO’s unwillingness to support a more robust response.

Despite the closure of the Laing and McAlpine yards, it still seemed as though the British civil engineering industry would establish itself successfully in the offshore scene. In the contracting sector, three companies in particular stood out. One was George Wimpey with early exposure to the sector, a platform-building joint venture with B&R (Hi-Fab) as well as supply boat and offshore survey activities. The second was Taylor Woodrow, a potential builder of concrete platforms, with a successful project management joint venture, Taywood-Santa Fé, and for a time, management control of logistics base and offshore support vessel (OSV) operator, Seaforth Maritime. The third was TH, strongly established in module fabrication, but with a volatile record in other areas ranging from geophysics and drilling to supply boats and design engineering. Of the consulting engineers, the most committed were probably Halcrow and Atkins. Though Lloyds Register remained important, its early prominence faded, perhaps due to the loss of key personnel and increased competition.

None of these companies had refocused their interests on the North Sea as wholeheartedly as did other long-established businesses such as Mathew Hall (topside design), William Press (fabrication, craft labour supply and topside design) and John Brown. Although the last withdrew from module fabrication and exported most of the GE gas turbines it manufactured, it became a force in North Sea design. In addition to topside work, it was in joint venture with U.S. company Earl & Wright, becoming the first British company to be recognised for its offshore structural design capability. It also established a short-lived underwater design consultancy, CXJB, in association with French diving firm Comex.

5.5.1 Creation of New British Enterprises

Of the 3000 or so British-based firms supplying the UKCS, the great majority were existing businesses, for which offshore sales represented an incremental market. The proportion specifically set up to serve the offshore market is unknown, but the author’s assessment is that it was probably less than a third, including new subsidiaries of established businesses, joint ventures, inward investments and true start-ups. It is probable that the peak rate of new entrant formation occurred in 1971–1976, between the initial northern basin development decisions and the first cyclical demand downturn.
The first 2 years of this period pre-dated OSO. It is clear from the IMEG Report and other sources that there was a high rate of enterprise formation during these 2 years. Since both OSO itself and the surge in company formation were in response to the early northern basin oil discoveries, it is fitting to include new enterprise formation in 1971 and 1972 in this section.

The IMEG Report (1972, p. 35) noted that there were already in 1972 five groups with sites or facilities for the construction of large steel platforms and that only one (J. Ray McDermott) did not have British participation. In the related area of module fabrication, it had little to say beyond mentioning that William Press had added U.S. ‘know-how’, probably meaning its association with Worley Engineering in the topside design field. Several more module construction facilities were created or expanded, among them Whesoe, RDL and Cleveland Bridge and Engineering on the Tees, John Brown on the Clyde, Press’s new yard and Charlton Leslie on the Tyne and Burntisland Engineers and Fabricators (BEFL) on the Firth of Forth. BEFL was a partially owned subsidiary of Dundee shipbuilders, Robb Caledon. The minority shareholders were a London merchant bank (Baring Brothers), a London shipping company (Ellerman Lines) and an Aberdeen motor vehicle distributor (J. G. Barrack).

Another area where existing British businesses were active was logistics. In the case of Scottish supply bases, port owners either moved into supply base operation themselves or more commonly leased facilities to oil companies or specialist providers. In Aberdeen (where the local Harbour Board invested heavily), a fishing company – the John Wood Group – set up a supply base and utilised its existing facilities to offer a repair and maintenance service for oil equipment, initially in a joint venture with the Weir Group. Shell, Seaforth Maritime and the Aberdeen Service Company (ASco) also established bases in Aberdeen. ASco set up additionally in Peterhead, eventually becoming the largest supply base operator in the entire North Sea. Its parent, Sidlaw Industries, an old Dundee jute company, also invested in the Skean Dhu hotels, a business targeting oil industry personnel.

Shipping companies became involved in new enterprises. In 1971, Ocean Transport and Trading of Liverpool formed a 50/50 joint venture (Ocean Inchcape or OIL) with the Inchcape Group to operate North Sea supply boats and a base in the Shetlands. A year later, two Glasgow shipping companies, Lyle and Hogarth, established Seaforth Maritime as a supply boat and base operator. They were joined, as minority shareholders by other Scottish investors such as James Finlay and the Bank of Scotland, as well as the specialist investment trust, NSA. From 1973 another Glasgow ship owner, Harrison (Clyde), operated North Sea supply vessels through its Stirling Shipping subsidiary.

A more ambitious entrant was Star Offshore Services. After discussions involving stockbrokers Cazenove, the Blue Star shipping line, United Towing (the UK’s only deep sea tug operator) and an experienced offshore manager, it was launched in 1974 with an initial equity capital of £10 million (over £78 million in 2008 terms), mainly subscribed by some 200 institutional
investors. It was a rare example of such a funding approach. Blue Star and United Towing had small stakes, and initially provided management services. Star quickly developed a fleet of supply boats, anchor-handling tugs and diving support vessels. After entering the diving services business through acquisition, it became the first British company to undertake saturation diving (Wilson Committee 1978, pp. 55–56).

The first British shipping company to become involved in offshore drilling, Edinburgh-based Christian Salvesen, established Salvesen Offshore Drilling in 1971. Strangely, it selected as equipment moored drill-ships unsuited to the North Sea. However, with its Salvesen casing crews, the company also entered another ‘core’ oil service field, an activity at the ‘low-tech’ end of drilling services but one capable of deployment in the North Sea. Later, it added coiled tubing services.

During 1972, London-based Furness Withy, through its Houlder Brothers subsidiary, entered the mobile rig business by taking a 20% interest in Kingsnorth Marine Drilling, which ordered two new semi-submersibles; among the other shareholders was Berry Wiggins, an entrepreneurial Kent-based company, whose subsidiaries came to include both BW Muds (drilling mud) and KCA Drilling (mainly involved in platform drilling).

In 1974, Edinburgh shipping company Ben Line entered the offshore drilling business through the creation of Ben Ocean Drilling and Exploration Company (Ben ODECO). ODECO – a major component of the U.S. offshore drilling industry – sold a 50% interest in its UK subsidiary, which owned a Clydebank built jack-up, Ocean Tide, to Ben Line Offshore Contractors (BLOC). Ben Line owned 60% of BLOC, the remainder being held by NSA and the Royal Bank of Scotland. Ben ODECO soon went on to acquire from ODECO the conventional drill-ship Ben Ocean Typhoon and to order from Scott Lithgow on the lower Clyde, the sophisticated dynamically DP drill-ship Ben Ocean Lancer. This represented a very major investment £24 million (around £148 million in 2008 terms), of which 87.5% was borrowed from the Royal Bank (Wilson Committee 1978 p. 41). In 1976, Ben Line further extended its interest in the drilling business by acquiring Sheaf Steam Shipping of Newcastle, which had an interest in two semi-submersible new builds via its investment in Atlantic Drilling. The co-investor was Cardiff ship owner, Reardon Smith, which had also ordered a new-build semi-submersible for its Celtic Drilling subsidiary.

The UK’s most famous ship owner, P&O, abandoned its own plan to enter drilling in early 1975, pulling out of an international consortium planning to acquire leading U.S. drill-ship operator Global Marine, as a direct result of deteriorating economic conditions in the UK (Simmons, 1979).

Although new enterprise formation and the ensuing increase in UK content was clearly not dependent on OSO activity, both specific OSO initiatives and general venture management activity added additional impetus. The years 1973–1976 marked the highpoint of joint venture formation, OSO’s main
means of encouraging inward technology transfer. Some examples where the author believes there was an OSO involvement in an Anglo–U.S. joint venture are shown in Table 5.1.

OSO did not originate all Anglo–American joint ventures; one prominent one that it did not was the diving company 2W Diving, where experienced British managers provided personnel to complement saturation diving equipment owned by Taylor Diving and Salvage, part of the B&R/Halliburton Group. While it was for long widely believed in the UK that the ownership interests were roughly 50/50, in fact the American partner initially owned 90% and the British (Wharton Williams Limited) only 10% (Swann, p. 560). The joint venture became very successful and absorbed its U.S. partner in 1985, becoming Wharton Williams Taylor. By then British ownership interest had ‘significantly increased’ (Swann p. 561).

Not all joint UK-North American ventures were with U.S. firms, though the majority were. English China Clays began its drilling mud subsidiary, International Drilling Fluids, as a joint venture with a Canadian partner. Energy Resource Consultants (ERC) – the first British-controlled reservoir engineering consultancy – began as a co-operation between Imperial College academics and a Canadian firm. British Oxygen Company (BOC) had a joint venture with a Canadian firm, Nowsco Well Services.

However, it is probable that the second largest group of joint venture partnerships in this period involved the French, including both of the firms that built concrete platforms in the UK (McAlpine Seatank and Howard Doris). One of the four enterprises that built large steel jackets in the period (Laing) had French support. Houlder Brothers provided marine support to the UK subsidiary of the French diving firm Comex. In 1979, Houlder acquired a 50% interest in the Comex’s UK subsidiary, which latter became known as Comex Houlder Diving Limited, as well as a 16% share in the Comex Group holding company. According to Swann (p. 555), the total cost was some $24 million (approaching $60 million in 2008 terms).

<table>
<thead>
<tr>
<th>British Partner</th>
<th>U.S. Partner</th>
<th>Activity</th>
<th>UK Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferranti</td>
<td>TRW</td>
<td>Subsea controls</td>
<td>Edinburgh</td>
</tr>
<tr>
<td>John Brown</td>
<td>Earl &amp; Wright</td>
<td>Platform design</td>
<td>London</td>
</tr>
<tr>
<td>Hattersley, Newman Hender</td>
<td>McEvoy</td>
<td>Subsea well heads</td>
<td>Gloucestershire</td>
</tr>
<tr>
<td>Marconi Avionics (GEC)</td>
<td>Koomey</td>
<td>Subsea controls</td>
<td>Rochester</td>
</tr>
<tr>
<td>Taylor Woodrow</td>
<td>Santa Fé</td>
<td>Project management</td>
<td>London</td>
</tr>
</tbody>
</table>
Whether or not any of the earlier Anglo–French ventures resulted from the determined pre-OSO attempt by IFP to partner French oilfield technology with British companies is not known. However, it can be safely said that the London investment company Flextech was certainly a consequence. IFP had enlisted the help of ‘blue-chip’ City institutions, such as Baring Brothers and Cazenove. Having failed to find a British industrial company prepared to take a stake in Coflexip, IFP’s flexible subsea pipeline ‘spin-off’, Cazenove raised funds from City institutions to establish Flextech as an investor in oilfield service and supply companies, with a 17% equity stake in Coflexip as its first holding.

OSO was not overly concerned with the activities of foreign entrepreneurs setting up British businesses. Ramco (oilfield tubular inspection and maintenance) was one such with an American promoter, while Rig Design Services (specialist design) and Arunta (a supply base in Peterhead) both had Australian founders.

At this stage, OSO was mainly concerned with ensuring that the main high value and high-profile capital items, such as platform jackets and modules were sourced from UK facilities. Government funding was often involved through regional aid. OSO’s focus on fabrication reflected the political imperative as much as issues of industrial strategy; here it could make the most immediate and largest impact on UK content and employment. Nevertheless, there could also be a reasonable expectation that the UK was capable of developing a broadly competitive position in this sector and indeed for many years this proved to be the case. This was less true of concrete platform facilities, where direct government investment led to over-provision.

Expansion of the fabrication industry led to an increase in demand from specialist providers and sub-contractors in fields such as welding supplies, stress relieving heat treatment, non-destructive testing (NDT) and inspection. Mostly, this demand was met by existing businesses. However, new firms also came into being, serving new demand niches. One such was Weldit of Scunthorpe – a classic owner-managed business – which became an indispensable element in the steel platform-building supply chain, providing a back-up source of critical structural elements. Another specialist small entrepreneurial company was Bruce Anchor, based on its deep-water anchor design; it was a rare early example of a British company with a defensible patent position.

Meanwhile, parts of Scotland were benefiting from inward investment by U.S. oilfield equipment suppliers. This is made clear in a 1974 inter-departmental briefing. It refers to Smith International and Vetco Offshore setting up in Aberdeen, where Baker Oil Tools was to expand its labour force from 85 to 400–500. FMC Corporation had announced its intention to set up in Dunfermline – TNA: PRO INF 12/1298.

The initial years of OSO saw more activity in the supply sector by specialist investment institutions than was the case in the rest of the period covered by this book, though they did not confine their investments to British companies. Flextech and NSA have already been mentioned. Another was New Court
Natural Resources (a Rothschild vehicle), notable for backing Expro, a British drilling and well services start-up in 1973.

Of these, NSA had the ‘deepest pockets’ but initially chose to invest more heavily in foreign than in British service and supply companies. Shortly after its foundation in late 1972, it announced its intention to take a 20% interest (costing U.S. $25 million, or around $100 million in 2008 terms) in the Viking Piper semi-submersible pipelay barge (Figure 5.4). The Bank of Scotland and Norwegian and French groups held the balance. The vessel proved highly effective when laying the Ninian to Sullom Voe pipeline, but thereafter suffered long periods of unprofitable operation as a construction support vessel, or of idleness. Other significant ‘non-British’ investments were made in Oceaneering International (a diving company) and Northern Offshore (a support vessel operator). Among unsuccessful UK investments was Marine Oil Industry Repair and Maintenance (MOIRA), a rig repair venture.

NSA had as its investment manager the Edinburgh financial house Ivory and Sime described by Hall (1973) as being at the centre of ‘an intricate financial web’, involving the Bank of Scotland, Noble Grossart, Edward Bates, and various investment trusts. A lower profile financier of offshore supply and service sector in 1973–1976 was the mining finance house Selection Trust. It acquired the crane ship Thor, which it leased to Heerema for 10 years.

Regional aid apart, central government was not an important source of finance. Jenkin (pp. 125–128) showed that over the 1973–1976 period, OSO made only four grants of selective financial aid under the 1972 Industry

![Figure 5.4](https://example.com/vikingpiper.jpg)  
**FIGURE 5.4** The Viking Piper Pipelay Barge. Courtesy Dr. J. Bevan.
Act out of twenty-four applications processed. He attributed this low proportion to the difficulties surrounding the application process, such as its bureaucratic nature (with 14 decision points) and consequent slowness, the small sums on offer and differences in approach between OSO and the IDU, which administered the grants.

The total aid approved totalled £3.369 million (say £23 million in 2008 terms). Over half was a loan (never fully utilised) to Seaforth Maritime, enabling it to complete two ships under construction when the (British) builder went into receivership. IRGs were made to MOIRA (see above), which failed, and for *Ben Ocean Lancer* (see p. 117), which was successfully completed, although late. The fourth payment was a loan for the launch of a new flow meter by a firm that subsequently went into receivership. No further grants of selective financial assistance were made between 1977 and 1980 period, mainly because suitable cases did not come forward. After the change from a Labour to a Conservative government in 1979, use of selective financial assistance was in any case out of favour.

Industry Act funding had been of no help to OSO in addressing one of its major strategic objectives – the creation of a British capability in offshore construction. In the second half of 1975, OSO was still considering, as recommended in the previous year by the Select Committee (1974, p. 22), the creation of a major UK offshore capability, possibly to be named as the British Offshore Construction Corporation – TNA: PRO EG10/64. It was almost certainly too late by then to found a venture with much chance of success. Firms from the USA, the Netherlands, France, and Italy were already in the field. A BP witness to the Select Committee (1974, p. 17) pointed out that the Continental entrants to pipelay and heavy lift were no larger than some British contractors, but cumulatively they had made large capital commitments to what was likely to be a cyclical market with its first construction peak already in sight.

Indeed, a downturn in rates in 1976 was forecast by Department of Energy *et al* (1976c, p. 115), which had also noted that some vessel operators would be moving equipment from the North Sea, which they saw no longer attractive for investment. Their reasons included uncertainty over future North Sea demand, the very high capital cost of capital equipment for North Sea use, with limited market opportunities for its use in other areas, and a background of rapid technological change, which increased the risk that investment might not be recovered (Department of Energy *et al* 1976c, p. 80). The opportunity had passed. The initiative was allowed to lapse.

In the other strategically key area, offshore drilling, the outlook appeared brighter. KCA Drilling had been awarded a large development drilling contract for BP’s Forties field, almost certainly with OSO backing. Several private British ventures in mobile rigs had been established, adding to the rigs owned by Shell and BP and in August 1975 an OSO Press Release could claim that ‘…there should shortly be eight large semi-submersible drilling rigs and four drill-ships substantially under UK ownership’.
No mention was made of the fragmented control of this ‘fleet’, exposing the individual enterprises to dependence on one or two contracts in contrast to their larger and more broadly based U.S. competitors with a portfolio of rigs and a spread of contract maturity dates and rates, of growing European competition, of the lack of operational experience or of the heavy reliance on debt. When the E&A market turned down, as it soon did for the rest of the decade (see Chart 4.2, p. 102), these weaknesses were to be cruelly exposed.

During this period many large established companies set up divisions or subsidiaries whose title included words such as ‘energy’, ‘offshore’, or ‘oil’, intended to imply commitment. In some cases, this was genuine, as in the case of P&O Energy, with interests in supply boats, a supply base and subsea services. In others, it was merely an attempt to co-ordinate fragmented marketing efforts within a diverse group – an example being ICI Offshore. Sometimes offshore activities were under the charge of a knowledgeable executive with a clear vision, but who was unable to have it ‘championed’ at main board level where capital allocation decisions were made. This was recognised by the Select Committee, which had noted that the main boards of some British companies did not always back the offshore enterprises within their groups with capital investment (Select Committee 1974, p. 22).

Only a strong-willed and committed leader, some of the more notable of whom are shown in Table 5.2 which follows overleaf, could take a business successfully into the offshore field.

The above list is by no means exhaustive, but the names shown were all involved with businesses that came to have more than a purely local or short-term significance. Interestingly, over a third of those listed were involved in the underwater sector.

Given the risks involved, the difficult financial circumstances of the time and the perceived novelty of the offshore business, the evident scarcity of main board ‘champions’ in public companies is not surprising. In more recent times, with its greater availability of venture and development capital (see p. 91), this situation would probably have led to management buy-outs or the foundation of more dedicated start-ups along the lines of Star. Such new enterprises were disadvantaged in that unlike profitable established businesses they could not offset start-up losses against other profits or demonstrate an existing cash flow and asset base. These factors gave a bias towards building the new domestically owned offshore supplies industry on the pre-existing industrial structure, including sectors suffering severely from the industrial problems discussed on pages 10–29.

No doubt influenced by the relatively favourable financing conditions of 1972–1976, the Wilson Committee (1978, p. 44) found ‘...no evidence to suggest’ that a shortage of funds had generally inhibited British involvement in the offshore supplies market, although it did admit some ‘...potential opportunities involving large initial risk’ had not found financial backing. It failed to recognise that these ‘opportunities’ included OSO’s initial priorities of establishing a large British presence in offshore drilling and installation.
<table>
<thead>
<tr>
<th>Company</th>
<th>Status</th>
<th>Individual</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberglen/Balmoral</td>
<td>Private company</td>
<td>Jimmy Milne</td>
<td>Buoyancy products</td>
</tr>
<tr>
<td>ASco (Aberdeen Service Co)</td>
<td>Private company</td>
<td>Jimmy Simpson</td>
<td>Supply base</td>
</tr>
<tr>
<td>Berry Wiggins</td>
<td>Public company</td>
<td>Paul Bristol</td>
<td>Drilling, drilling mud, inspection and testing</td>
</tr>
<tr>
<td>Bristow Helicopters</td>
<td>Private company</td>
<td>Alan Bristow</td>
<td>Helicopter Services</td>
</tr>
<tr>
<td>Bruce Anchor</td>
<td>Private company</td>
<td>Peter Bruce</td>
<td>Anchors</td>
</tr>
<tr>
<td>Expro</td>
<td>Private company</td>
<td>John Trewhella</td>
<td>Drilling and well services</td>
</tr>
<tr>
<td>Furness Withy</td>
<td>Public company</td>
<td>‘Uncle’ John Houlder</td>
<td>Drilling, diving support, maintenance and repair</td>
</tr>
<tr>
<td>Global Diving</td>
<td>Private company</td>
<td>Martin Deaner</td>
<td>Diving, diving equipment</td>
</tr>
<tr>
<td>Oceanics</td>
<td>Public company</td>
<td>Bob Aird</td>
<td>Underwater equipment hire</td>
</tr>
<tr>
<td>OSEL</td>
<td>Private company</td>
<td>Doug Hampson</td>
<td>Underwater vehicles</td>
</tr>
<tr>
<td>Petrocon</td>
<td>Public company</td>
<td>Peter Hodgson</td>
<td>Pipes and valves</td>
</tr>
<tr>
<td>SLP Engineering</td>
<td>Private company</td>
<td>Dennis Abbott</td>
<td>Manpower agency, fabrication</td>
</tr>
<tr>
<td>Star Offshore</td>
<td>Private company</td>
<td>Brigadier Parker</td>
<td>Supply boats, diving support, diving</td>
</tr>
<tr>
<td>Trafalgar House</td>
<td>Public company</td>
<td>Nigel Broackes</td>
<td>Fabrication, supply boats</td>
</tr>
<tr>
<td>Sonardyne</td>
<td>Private company</td>
<td>Dave Partridge</td>
<td>Underwater acoustic equipment</td>
</tr>
<tr>
<td>SB Offshore</td>
<td>Private company</td>
<td>Steve Buxton</td>
<td>Fabrication, supply base</td>
</tr>
<tr>
<td>UMEL</td>
<td>Private</td>
<td>Mike Borrow</td>
<td>Underwater vehicles and equipment</td>
</tr>
<tr>
<td>Subsea Surveys</td>
<td>Private company</td>
<td>Roger Chapman</td>
<td>Underwater services</td>
</tr>
<tr>
<td>Wharton Williams</td>
<td>Private company</td>
<td>Ric Wharton</td>
<td>Diving</td>
</tr>
<tr>
<td>Weldit</td>
<td>Private company</td>
<td>Gordon Cryne</td>
<td>Fabrication</td>
</tr>
<tr>
<td>John Wood</td>
<td>Private company</td>
<td>Ian Wood</td>
<td>Supply base, maintenance and repair</td>
</tr>
<tr>
<td>Vickers</td>
<td>Public company</td>
<td>Leonard Redshaw</td>
<td>Underwater services and equipment; design</td>
</tr>
</tbody>
</table>
The Committee recognised that the commercial banks were the main source of short and medium-term finance to the industry. It was also noted that direct government financial assistance had so far been small. While generally commenting favourably upon investment activity by financial institutions and on Stock Exchange listings, the Wilson Committee (1978) did not attempt to quantify the funds resulting for the offshore supplies industry. In the author’s view, they would have been modest compared to identifiable bank lending, put at £277 million for August 1977 (over £1.3 billion in 2008 terms).

For ship and rig owning companies, the banks could also facilitate access to longer-term and cheaper finance via the Ship Mortgage Finance Corporation (SMFC) or its foreign equivalents. The relatively easy availability of bank finance (including ‘off-balance sheet’ finance leases) compared to equity led to many cases of new enterprises becoming more highly geared than was prudent in a volatile market. This was particularly true of businesses to which ship mortgage finance was available. The small equity element in the funding of the Ben Ocean Lancer has already been mentioned (see p. 148). In the case of Kingsnorth Marine Drilling, the entire enterprise rather than a single unit seems to have been funded in a broadly similar manner. Unfortunately for such British new entrants, their competitors were mostly established foreign firms with balance sheets already ‘fattened’ by retained profits built up during earlier periods of successful trading in strong markets.

During this period of generally tight supply, both Shell and BP continued to invest in service provision, maintaining sole and/or joint interest in drilling rigs. Shell also held for a time a stake in an Italian diving company, Subsea Oilfield Services (SSOS), an affiliate of the Italian offshore construction group, Micoperi (IMEG 1972, p. 36). BP owned supply vessels and had an interest in Strongwork, a UK diving company.

In early 1974, BP established its own in-house venture capital unit, BP Ventures. Though its remit was not confined to offshore activities, the fragmentary information contained in the BP Archive shows that it was active in the offshore field. Investment proposals rejected included a crane barge joint venture with Heerema, a rig repair facility and the subsea production system in part developed by BP in its ADMA operation (see p. 40). It did, however, invest in oil spill control (Vikoma) and in underwater services, where a major move came late in 1975. At the suggestion of ODECO, the controlling shareholder, which felt in need of a UK partner, BP Ventures acquired a 47.5% interest in Subsea International (SSI), a U.S. diving company active in the North Sea and valued by its owners at $20 million (nearly $65 million in 2008 terms).

In mid-1977, it was proposed that BP acquire Sonamarine, an operator of remotely operated vehicles (ROVs), and merge it with VOL, thereby creating a 50:50 joint venture with the Vickers Group, capitalised at £14.362 million (nearly £68 million in 2008 values), of which debt would have represented nearly 80%. In the event, Sonamarine was bought but the Vickers deal never
materialised. Subsequently, Sonamarine would be merged with SSI, which in turn ultimately reverted to full U.S. ownership.

Differences between the 1973–1976 and 1977–1980 sub-periods were very marked, with British companies now leaving sectors perceived as over-supplied or otherwise un-remunerative. To some extent, their places were taken by Continental firms, which concluded that their chances of winning work in a declining market would be improved if they operated from within the UK.

This happened particularly in the fabrication and drilling sectors. In 1979, the well-established French fabricator, Union Industrielle et d’ Entreprise (UIE) acquired the old John Brown shipyard at Clydebank from the U.S. rig builder, Marathon. It successfully achieved its aim of adding more general offshore fabrication to the yard’s activities. This was not its owner’s first interest in UK acquisitions; in 1974 the author had considered KCA Drilling as a possible target.

Also in 1979, the Dutch fabricator, de Groot, the original pioneer of North Sea offshore fabrication (see p. 53), became a shareholder in BSC’s RDL (North Sea) platform construction yard at Methil, renamed Redpath de Groot Caledonian (RGC). Having Continental partners was not a novelty for RDL. In 1972, three Italian companies had held a combined 45% interest, with the (unfulfilled) intention of creating a turnkey contractor with design, construction and installation capability – see Select Committee (1974, Minutes of Evidence pp. 301, 311).

Two Norwegian drilling companies established British entities in the late 1970s. In mobile drilling, ship owner Jebsen brought two of its existing fleet of semi-submersibles under the British flag, to trade as Jebsen Drilling (UK) Limited. Another Norwegian driller, Smedvig, chose a different route, forming a platform drilling joint venture company, Dan Smedvig, with Davies and Newman, a British shipping and aviation firm.

Norwegian entrepreneur, Fred Olsen, was responsible for several investments in the UK offshore sector. These included British-flagged mobile drilling rigs, probably part of the basis for joint venturing with the Vickers Offshore Engineering Group (VOEG) to establish Vickers Aker. Although this never obtained an operational contract, it is believed to have been the world’s first business specifically dedicated to floating production and undertook some of the development work for the world’s first purpose-built mono-hull floating production vessel (FPV), BP’s single well offshore production system (SWOPS). Other, wholly owned businesses, also set up were a fabrication yard in the Hebrides (Lewis Offshore, later sold to Dutch firm Heerema) and Aker Offshore Contracting (AOC), which provided platform hook-up and maintenance services, being ultimately acquired by B&R.

Despite the upsurge from Norway, the formation of new joint ventures and the establishment of new businesses, whether British or foreign controlled, was less during the second half of the 1970s than earlier in the period. Although some activity continued in the equipment field (e.g. the establishment of a joint
venture between Australian crane maker Favco and Northern Engineering Industries of Newcastle), it tended to focus on services, particularly underwater services. A new British-owned saturation diving company (Global Diving Services) emerged, as well as small British-owned ROV operators. Prominent among these was R. R. Chapman Subsea Surveys Limited (usually known as Subsea Surveys or SSS) specialising in pipeline surveys and in which the NEB held 47.2% of the equity (its first offshore sector investment; Wilson Committee 1977b, Volume 1 p. 77). At much the same time, the SDA (later Scottish Enterprise or SEn) made its own first offshore supply investment, in a flange bolt manufacturer. It contributed £60,000 (about £240,000 in 2002 terms) for a 33% interest (Wilson Committee, 1977b, Volume 6, p. 174).

The arrival of limited public sector equity coincided with a decline in activity on the part of private venture capitalists. For the ‘generalists’ the combination of a cyclical demand downturn, high entry thresholds and continued rapid technological change, presented an unattractive picture. Among the few specialists, NSA, the largest such investor, was pre-occupied with its heavy exposure to the Viking Piper lay barge. Another quoted investment trust, East of Scotland Onshore, could develop a portfolio of only small investments. Flextech, however, added a major British interest to its existing French one by acquiring control of Expro.

OSO itself continued in the late 1970s to seek ways to involve British industry in the elusive offshore installation and pipelay fields. It made an unsuccessful approach to interest Dutch heavy-lift entrepreneur, Pieter Heerema in a British joint venture, following the announcement of his firm’s order for two semi-submersible crane barges, so large and stable that they would revolutionise module and deck design while also greatly enlarging the installation ‘weather-window’. Heerema correctly concluded that having a British partner would be of any real value to him. A tentative discussion also took place with the Norwegian government about the possibility a joint attempt to ensure that the Viking Piper stayed out of U.S.-control but this too quickly died against a weak demand background.

5.5.2 Some Supply Sector Corporate Issues

The depressed market conditions of late 1970s and the scarcity of new equity funding meant that OSO was in these years more often concerned with the problems of existing British-owned companies, sometimes extending to their very survival, than about the creation of new enterprises. Sometimes it could help but often it could not, or occasionally would not. There was also the ever-present issue of overseas take-overs.

Against this unpromising backdrop of the late 1970s, the ‘traditional’ activities of OSO’s venture managers declined and their numbers were allowed to fall. They did, however, become involved in trying to find a ‘British solution’ when foreign take-over bids arose for what were seen as strategically significant
British service and supply companies or promising innovations. Sometimes such approaches were easily deterred. On one occasion a U.S. corporation approached the DEn to enquire whether a bid for Mathew Hall – by then a major force in topside design engineering – would be unwelcome. On being told that it would, the bidder withdrew.

On other occasions, the prospective foreign purchaser (at this time almost invariably American) would not give prior notification of its intention but nevertheless required exchange control approval before the transaction could be completed. OSO’s understanding with the Bank of England (see p. 117) allowed approval to be withheld until the venture managers had exhausted the prospect of finding an alternative UK buyer. Jenkin (p. 24) mentions such a case where the U.S. takeover ‘... of a promising UK diving company which had a series of new products under development’ was prevented.

Although it was an underwater equipment manufacturer rather than a ‘diving’ company, the British firm concerned was probably Underwater and Marine Equipment Limited (UMEL). Its ‘Jim’ suit (a one-man atmospheric diving suit, or ADS- see Figure 5.5) was of interest to Oceaneering, a major U.S. provider of diving services in the North Sea and elsewhere. If so, Jenkin’s account is perhaps too flattering towards OSO’s efforts to thwart Oceaneering. OSO certainly attempted to prevent control of ‘Jim’ (development of which had been partly financed by a loan from the NRDC) passing abroad and succeeded in delaying that outcome while it

FIGURE 5.5  ‘Jim’ atmospheric diving suit. Courtesy Mr. M. Borrow.
sought a ‘British solution’. It was unsuccessful and in 1977 Oceaneering acquired a 50% shareholding in UMEL and the exclusive global rights to market ‘Jim’ to the offshore oil and gas industry. It chose not to sell ‘Jim’ to other underwater service providers. An element of ‘British face-saving’ was achieved by the acquisition of the remaining 50% of UMEL shares by NSA, the Edinburgh investment trust, itself also a shareholder in Oceaneering.

Two other British companies went on to develop ADS equipment – OSEL and Slingsby Engineering, which built its prototype with the support of a DTI product development grant. In 1985, Slingsby acquired UMEL, restoring British-control for a few years before Slingsby in turn succumbed to foreign ownership. Although the ADS approach to deep-water work initially looked attractive, it did not succeed in replacing saturation diving. As time went, both technologies were increasingly displaced by ROVs.

Generally, OSO was not successful in attempts to find a ‘British solution’ and for good reasons. Too few British offshore suppliers had the market credibility successfully to launch innovatory products and services and those that did were often constrained by capital scarcity and/or risk aversion.

There remained, nonetheless, a certain amount of corporate activity not initiated by OSO among large British companies, particularly those focusing upon the emerging IMR market. Thus Taylor Woodrow and James Findlay jointly took control of Seaforth Maritime with this in view, freeing Lyle Shipping (a founder shareholder of Seaforth) to develop an independent offshore strategy through the Lyle Offshore Group (LOG). There also continued to be smaller and longer-lasting specialist initiatives, such as the establishment in 1978 by Plenty (a pumps and filters subsidiary of the Booker Group) of Oil Plus, a water injection and produced water treatment consultancy. Oil Plus was originally a joint venture with BP, which sold its shares in 1982.

An example of a case where OSO was asked to intervene but was unable to was when John Trewhella, founder of Expro, sought OSO assistance in locating funding so that he could exercise his personal pre-emption rights in order to prevent control of the company passing to KCA. As long as this remained a strictly British issue, OSO’s position had to be one of neutrality and it declined to become involved.

A case where OSO would have liked to help but could not, was that of Kingsnorth Marine Drilling. The company was a heavily indebted newcomer without a track record in a market experiencing a sharp cyclical downturn. The best that OSO could do was to insist that the company’s name was on the bid lists; it was not enough. Fortunately, a ‘British solution’ emerged when a stronger British company, Houlder Offshore, took control (see also p. 145). OSO was even less able to assist another British drilling venture, Salvesen, whose equipment was unsuitable for use in North Sea. Salvesen resolved the problem by disposing of its drill-ships.

It should not be thought that OSO was never able to intervene constructively. Interactions with Seaforth Maritime, Weldit, and Vickers, showed otherwise.
As a Scottish company created specifically to serve the North Sea, Seaforth was a business OSO tried hard to support. OSO financial support has already been mentioned (see p. 152). The final vessel delivered under the financial rescue package, the *Seaforth Clansman*, was completed as a diving support vessel with a fire fighting capability, with the intention of avoiding a crowded supply boat sector (Jamieson p. 149). Unfortunately, the diving support market in turn developed over-capacity as construction activity declined whilst other (mainly foreign) owners also entered the market with higher specification vessels, either semi-submersibles (of which Houlder’s *Uncle John* was the first) or DP monohulls. Faced with the damaging consequences of a lack of employment for the *Seaforth Clansman*, the company turned to again OSO for help. OSO persuaded the MoD to charter the ship to support Royal Naval diving operations. Freed from this potential liability, the company was able to go on developing, further diversifying into manufacture of saturation diving equipment and other projects. Recognising the company’s potential in the emerging IMR market, Taylor Woodrow and James Findlay bought out the existing shareholders and – underpinned for a time by the Shell Stadive MSV contract (see p. 129 and Figure 5.6) – it remained under UK control until acquired by B&R in the late 1980s.

Weldit was an entirely different case. The main business was highly efficient and became for a time a critical component of the heavy fabrication supply chain. The owner (Gordon Cryne) became a ‘tax exile’ and developed a ‘mini-conglomerate’, openly owning air charter and electronic security businesses and clandestinely, it was alleged, other small ‘high-tech’ companies. The company had a highly developed ‘market intelligence’ system, a by-product of which was (unfounded) accusations from oil companies that OSO had ‘leaked’ commercially sensitive information.

The company was personally managed and internally financed, supplemented by bank overdrafts. In order to further improve its high productivity, the company invested heavily in the most up-to-date equipment. On one occasion, the company sought an increase of £2 million (about £8 million in 2008 terms) in its overdraft to finance the import of new machinery, committing to the purchase on the basis of what the owner believed was a verbal ‘green light’ from its bank, the Midland. However, the increase was not forthcoming, the company breached its borrowing limits and the bank sought to appoint a receiver. On confirmation from OSO that Weldit stood on critical development paths and that several oil companies valued its services highly, the Bank of England (see pp. 116–117) intervened to prevent the receivership and found an alternative bank in Barclays. Under pressure from the bank and OSO, Cryne agreed to the employment of management consultants, professional managers and external equity. The extent to which this programme was ever fully implemented is unclear, but within a year or so of the ‘rescue’ Barclays had itself appointed a receiver.

At the time of its failure (1980), Weldit was heavily engaged on the construction of the platform jackets for BNOC’s Beatrice field. The work-in-progress was removed by Edinburgh entrepreneur, Steve Buxton from...
Weldit’s Scunthorpe works to a site using an itinerant labour force at Barrow-in-Furness, where under a highly ‘incentivised’ contract, it was completed early. With the profits generated from the contract, Buxton acquired the Arunta supply base at Peterhead, subsequently selling it on to ASco.

To the extent that OSO ever had a ‘chosen vehicle’, it was Vickers (see p. 140), whose activities for a time opened the possibility of British leadership in the fields of underwater engineering and floating/tethered production systems, seen from the late 1960s onwards as representing the long-term future of the offshore industry. It was not the only naval shipbuilder to diversify into the offshore industry. Yarrow, through its Y-ARD subsidiary and Vosper-Thorneycroft with David Brown Vosper Offshore (DBVO) also did so, but had narrower technology bases and never matched Vickers in importance.

Vickers had suffered severely at the hands of government policies in the 1960s and 1970s, not least from the contraction of the demand for traditional
armaments. It had also lost its steel making interests as a result of nationalisation. Government-induced rationalisations had eliminated its interests in computing while leaving it with a 50% stake in the British Aircraft Corporation (BAC). Nevertheless, it still entered the 1970s as one of the major elements of the British engineering industry, with extensive overseas interests. Its activities mostly fell within either its Shipbuilding or its Engineering Groups. It held, along with Foster Wheeler, an interest in a nuclear submarine propulsion system joint venture led by RR. There was also a corporate R&D unit, to which a contract R&D business (International Research and Development or IRD) was added.

Engineering Group had facilities across the UK whereas Shipbuilding had become very much Barrow-in-Furness focussed. At the start of the 1970s, the vast Barrow complex was all brought within the control of Shipbuilding’s management, which at much the same time acquired Slingsby, a glider manufacturer in North Yorkshire, with the intention of introducing its composite materials technology into submarines. Engineering meanwhile was nurturing a new business in medical equipment, with the intention of developing a major Vickers Medical Group.

While parts of Vickers took small incremental steps into the offshore industry, such as fabrication of heavy structural components at various locations and the supply of riser tensioning and heave compensating equipment for drill-ships from Brown Brothers, the main entry point was centrally initiated in the late 1960s, an event in which the author was personally involved. The period coincided with the initial development of the southern North Sea gas fields and U.S. navy’s ‘Sealab’ underwater habitat programme.

The writer brought to the attention of top management the possible opportunities arising from North Sea gas production for Vickers to enter what promised to be a growing new market, first in natural gas transmission equipment, an opening not pursued. The writer’s second attempt – offshore and underwater engineering where there was a strong existing technology base, particularly submarine building and life support systems – was more favourably received. It resulted in the formation of an intra-Group working party. This never proceeded very far because Sir Leonard Redshaw, Shipbuilding’s managing director at the time, evidently decided that any new venture in this field would be entirely within his Group. This was a decision difficult to dispute, as Shipbuilding then operated with a very high degree of autonomy. It was the principal profit contributor to Vickers, largely as a result of its prime contractor role in the ‘Polaris’ nuclear submarine programme. Dependent on U.S. technology, the vessels were extremely sophisticated for the time and gave access to advanced underwater navigation and positioning systems and ‘state of the art’ project management techniques.

Having left Vickers in 1969, the writer had no further direct involvement with it for nearly a decade, but 1972 saw the launch of VOL, one of the first British ventures in oilfield subsea services. The IMEG Report (1972, pp. 80, 81, 91, 96) written in the same year made several generally favourable mentions
of VOL and recommended increased financial support. Two years later, Vickers executives gave a much fuller account of the venture as it then stood to the Select Committee (1974, Minutes of Evidence pp. 187–206). Like IMEG, the Select Committee was impressed by what it learnt. First, VOL had been founded with an initial capital of £1.9 million (nearly £15 million in 2008 terms) and a further £2.5 million (nearly £20 million in 2008 terms) had been approved; the initial ownership was Vickers 63%, NRDC 26.5% and James Fisher & Sons 10.5%). In these early years, VOL had been able to generate a regular income and obtain valuable operational experience by recovering torpedoes on a naval trials range. Though VOL’s progress might depend on the extent of government funding, it did not see NRDC as a further source of capital and indeed Vickers soon became sole owner.

VOL was then operating from bases in Barrow and Leith, three submersibles, built in Canada (Figure 5.7) by a company initially supported by Vickers, together with two ‘mother’ ships. Potential markets had been investigated by IMEG. As part of heavy on-going R&D expenditure, VOL was also proposing – in co-operation with Oceaneering International of the USA – to develop a ‘diver lock-out’ service based on a fourth submersible under construction in the USA. ‘Lock-out’ involved transporting a diver in saturation state to and from an underwater work-site by submersible, which also provided life support and

FIGURE 5.7 Pisces 2 VOL-operated Canadian-built submersible. Courtesy Mr. M. Byham.
diver observation. It was perceived as safer than surface support and somewhat less vulnerable to poor sea states.

In November 1972, the Minister for Aerospace and Shipping had invited Vickers to put forward suggestions for projects aimed at establishing a substantial role for British industry in support of offshore, particularly underwater, operations. The response had been three proposals.

Subsequently, one proposal (‘use of a nuclear power plant on the seabed’) had been abandoned. With respect to another, ‘laying and burial of pipes on the seabed,’ as a result of a positive report undertaken by CIB and BP, a proposal had been submitted to the Shipbuilding and Marine Technology Requirements Board (SMTRB) but evidently was not accepted. As far as the remaining proposal for ‘an underwater operations command ship’ was concerned, whereas Vickers was looking for a £2 million (over £19 million in 2008 terms) loan, an offer of only £350,000 to £500,000 was made, with unacceptable conditions attached. Vickers had decided to proceed on its own. It is probable that the vessel concerned was the conversion of the Vickers Voyager, for diver ‘lock-out’ service. The Vickers representatives noted that whereas DTI support could work effectively with small proposals, it was unable to respond to larger ones.

Finally, the Vickers representatives made it clear that Group activity in the offshore market was not confined to VOL. Shipbuilding Group itself was involved in design and development work on underwater equipment as an extension to its military submarine work. Engineering Group, Brown Brothers, IRD and Slingsby were also mentioned. The role of Slingsby in particular could well have been explained more fully. It was being developed as a specialist developer and builder of underwater vehicles based on composite material hulls, reliability-critical underwater components and systems and underwater communications. The representatives were probably unaware that BAC, an associate company of Vickers, was also developing an ROV.

Vickers did well in the first phase of northern basin construction, which peaked in 1976–1977, with VOL gaining credibility, particularly in pipeline route survey and inspection. In engineering design and R&D; an impressive client list was acquired, including BP, Shell, Esso and Statoil, as well as DEn and the EC. However, as the market contracted, the narrowness of the commercial business and the early stage of the venture, left Vickers very exposed. To a shrinking market were added problems of severely increased competition, with another British company, P&O Subsea, as well two French ones, Comex and Intersub, entering the market over a period of about 2 years.

The Vickers management also made some serious errors. It failed to recognise that new technological developments meant that the manned submersible market, with its high cost base, was unlikely to survive long. The cost-saving and safety advantages of the ROV and its great potential for technical advances were not accepted by senior management as a serious threat to manned submersibles, with grave consequences. The arrival of DP diving support vessels deploying their saturation divers from ‘state of the art’ bells showed them to
be more cost-effective than diver ‘lock-out’. Vickers found itself committed to the expensive conversion of the Vickers Voyager, which over-ran both in terms of time and budget, with little prospect of being able to trade out of a misjudged investment. Meanwhile, there was too little investment in other areas, such as survey equipment.

In 1977, to avoid their nationalisation, Vickers had placed its dedicated offshore interests into a separate VOEG, comprising:

- VOL – manned submersibles and support ships, Leith.
- Vickers Offshore Projects and Developments (VOPD), including Vickers Aker – designers and consultants, Barrow and London.
- Vickers Slingsby – manufacturer of aerospace and underwater equipment based on composite materials (Kirbymoorside).
- Vickers Underwater Pipeline Engineering (VUPE) – development company for deep-water pipeline repair (Barrow).
- Vickers Intertech – development company involved in encapsulation of subsea production equipment (Liverpool).
- Brown Brothers and Hasties – manufacturers of marine steering gear and drilling rig ancillaries (Leith and Greenock).

By 1977–1978, VOL was losing money heavily. There was no offsetting profit stream from the engineering activities, then mostly still in an early development phase. Overall, losses were running at about £7 million per annum (about £33 million in 2008 terms), see Smith (1982). The initial driving force of the business, Sir Leonard Redshaw had retired.

At the Group level, there was an even bigger problem to face – the loss of its two main profit earners, naval shipbuilding and heavy engineering at Barrow and the 50% interest in BAC due to their nationalisation in 1977, damage compounded by a delay to the compensation settlement. The weakened financial state of the parent provided some explanation of its subsequent increased risk-aversion.

Although Vickers had successfully prevented the nationalisation of its offshore activities, shipbuilding nationalisation had serious consequences. VOL was able to concentrate its activities at Leith and Slingsby remained in North Yorkshire. The balance of the business was mainly ‘marooned’ within the BS complex at Barrow, with its prospective heavy manufacturing capacity now in the ownership of a separate organisation. Inevitably, dealing with these problems diverted much management time from the market place and complicated issues like dealing with the UMC and TLP (see pp. 130–133).

There were also many changes in management. Indeed, poor management was an important component in the downfall of VOEG, with misjudgement of the market a particularly serious failing. By late 1977, it was clear to OSO that VOEG was in difficulty, leading to a meeting between the DEn’s PUS, the writer and the managing director and the deputy-chairman of the Vickers Group. While admitting that there were problems, Vickers expressed confidence
that they were manageable, declining an offer of help from the DEn. It emerged separately that an offer of investment by the NEB had also been rejected.

In April 1978, Vickers requested another meeting to advise OSO that the Vickers was quitting the offshore business, the manufacturing elements apart. This news posed an immediate and serious problem for OSO, since it meant the prospective loss of the most credible British contender in both underwater engineering and services and floating production. Moreover, the business had been the largest recipient of public sector R&D money in these fields.

The immediate OSO response was to provide a list of potential purchasers for the business or parts of it (Smith 1982). The list included, along with the state-owned NEB and BS, foreign as well as British companies, though all parties professed to favour a ‘British solution’. It did not include BP Ventures, of whose former interest in VOL (see p. 155) OSO’s management was unaware.

The eventual outcome was complex and time-consuming. Brown Brothers and Hasties were quickly transferred from VOEG to another part of the Vickers Group. VOPD was soon acquired by BS, where it did not in the long-term prosper. The fate of the other units depended on the outcome of negotiations between Vickers and the NEB (the only serious potential buyer). OSO was not party to these negotiations, although it did second a senior member of its R&D branch to the NEB as technical advisor, see (Smith 1982). One of his roles was to make NEB aware of the importance of including Slingsby, which Vickers wished to retain, in any deal since it was the ultimate repository of most of VOEG’s exploitable proprietary technology as well as having a sound ongoing business. Since Vickers was anxious to shed the heavily loss-making VOL (by now non-operational) and the R&D companies, it eventually agreed to relinquish Slingsby (Figure 5.8).

A new company, British Underwater Engineering Limited (BUE), was formed to acquire most of the remaining activities, although VUPE was not initially included due to the interest of Weldit. BUE’s initial owners were the NEB (89%), B&R (10%) and Wharton Williams (1%). The initial capital of BUE was £6 million (about £22 million in 2008 terms), with an undertaking that this would be doubled as expansion opportunities became available. The capital structure was very complicated and provided for Wharton Williams to ‘earn’ a 24.5% stake; B&R had an option to acquire a further 14.5% stake from the NEB (Smith 1982).

The presence of B&R reflected NEB’s perception that it needed a partner already well established in the offshore industry. OSO was given no opportunity to put forward UK alternatives. At the time, OSO viewed the involvement of Wharton Williams positively, as means of providing a link with the diving sector (then about 80% of the underwater services business) through the 2W joint venture, although 2W had close commercial links with Intersub, a French manned submersible operator. The NEB appointed Ric Wharton of Wharton Williams as BUE’s first chairman and gave his company a management contract, with B&R also seconding management personnel (Smith 1982).
By the end of 1979, it was clear that the initial arrangements were unworkable, principally due to conflicts of interest. The NEB consequently bought out Wharton Williams.

In mid-1980, having left OSO earlier that year, the writer became Chairman of BUE, in a general management restructuring. The future development and eventual demise of BUE is dealt with in Chapter 7.

These events did not entirely eliminate Vickers from offshore industry activity, which continued in both manufacturing and in engineering design. More important was the dispersal of the former Barrow labour force, at the time one of the most specialised and highly qualified groups of subsea engineering specialists in the world. Some left the industry but many took advantage of high
demand for their skills from oil companies, engineering consultants and designers (including those in Norway), often rising to senior positions. Others became entrepreneurs, the Vickers restructuring ‘eventually produced no less than 20 specialised companies serving the offshore oil and gas industry’ based in the Barrow area (Cross 1986, p. 2).

A dozen or so such companies, some very small and not all located in or near Barrow, are identified above in Table 5.3 Some did not survive long, but the Barrow area has remained an important centre of specialist subsea oil and gas industry expertise.

<table>
<thead>
<tr>
<th>Company</th>
<th>Activity</th>
<th>Key Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas-Westwood</td>
<td>Market research consultancy</td>
<td>John Westwood</td>
</tr>
<tr>
<td>Furness Underwater Eng.</td>
<td>Subsea engineering</td>
<td>Peter Redshaw</td>
</tr>
<tr>
<td>HMB Subwork</td>
<td>Underwater services</td>
<td>Peter Messervy</td>
</tr>
<tr>
<td>Hoad Design</td>
<td>Subsea and specialist design</td>
<td>Kevin Hunt</td>
</tr>
<tr>
<td>Mentor Engineering Conslt</td>
<td>Subsea production system design</td>
<td>David Pridden</td>
</tr>
<tr>
<td>Orcina</td>
<td>Specialist subsea consultancy</td>
<td>Mike Isherwood</td>
</tr>
<tr>
<td>Orcina Cable Protection</td>
<td>Cable and flexible pipe protection</td>
<td>Orcina spin-out</td>
</tr>
<tr>
<td>Remote Marine Systems</td>
<td>Subsea connectors and robotics</td>
<td>Gordon Robertson</td>
</tr>
<tr>
<td>RUMIC</td>
<td>Underwater services</td>
<td>Roger Chapman</td>
</tr>
<tr>
<td>Subsea Surveys</td>
<td>Underwater services</td>
<td>Roger Chapman</td>
</tr>
<tr>
<td>System Technologies</td>
<td>Underwater sensors and tools</td>
<td>Marcus Cardew</td>
</tr>
<tr>
<td>Tronic</td>
<td>Underwater electrical connectors</td>
<td>John Alcock</td>
</tr>
<tr>
<td>Ulvertech</td>
<td>Underwater acoustic equipment</td>
<td>George Colquhoun</td>
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