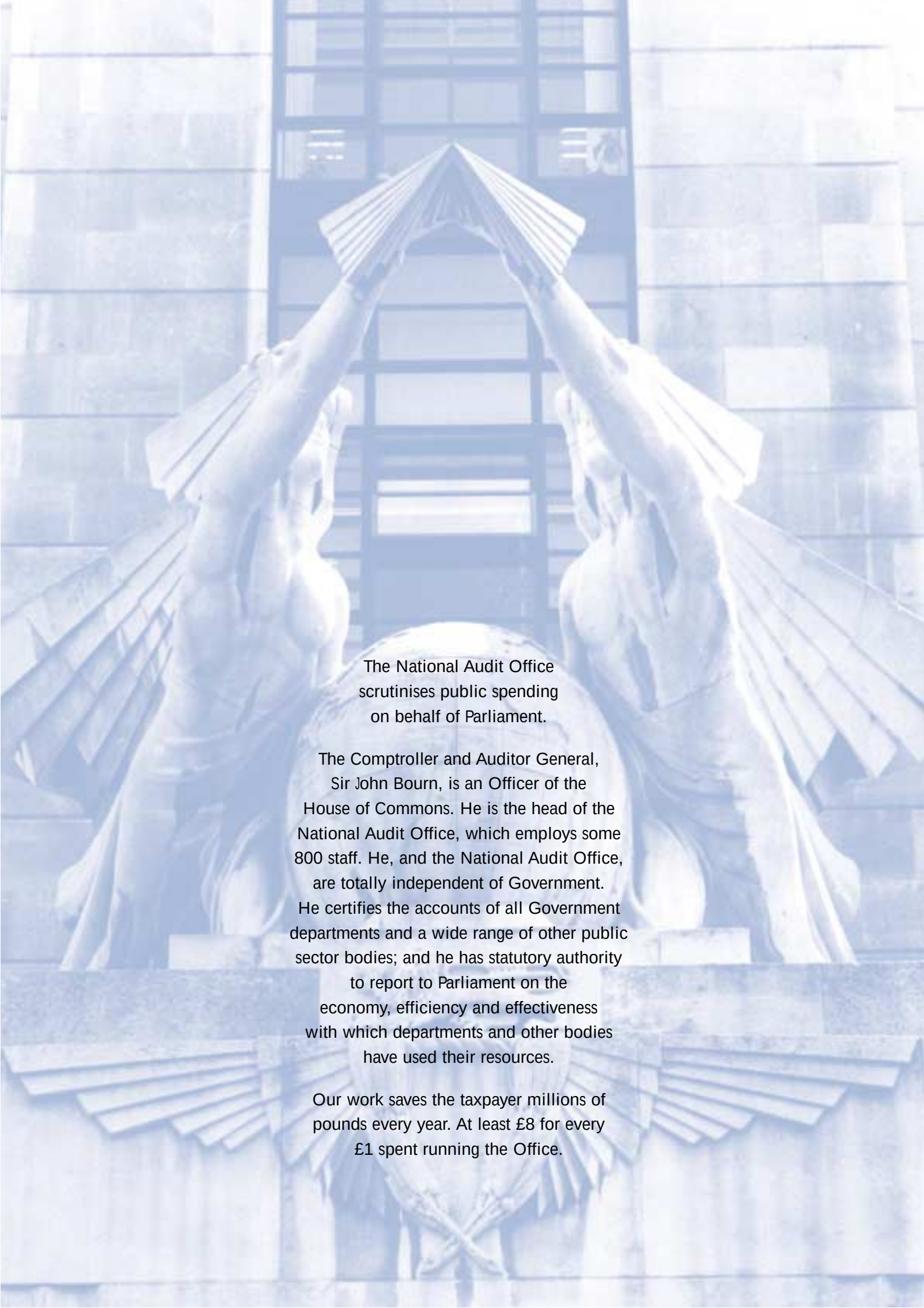
NATIONAL AUDIT OFFICE

Risk Management:
The Nuclear Liabilities of British Energy plc

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 264 Session 2003-2004: 6 February 2004



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John Bourn
Comptroller and Auditor General

National Audit Office
27 January 2004

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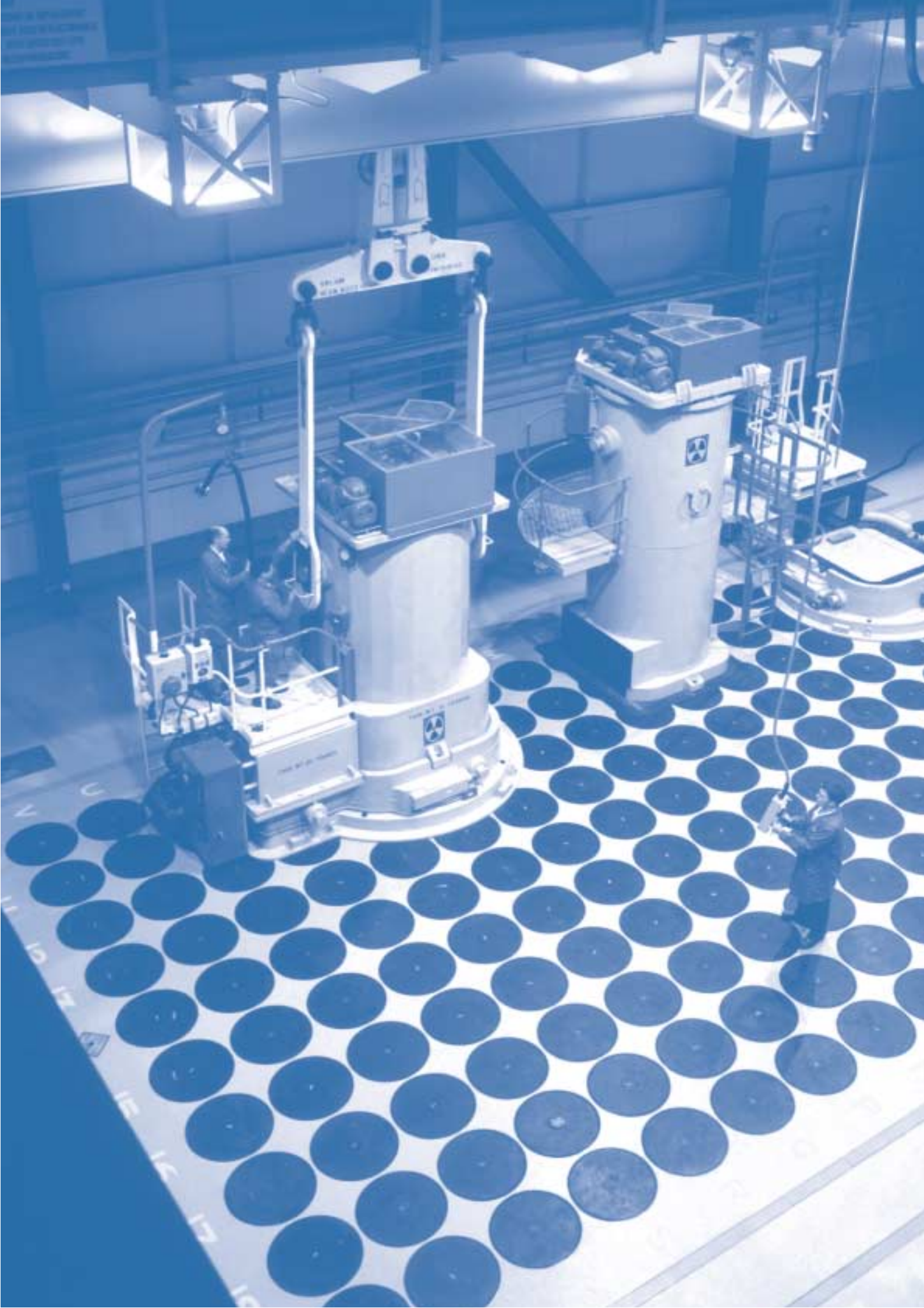


Summary

1 British Energy is the largest electricity generator in the United Kingdom, with an annual turnover of over £2,000 million. Its eight nuclear stations generate approximately 20 per cent of the electricity used in England & Wales and half of that used in Scotland. The Company was privatised in 1996, raising £2.1 billion through a public flotation. The privatisation required British Energy to discharge its nuclear liabilities from its own resources. However, the Government is ultimately responsible for ensuring the safe management or disposal of spent nuclear fuel and for decommissioning stations.

2 A Report on the privatisation by this Office recognised that the Department created British Energy as a robust company, obtaining a high degree of assurance that British Energy would have the capacity to meet its nuclear liabilities, in the electricity market of that time. Nevertheless, that report and one by the Committee of Public Accounts raised concerns about the taxpayer's potential exposure to British Energy's large nuclear liabilities, and recommended that the Department monitor carefully the Company's ongoing ability to meet its liabilities in full without recourse to the taxpayer.[1] The Department said in response that it recognised the need to monitor these risks.

3 In September 2002 the Directors of British Energy declared that the Company was no longer clearly able to meet its liabilities, and the Government granted the Company a credit facility of up to £410 million to provide working capital for its immediate requirements and to allow it to stabilise its trading position. In October 2003 British Energy formally agreed a restructuring deal with its key creditors and the Government. The deal will only be implemented once a number of conditions are met, including approval from the European Commission, which enforces European Union restrictions on state aid to industry.

4 This report follows up our earlier report into the sale of British Energy. It covers the role of the Department for Trade and Industry in the period from privatisation in 1996 up to 5th September 2002. We intend to produce a further report on the advance of emergency aid and the terms of the restructuring of British Energy once that restructuring is completed.

1 *The Sale of British Energy HC 694 Session 1997-98 8 May 1998. And Committee of Public Accounts, HC 242 1998/99.*

5 The key question that this current report addresses is whether the Department effectively and in a timely manner: identified, monitored and managed the risks posed to the taxpayer by British Energy's nuclear liabilities. Our examination has shown that the Department clearly identified the risks at the time of the privatisation. The Department subsequently conducted limited evaluation of changes in the nature and scale of the risk; some of which resulted from action by the Department and other parts of government. The Department did not seek to manage the changing risk actively. The Department considers that following the transfer of British Energy's liabilities to the private sector, responsibility for these liabilities rested with the Company.

6 Whilst the Department retained residual contingent risks, it believes that it had no direct way to manage risks arising from the performance of a privatised company, and that to have tried to do so would have been in conflict with its commitments to fair markets and competition in the electricity markets. The Department believed that unless the Company qualified as 'a firm in difficulty' under European state aids regulations any financial intervention would be illegal under the rules. The Department also felt constrained by its uncertainty, shared by private sector investors and analysts, about the real extent of the Company's financial problems.

Risks to the taxpayer heightened soon after privatisation

7 The wholesale electricity market at the time of privatisation was much more favourable to generators like British Energy than is the present market. Following privatisation several significant changes took place in the electricity market in England & Wales, leading to a collapse in the level of prices received by generators from early 2000. Several of these changes had been sponsored by the Department, in line with Government policy to introduce greater competition into the electricity market for the benefit of consumers. The Department did not specifically evaluate the effect on British Energy and British Nuclear Fuels plc of major changes in the electricity industry when gathering information on the likely impact of these changes on the nuclear sector. The Department considered that price reductions of "at least 10-15 per cent" were likely, but in the event prices reached their nadir at levels some 40 per cent lower than in the previous market, a reduction not anticipated by most other commentators. Though British Energy could have coped with reductions of 10-15 per cent, it found it impossible to reduce its generating costs enough to survive the greater price falls.

8 British Energy itself did not respond effectively to the market changes. The Company had in 1997 agreed contracts with British Nuclear Fuels plc, that whilst resulting in an overall reduction of fuel management costs continued to commit it to paying prices for reprocessing its fuel linked to the Retail Prices Index, irrespective of the level of electricity prices. In 1999 it tried to acquire a large enough retail supply business to enable it to sell on most of its electricity to domestic customers. But this move towards vertical integration was too late, and with income deteriorating the strategy was quickly abandoned, whilst incomplete, leaving the Company to sell its electricity in a fiercely competitive open market. Its relatively successful ventures in North America failed to compensate for mounting losses in the core UK business. The Company reduced the payment of dividends to its shareholders from 2000, but continued to pay dividends until as late as July 2002 in order to avoid sending a negative signal to the stock market which might have precipitated a collapse in its share price.

The Department did not seek to manage the risk

9 Since privatisation the Department has had to balance three distinct roles in relation to British Energy. As the Department responsible for the electricity industry it works, with the industry regulator Ofgem, to maintain a competitive energy market for all generation and supply companies, while achieving safe, secure and sustainable energy supplies for consumers. It also accounts for nuclear safety and security to Parliament. It also had to consider what, if anything, it could do to minimise the risk that British Energy's nuclear liabilities might revert to the taxpayer as a result of British Energy becoming unable to meet its obligations. The Department considers that to have treated British Energy any differently from other electricity companies would have run counter to its objective of maintaining free and competitive markets. It was also cognisant that preferential treatment of British Energy could be vulnerable to complaints from its competitors, or to action by competition authorities in the UK or Europe.

10 A number of teams within the Department's Energy Group had responsibility for these roles. Issues relating to the safety and security of nuclear stations, and to the Segregated Fund for decommissioning them lay with the Department's Nuclear Industries Directorate. This branch was also responsible for the management of the relationship with British Nuclear Fuels plc, the Government-owned company to which British Energy was committed for providing and dealing with its Advanced Gas-cooled Reactor fuel. Separately the Electricity Directorate was responsible for electricity markets and for liaising with electricity companies including British Energy. Responsibility for issues relating to the closure of stations and fuel treatment straddled these Directorates.

11 The Company first approached the Department with concerns over its future in Spring 2000. In January 2001 the Department increased the extent of monitoring. Not until early 2002 was any single team within the Department given defined responsibility, with a specific brief, as risk manager in respect of British Energy's 'residual liabilities'. By then most of the key decisions which had contributed to the deterioration in the Company's finances had long been taken and implemented, and were hard to reverse. In any case, the Department takes the view that, for the reasons given above, it would not have sought to favour British Energy in making policy decisions in areas for which it was responsible.

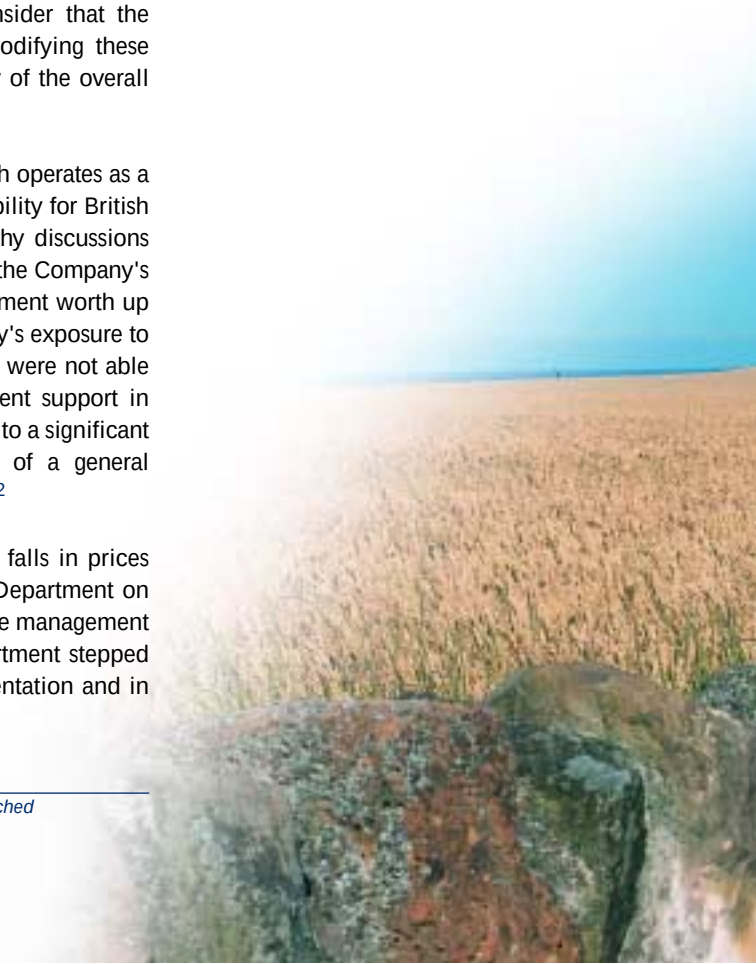
12 The Department's risk management role in respect of British Energy's nuclear liabilities was a particularly challenging one for it to discharge. Given its relationship with this fully privatised Company, and Government policy objectives of a fair and competitive electricity market, it found it difficult to evaluate and mitigate properly the changing risks to the taxpayer. It had neither tools of the sort that private sector institutions like banks would use in such situations, such as formal rights of access to information, nor rights of the sort incorporated in the design of more recent Public Private Partnerships where the taxpayer retains residual risks. Also, the policies and actions of many public bodies have an effect on British Energy's business and finances. The most important such bodies are:

- **Ofgem**, which, with the Department, designed and implemented the changes to the electricity generation market and now oversees its continuing operation. Ofgem's principal duty is to protect consumers;
- **HM Treasury**, which has policy responsibility for the Climate Change Levy, an energy tax that British Energy claimed was unfairly applied to its greenhouse gas-free nuclear generation;
- **the Office of the Deputy Prime Minister**, which leads policy on business rates. British Energy believed that the rateable values applied to its stations were unfair in comparison to other generators; and
- **the Nuclear Installations Inspectorate of the Health and Safety Executive**, which regulates the safe operation of nuclear installations, which worked increasingly closely with the Department from 2002 to develop an action plan for continued safe operation of the stations in the event that British Energy became insolvent.

The Department, in discussions with these other agencies whose policies affected British Energy, did not specifically draw their attention to the risks posed to the taxpayer by British Energy's nuclear liabilities. The Department took the view that British Energy had been created as a robust company operating in the private sector, which was able to meet the cost of discharging its nuclear liabilities. As such, the Department does not consider that the existence of these liabilities would have been grounds for modifying these policies to benefit British Energy at the expense of the integrity of the overall market structure.

13 British Nuclear Fuels plc is a Government owned business, which operates as a fully commercial company. The Department has policy responsibility for British Nuclear Fuels plc. British Nuclear Fuels plc entered into lengthy discussions with British Energy on the terms of its contracts for reprocessing the Company's fuel. Discussions centred on a 'contracts for differences' arrangement worth up to £180 million to British Energy, which would limit the Company's exposure to low prices in the electricity market. In the event, the companies were not able to reach agreement, before British Energy called for Government support in September 2002. British Nuclear Fuels plc felt it should not agree to a significant revision of its contracts with British Energy in the absence of a general restructuring of British Energy to which all creditors contributed.[2]

14 From early 2000, when the likelihood of severe and sustained falls in prices became apparent, interaction between British Energy and the Department on the risks to the Company's solvency tended to be instigated by the management of British Energy, in the form of pleas for assistance. The Department stepped up its monitoring, relying mainly on publicly available documentation and in

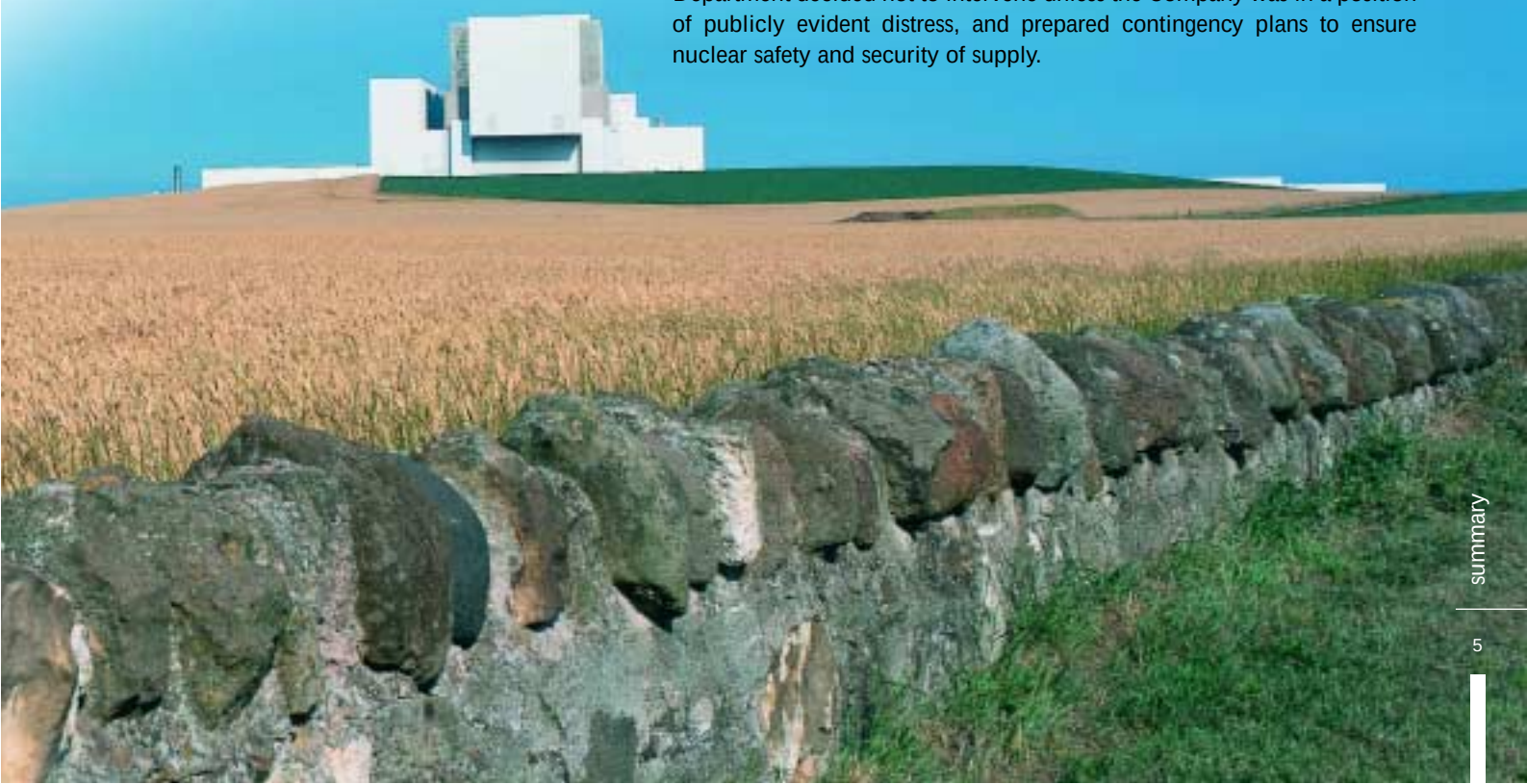


2 The overall gap in the Company's finances was £280 million at the time it approached the Government.

2001, taking discrete pieces of advice from its advisers, Credit Suisse First Boston. But until early 2002 the Department did not look inside British Energy itself to help it determine whether the Company was in as severe straits as it claimed. Following discussions in early 2002, the Department accepted the Company's invitation for its advisers to examine the management accounts and other relevant records. The advisers' examination showed that the Company was highly vulnerable and could breach its financial covenants. Throughout this period the Company continued to make dividend payments. From March 2002, the Department's strategy was to avoid assisting British Energy unless it was in publicly evident distress, consistent with the government's policy not to intervene to assist individual private sector companies. Another major factor in the Department's decision to await events was the wish to reduce the risk that early Government intervention would be judged to be an illegal state aid by the European Commission.

15 The Department's management of the financial risks, to the taxpayer, from British Energy's nuclear liabilities evolved during three main phases:

- The period between privatisation and early 2000, when the Company appeared to be prospering but when the causes of its subsequent financial decline were in fact being put in place. During this phase the Department liaised with British Energy as it did with other electricity companies and its monitoring of the company tended to focus on its contribution to the Nuclear Generation Decommissioning Fund and nuclear regulatory issues. The National Audit Office considers that at this time the Department's monitoring of British Energy's ability to meet its nuclear liabilities was conducted with a light touch. The Department considers that monitoring was proportionate given the apparent success of the privatised Company during the period;
- The period from Spring 2000 to early 2002, when the Department, uncertain in the face of mixed messages from the Company therefore increased its monitoring of the risks, trying to understand the real extent of the Company's difficulties from outside, and decided to "wait and see"; and
- The period from March to September 2002, when the Department's advisers having for the first time looked inside British Energy, advised that given recent falls in electricity prices, it was indeed highly vulnerable. The Department decided not to intervene unless the Company was in a position of publicly evident distress, and prepared contingency plans to ensure nuclear safety and security of supply.



Recommendations

There are a number of lessons from this report that departments should learn to improve the way in which they handle privatisations where there are significant ongoing liabilities to the taxpayer, and the ongoing arrangements they make to manage these risks. The recommendations are consistent with previous National Audit Office Reports on risk management, and with the principles of the new Risk Management Assessment Framework that government departments have begun to apply[3].

1 Departments should ensure that their risk management plans and processes include the full cycle of proactive activities: risk identification, evaluation of the probability and impact of risks, risk mitigation, monitoring and review. They should recognise that all stages are required for an effective risk management system.

2 Where the UK has signed up to international treaties that create onerous financial obligations, performance of the obligations should be subject to formal risk management procedures. Risk assessments should include risks to the achievement of these obligations and to the taxpayers' financial interest.

3 In such cases, departments should designate a senior individual or post holder as the responsible risk manager, to ensure that responsibility is clearly allocated and effectively discharged.

4 In future transactions where performance of an obligation on Government is to be transferred to the private sector, or where there are potentially significant contingent taxpayer liabilities, departments should consider arrangements for the provision of, and access to, information on a timely basis, ideally through a written memorandum of understanding.

5 The case of British Energy shows that departments designing privatisations where the taxpayer will remain exposed to significant residual contingent liabilities need to consider very carefully whether such risks are likely to be better managed in the private sector.

6 If departments nevertheless proceed with privatisations where there are such significant contingent taxpayer liabilities, they should consider how far they might institute arrangements analogous to those that apply in the private sector, where firms are required to keep up to date, and periodically submit to their financial guarantors, such as banks, financial projections which demonstrate the firm's continued viability.

7 Risk Management in Government could usefully be focused on aspects that Government is most able to influence, such as the effects of major policy initiatives. The consequences of major regulatory changes can be wide-ranging, as the New Electricity Trading Arrangements and the widening of competition have shown. In making use of regulatory impact assessments for forthcoming policy initiatives, departments should, as far as possible, analyse potential significant consequences for the taxpayer. Their assessments should, where appropriate, identify possible risks to the achievement of other government objectives.

8 The Shareholder Executive, established within the Cabinet Office in 2003, should, as planned, be fully consulted in future privatisations and, where appropriate, should give advice on ongoing monitoring arrangements where the taxpayer is exposed to risk.

9 Departments undertaking privatisations should consider, on a case by case basis, whether it would be appropriate for mandatory taxpayer liabilities to have first call on the company's funds in the event of the business finding itself in financial difficulties.

3 National Audit Office HC864 Session 1999-2000, 17th August 2000. Risk Management Assessment Framework HM Treasury, June 2003.

Part 1

The privatisation of British Energy left the taxpayer exposed to some important risks

Nuclear generation poses particular risks ultimately falling to the taxpayer

International treaties place nuclear safety obligations on the Government

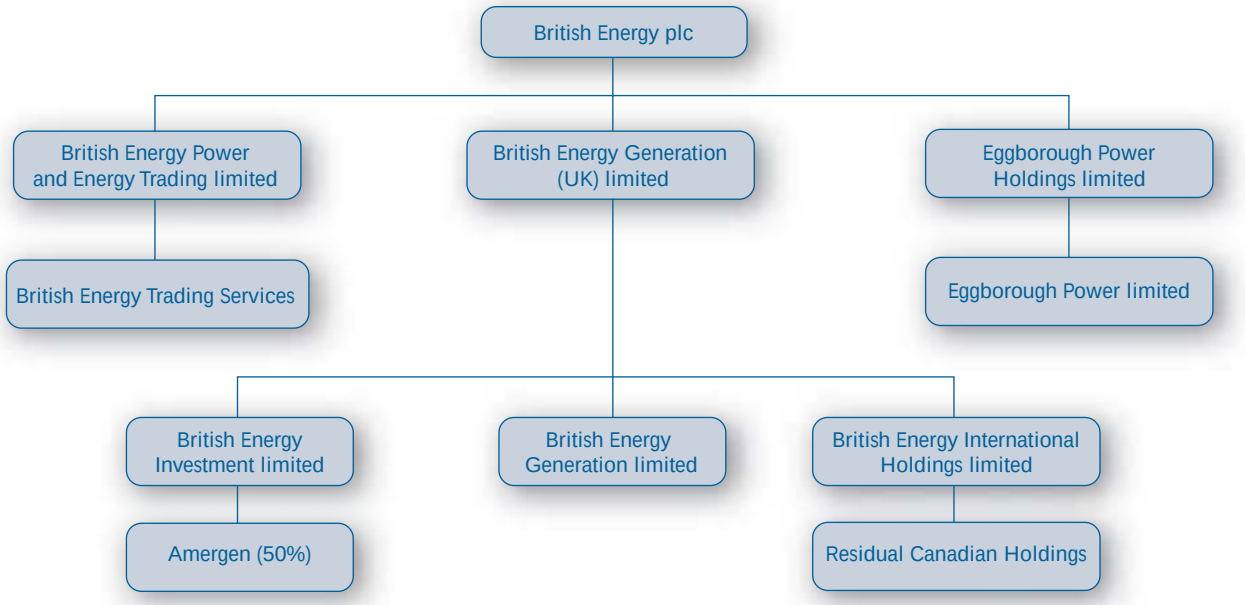
1.1 The United Kingdom is bound by the provisions of the Euratom Treaty 1957 which places health protection obligations on Member States in respect of nuclear sites. In particular, each Member State must make provision for the disposal of radioactive waste. The United Kingdom is also a party to international conventions[4] which place obligations on the State for securing the safety of nuclear installations and of management (or disposal) of radioactive waste and spent fuel. International law requires that, if the State is not to breach its international obligations, it must bear the responsibility (and implicitly meet the costs) in circumstances where no party under its domestic law[5] can discharge those obligations, in this case in respect of nuclear safety.

British Energy plc operates several nuclear sites covered by the Euratom Treaty

1.2 The operations of British Energy's main operating subsidiaries **(see Figure 1)** encompass British and international businesses. British Energy Generation

1 Energy's business is conducted by operating subsidiaries

British Energy plc acts as a holding company for several operating subsidiaries.



NOTE

British Energy sold its stake in Amergen in December 2003.

Source: Department of Trade and Industry

4 *The Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.*
5 *The Nuclear Installations Inspectorate, part of the Health and Safety Executive, licences the operation of Nuclear Installations under the Nuclear Installations Act 1965.*

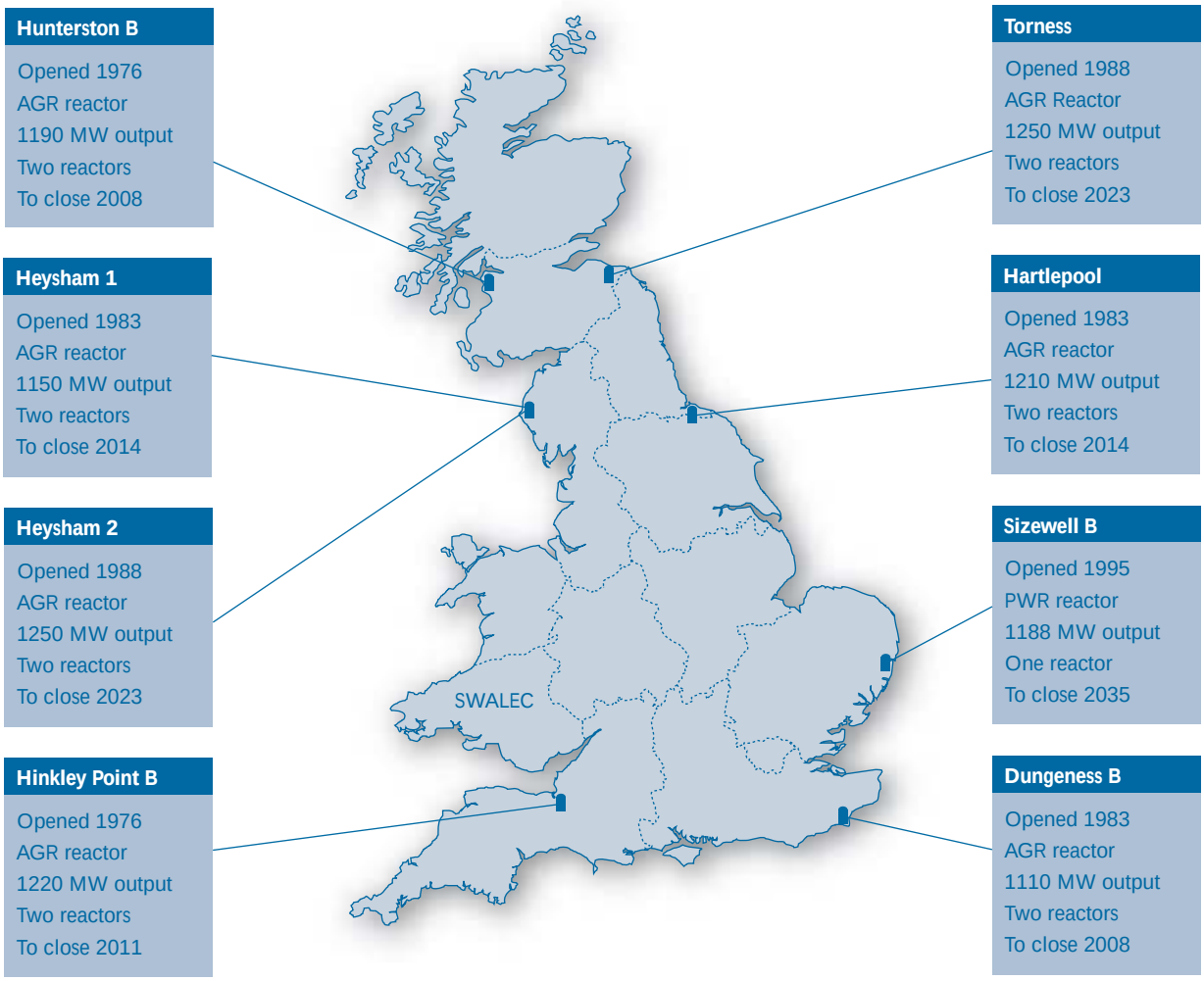
Limited owns and operates nuclear power stations in England. British Energy Generation (UK) Limited owns and operates nuclear power stations in Scotland. Their eight stations, located across Great Britain **(see Figure 2)**, are covered by the Euratom obligations above. In addition British Energy has a number of other subsidiaries, including a coal-fired station at Eggborough and international assets. It also owns British Energy Power and Energy Trading limited, which has the task of marketing and selling all of British Energy's UK electricity and managing its market risks. British Energy also supplies a portfolio of industrial and commercial customers in the retail market.

British Energy's stations are a significant source of electricity in the United Kingdom

1.3 The Office of Gas and Electricity Markets (Ofgem) is a non-ministerial Government department with responsibility for regulating the electricity industry and has a primary duty to protect the interests of consumers. Amongst other things, together with the Department, it has a responsibility for security of supply, which encompasses many issues. The wholesale electricity market in England and Wales is designed to ensure that there is sufficient generation capacity against demand, with the National Grid Company

2 British Energy's nuclear power stations

British Energy operates six nuclear power stations in England and two in Scotland.



Source: Electricity Association

playing an important balancing role. The surplus of generation capacity above the forecast peak demand is known as the capacity or plant margin, and is intended to cover plant being out of service as well as unexpected demand. In 2002/03 England & Wales had a plant margin of 20 per cent[6]. Also important is reducing reliance on one fuel source or technology. Having a number of different supply types is known as fuel diversity. Nuclear fuel is one of the three main primary fuels used for power generation **(see Figure 3**).

1.4 British Energy is the largest electricity generator in Great Britain. Currently in Great Britain there are two separate, though interconnected, markets for electricity: Scotland and England & Wales. British Energy's nuclear stations account for around 13 per cent of the declared net generating capacity in England & Wales. These stations generate approximately 20 per cent of the electricity used in England & Wales. British Energy's two Scottish stations generate 50 per cent of the electricity used in Scotland. At certain times, particularly at night or in summer, they produce a large proportion of all of the electricity used in Great Britain. In addition several of British Energy's stations are located at key points on the national grid, where they perform an important role in ensuring that National Grid Company[7] can maintain the integrity of the system.

1.5 The plants currently owned by British Energy therefore make an important contribution to security of supply. A sudden unexpected closure of all its stations, for any reason, would result in a severe generation shortfall particularly over winter months. In the short term this could result in power cuts across the country on most days across the majority of the day. This would continue for several months until such time as additional generation could be brought back into service, and / or demand reduced through higher prices in the market. A slower programme of nuclear station closure, spread over several months, would also have implications for the electricity market depending on the scope and location of closures and the extent to which wholesale electricity prices would encourage activation of replacement capacity.

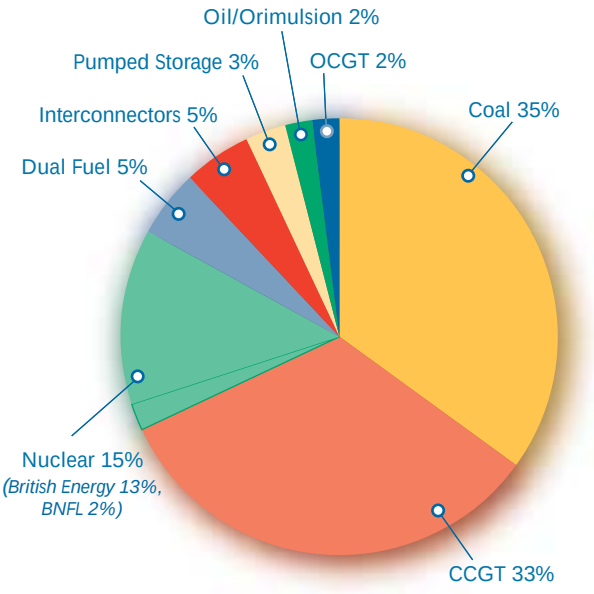
The risks were present at the time of privatisation

The privatisation of nuclear stations did not occur until 1996 because the Government believed the private sector was unwilling to take on unquantified nuclear risks

1.6 In 1989 uncertainties about the size and cost of nuclear liabilities, and hence about the commercial value of the industry, led the then Government to withdraw nuclear power from the privatisation of the rest of the electricity generating industry. The Government subsequently reviewed the future of the nuclear power industry. They wished to privatise as much as possible of the industry while ensuring that responsibility for meeting all the nuclear liabilities associated with privatised assets would pass to the privatised industry. The review, published in 1995[8], drew the following main conclusions:

3 In 2002 electricity generation in England and Wales used a variety of fuel types

Coal, natural gas and nuclear were the three main fuels used to generate electricity in England and Wales in 2002.



NOTE

Plant connected to the transmission system.

Source: National Grid Seven Year Statement 2002. October Update

6 *The amount by which the total installed generating plant (including the capacity of interconnectors to other countries, but excluding any mothballed generating plant) exceeds the peak demand, expressed as a percentage of the net amount of the weather corrected peak demand. The plant margin varies as less economic power stations are either mothballed or returned to service.*

7 *National Grid Company, a subsidiary of National Grid Transco plc, is licensed to operate the national electricity transmission grid as a regulated monopoly. The licence requires it to maintain the system voltage and frequency within specified limits, which requires all power stations to operate in a co-ordinated fashion and constrains the operation of some stations.*

8 *The Prospects for Nuclear Power in the United Kingdom (Cmd 2860).*

- the older 'Magnox'[9] power stations had too short a remaining life to generate sufficient revenues to cover their liabilities and could not be privatised. These stations were later transferred to state-owned British Nuclear Fuels plc;
- the newer reactors could generate sufficient revenues to cover their liabilities, and therefore had a commercial value which could be realised by creating and privatising a new company, British Energy; and
- the best way both to ensure and to demonstrate that enough money would be available at the right time from the private sector to pay for the decommissioning of British Energy's power stations, would be to require British Energy to set aside money, year by year in advance, in an independent trust fund (the Nuclear Generation Decommissioning Fund)[10].

British Energy's nuclear liabilities were quantified as part of the privatisation process

1.7 Nuclear liabilities arising from power generation fall broadly into two categories:

- The treatment and disposal of spent nuclear fuel (fuel-related liabilities); and
- The decommissioning of the nuclear power stations (decommissioning liabilities).

Nuclear waste, frequently identified as a third category, arises both from the treatment and disposal of fuel and from nuclear site decommissioning. In British Energy's case nuclear liabilities resulting from the operation of its stations were quantified as part of the privatisation process **(See Figure 4)**.

1.8 British Energy spends approximately £400 million per annum on nuclear fuel and spent fuel management services, which includes payment for historic spent fuel. Under normal use nuclear fuel rods can last for five years. Spent nuclear fuel remains radioactive and hence requires safe management for a long time after use. The nuclear site licensees retain a liability for the treatment and disposal, or safe storage, of spent fuel. In the United Kingdom, most spent fuel will either be stored or reprocessed under contracts between British Energy and British Nuclear Fuels plc. Following privatisation these contracts were renegotiated in 1997 resulting in an overall reduction of spent fuel management costs for British Energy. The fixed prices paid by British Energy to British Nuclear Fuels plc under these contracts are escalated in line with the Retail Prices Index.

1.9 Backend fuel costs are the costs associated with the treatment and disposal of spent nuclear fuel. In the Advanced Gas-cooled Reactors spent fuel extracted from the reactors is sent for reprocessing and/or long-term storage and the resulting waste products are eventually disposed of. At Sizewell B, a Pressurised Water Reactor, back-end fuel costs are based on wet storage in station ponds followed by dry storage and

4 British Energy's nuclear liabilities

British Energy took responsibility for nuclear liabilities at privatisation.

	As At 31 March 1996		
	Undiscounted £bn	Discounted £bn	Accrued £bn
Back end fuel costs *(paragraphs 1.8-1.10)*			
- reprocessing and storage of spent fuel and related by products	8.4	4.6	2.8
- management of intermediate and high level waste.	1.4	0.3	0.2
Back end fuel costs	9.8	4.9	3.0
Decommissioning *(paragraph 1.11)*			
- station decommissioning	3.4	0.6	0.6
- management of intermediate and high level waste	0.8	0.1	0.1
Decommissioning	4.2	0.7	0.7
Total	**14.0**	**5.6**	**3.7**

Source: National Audit Office

9 *See Glossary at the end of this report.*

10 *British Energy's two nuclear operating subsidiaries, British Energy Generation limited and British Energy Generation (UK) limited, are the actual nuclear site licensees and responsible for funding nuclear liabilities. For convenience this report refers to British Energy, which guarantees these obligations, as the licence holder.*

subsequent direct disposal of fuel. The costs comprise the estimated cost of these processes discounted back to current value in respect of both the amount of irradiated fuel burnt and an appropriate proportion of un-burnt fuel which will remain in the reactors at the end of their lives. All backend fuel costs, other than for un-burnt fuel at shutdown, are charged to British Energy's profit and loss account in proportion to the amount of fuel burnt. These fuel liabilities are not covered by the Nuclear Generation Decommissioning Fund, which is for decommissioning stations.

Following the privatisation of British Energy, which raised £2.1 billion, the private sector was expected to meet the liabilities

1.10 The privatisation process required the establishment of a segregated fund to meet British Energy's Stage 2 and 3 decommissioning costs. The purpose of this fund, the Nuclear Generation Decommissioning Fund, is to provide a secure source of finance to meet these liabilities **(See Figure 5)**. British Energy is the sole contributor to the Fund, and is scheduled to make its final contribution in 2035, with the closure of the newest reactor, Sizewell B. Once the power stations have ceased to operate, and British Energy begins to decommission its nuclear sites, the Fund will reimburse British Energy for the costs incurred after de-fuelling has occurred. British Energy makes regular quarterly payments to the Fund. Up to September 2002 British Energy had paid £114 million into the Fund[11]. Although the Nuclear Generation Decommissioning Fund trustees do have the right to demand an acceleration of payments due before the next scheduled review date, in the event, or threat of insolvency at British Energy, no alternative arrangements for funding any shortfall in the Nuclear Generation Decommissioning Fund exist.

The Department analysed the risks at the time of privatisation

The risk of British Energy's liabilities returning to the Government was explicitly identified in National Audit Office and Public Accounts Committee reports.

1.11 The National Audit Office 1998 report on the sale of British Energy[12] expressed concern about the possibility of nuclear liabilities returning to the taxpayer. The report made four recommendations:

- because the arrangements made for British Energy to bear responsibility for meeting their nuclear liabilities cannot remove all residual risk that future Governments may have to meet some of these costs, the Department should ascertain and make clear how it intends to keep any residual risk under review and, in particular, consider the case for retaining the power over the disposal of nuclear plant provided by their Special Shares beyond their earliest date for redemption in 2006;
- the Trustees of the Nuclear Generation Decommissioning Fund, during the course of five-yearly reviews of the adequacy of the Fund's arrangements[13], should make full use of the powers open to them to review the financial and technical appraisals underlying the funding plans made by British Energy;
- in carrying out nuclear site licensing duties involved in their five-yearly reviews of British Energy's decommissioning strategies, the Nuclear Installations Inspectorate should continue to pay close attention to British Energy's arrangements for providing funding to meet its decommissioning liabilities; and

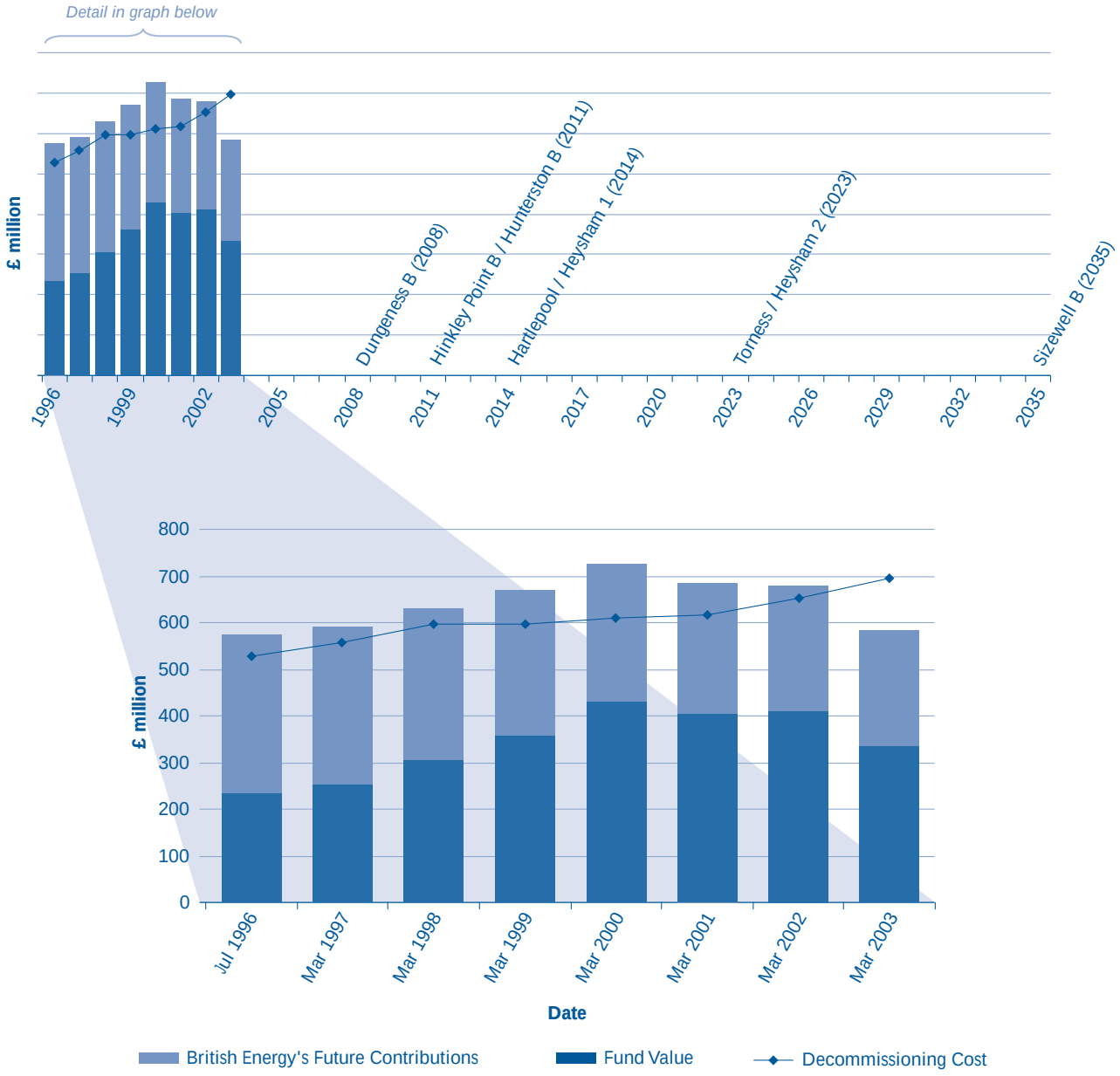
11 *The Nuclear Generation Decommissioning Fund arrangements provide for a quinquennial review. The first review was conducted in 2001. A summary of the review's conclusions can be found at www.ngdf.info. The next review is in 2006. If the fund's value were to be insufficient to meet its obligations, then British Energy's contribution level would be amended accordingly. The NDF trustees do have the right to demand an acceleration of payments due before the next scheduled review date in the event, or the threat of, insolvency. The fund received an initial endowment of £228 million at the time of privatisation in recognition of the liabilities accrued in public ownership.*

12 *The Sale of British Energy HC 694 Session 1997-98 8 May 1998.*

13 *As was set out in the Government policy document: 'Review on Radioactive Waste Management Policy: Final Conclusions' CM 2919.*

5 The Nuclear Generation Decommissioning Fund was set up to provide for long-term decommissioning liabilities

The fund was invested in equities, property and index-linked gilts.



NOTE

The dates in brackets refer to the anticipated closing dates of British Energy's eight nuclear power stations.

The Nuclear Generation Decommissioning Fund relies on British Energy's future contributions and investment returns to meet its liabilities.

Though the recent fall in equity values has reduced the current market value of the fund, its liabilities are some years off.

Fund Value shows the actual year end value of the fund including received contributions and investment returns.

British Energy's Future Contributions is the present value of the remaining contributions due in the future under the Decommissioning Fund Agreement.

Decommissioning Cost is the present cost of meeting the Fund's anticipated decommissioning obligations.
Future payments and costs are discounted at 3 per cent.

Source: National Audit Office

- because the outcome of the residual share sale in December 1996 once again shows that there may be advantages in selling shares in stages, Departments should start with a presumption in future sales that shares should be sold on a staged basis.

1.12 The Committee of Public Accounts also examined the sale of British Energy[14], raising concerns about the taxpayer's financial exposure to British Energy's nuclear liabilities and recommended:

- that the Department monitor carefully the company's ongoing ability to meet its liabilities without recourse to the taxpayer;
- that the Department should monitor the progress of the nuclear industry in developing its technologies for undertaking decommissioning;
- that the Department continue to take carefully into account the taxpayer's exposure to increases in the cost of reprocessing spent nuclear fuel, which results from the fixed-price nature of the contracts struck by British Energy with British Nuclear Fuels plc, when exercising its sponsorship and oversight role in relation to British Nuclear Fuels plc; and
- that the Department maintains communication with the key parties responsible for monitoring the level and financing of nuclear liabilities: British Energy, The Nuclear Installations Inspectorate and the Nuclear Generation Decommissioning Fund's Trustees. In this way, the Department can assure itself that all parties are focused closely on the best means of managing nuclear uncertainties and financial risks.

The Department recognised the need to manage these risks

1.13 In the resulting Treasury Minute[15] the Department undertook to monitor carefully as recommended the company's ability to meet its liabilities and the development of technologies for the disposal of waste, continuing its existing level of monitoring in this area. The Department said that it already maintained close communications with British Energy, the Nuclear Installations Inspectorate and the trustees of the Nuclear Generation Decommissioning Fund with a view to ensuring this and other objectives.

The Department considered that it had addressed the risks posed by British Energy at the time of privatisation

The wholesale electricity market in 1996 favoured British Energy and other baseload generators in comparison with the present wholesale electricity market

1.14 Until March 2001 licensed generators in England & Wales sold their power to licensed suppliers through the Electricity Pool. The Pool provided a set of compulsory rules defining how electricity in the wholesale market was to be traded. Each day generators submitted to National Grid a schedule of the availability of their power stations for each half hour of the following day, and the price at which they were prepared to generate. National Grid would then rank these bids on a half-hour by half-hour basis in order of least expensive to most expensive. National Grid would then compare the resulting 'merit order' to its forecast of demand, and direct to generate, or dispatch, as many stations as necessary to meet demand.

1.15 The Pool represented a centralised mechanism by which stations were dispatched. The price bid by the last, and hence most expensive plant deemed necessary to meet demand in each half hour - the marginal plant - determined the System Marginal Price (typically the largest part of the Pool price) which was paid to all the stations below the marginal plant in the merit order regardless of the price they bid. In addition, generators were paid a centrally calculated price for making generating capacity available whether or not it was scheduled to run. These 'capacity payments' were set according to a complex formula. The resulting Pool Purchase Price was paid to generators. Certain costs relating to system operation by National Grid and the functioning of the Pool were passed on to the electricity supply companies through an 'uplift' of the Pool Purchase Price to the Pool Selling Price, the price paid by all suppliers, (see Appendix 3, Figure 13).

14 *The Sale of British Energy Committee of Public Accounts - Fifth Report 1998-99 HC 242 1998/99.*
15 *Treasury Minute on the Fifth Report from the Committee of Public Accounts 1998-99 - Department of Trade and Industry: The Sale of British Energy CM 4335, attached at Appendix 5.*

1.16 British Energy's plant bid in to the Pool in a way that ensured they were scheduled to run by National Grid, typically by bidding at a low or zero price. This strategy was known as 'price taking'. Because the Pool Purchase Price was well above British Energy's total cost of £20-25 per Megawatt hour, price taking was a low risk, profitable strategy and highly cash generative for the Company. In the financial year 1996/1997 British Energy made an operating profit of £307 million.

1.17 In Scotland British Energy benefited from the Nuclear Energy Agreement, which was put in place in 1990 to run until 2005. It required the two vertically integrated Scottish electricity companies[16] to buy all of the output of British Energy's Scottish stations[17] at a price premium over the Pool price in England & Wales. However, following the introduction of New Electricity Trading Arrangements in England and Wales, legal proceedings were initiated against British Energy. The Nuclear Energy Agreement for Scotland was renegotiated[18] so that British Energy no longer receives any premium over market prices in England and Wales.

1.18 British Energy's predecessor companies also enjoyed other advantages prior to the privatisation. From 1990 the Fossil Fuel Levy obliged Public Electricity Supply companies to secure the availability of a specified amount of generating capacity from non fossil fuel sources. Until 1998 this specifically included a nuclear element, under which nuclear generators received a premium payment from the Public Electricity Suppliers in addition to the payments received from the Pool. This nuclear element was intended to be a contribution towards the 'back end' costs of nuclear power, including decommissioning. The nuclear element of the Fossil Fuel Levy was ended by the Fossil Fuel Levy Act 1998.

The approach taken to nuclear liabilities at the time of privatisation was predicated on British Energy's continued solvency

1.19 At the privatisation of British Energy, the Nuclear Generation Decommissioning Fund received a partial endowment of £228 million[19], representing pre-privatisation decommissioning liabilities. The remaining costs of decommissioning were to be met by ongoing annual contributions from British Energy. The Fund's investment performance, the level of British Energy's contributions and British Energy's proposed decommissioning strategy are subject to five yearly reviews by the Fund's trustees. In the event of a shortfall in contributions British Energy would be required by the trustees to make further contributions to address the shortfall.

1.20 Separately, British Energy's back end fuel related liabilities account for more than two-thirds of the total nuclear liabilities British Energy expects to meet eventually. In March 2003 the contracted element of these liabilities accrued to date had a net present value of £2.2 billion. In addition British Energy also has uncontracted liabilities in respect of nuclear waste, with a net present value of £0.7 billion, accrued to March 2003. All of these liabilities are met from British Energy's cash flows as operational expenses and the Company makes provision for them in its balance sheet, but is not required to set aside any real cash to meet the cost of discharging liabilities as they fall due. The amounts accrued for the payment of these liabilities are not ring fenced from claim by British Energy's creditors. The cost of fuel and back end waste management accounts for around 25 per cent of British Energy's total operating costs[20].

1.21 In 1996 the Department sought assurance on the ability of British Energy to generate sufficient cash to be able to meet its future liabilities. It developed, with the assistance of the company's directors, a financial model of British Energy's future revenues to 2035[21] and compared these revenues with the then best estimates of the size and timing of liabilities. This modelling indicated that British Energy would be sufficiently robust in the future to meet its liabilities under a range of assumptions and sensitivities based on the then market conditions. Because British Energy was so cash generative at this time the Department considered it unlikely that British Energy would be unable to meet its nuclear liabilities.

1.22 The report on the privatisation by this Office recognised that the Department created British Energy as a robust company, obtaining a high degree of assurance that British Energy would have the capacity to meet its nuclear liabilities, in the electricity market of that time. Nevertheless, that report and one by the Committee of Public Accounts raised concerns about the taxpayer's potential exposure to British Energy's large nuclear liabilities, and recommended that the Department monitor carefully the Company's ongoing ability to meet its liabilities in full without recourse to the taxpayer. The Department said in response that it recognised the need to monitor these risks.

16 *Scottish and Southern Energy and ScottishPower plc, vertically integrated in that they both generate electricity and supply it to consumers.*
17 *Hunterston B and Torness.*
18 *The Nuclear Energy Agreement was renegotiated in July 2002 because Scottish Power argued that the benchmark pricing mechanism could no longer be applied following the advent of NETA.*
19 *The endowment was paid by the nationalised predecessor companies of British Energy to the Nuclear Generation Decommissioning Fund.*
20 *British Energy plc Annual Review 2000/2001.*
21 *The expected date of closure of Sizewell B, the newest of British Energy's nuclear power stations.*

Part 2

The Department conducted limited evaluation of the changing nature of the risk

When introducing major changes to the electricity industry the Department did not specifically evaluate the impact on British Energy's ability to meet its liabilities

2.1 Between privatisation in 1996 and the collapse of British Energy several significant changes, outlined in Appendix 3, took place in the electricity market in England & Wales. Several of these changes were undertaken by the Department as part of its policy to ensure secure, diverse and sustainable supplies of energy at competitive prices. The Department did not update or revisit the modelling work it had assembled at the time of privatisation in the light of these changes. The Department considered it would have been inappropriate to have undertaken ongoing modelling of a private company. The combination of the factors below drove wholesale prices down to the industry's marginal cost of generation. Prices at these levels are below the price at which British Energy could make an overall, sustainable profit.

The 'Dash for Gas' was already changing the economics of the wholesale electricity market

2.2 The early to mid 1990s saw a rapid increase in Combined Cycle Gas Turbine Generation[22] known as the 'Dash for Gas'. The Department were concerned about the impact that this would have on security of supply and fuel diversity, in particular the impact on the British coal industry. As a result a stricter consents[23] policy was introduced in October 1998 which effectively prevented the building of further gas fired power stations[24]. In England & Wales, partly as a result of new capacity through the 'Dash for Gas', the wholesale electricity price began to fall towards the marginal cost of generation, **(see Figure 6)**.

The Department initiated full supply competition which led to lower wholesale electricity prices

2.3 Supply competition was introduced gradually. In 1990 large factories were able to choose their own supplier, and in 1994 smaller businesses became eligible to switch supplier[25]. Domestic competition was rolled out across Great Britain by June 1999. After this domestic customers were free to purchase their electricity from any licensed supplier. The Public Electricity Suppliers lost their secure customer base. This increased the volume risk carried by supply companies, making them less willing to enter into long term power purchase agreements.

2.4 Industrial and commercial customers had been quick to take up the opportunity to negotiate with competing suppliers for the best price. In anticipation of similar behaviour from domestic customers, and to maximise their future profits, supply companies sought competitively priced wholesale power from generators, and wholesale power prices began to fall **(see Figure 7)**. We have found no evidence in the Department's records that it conducted or commissioned analysis of the potential effects of full supply competition on British Energy, or any other single generation company.

22 *A gas turbine which includes a heat recovery steam generator to increase the efficiency of the plant.*
23 *To operate a power station in Great Britain requires two consents from the Secretary of State: consent to burn gas under section 14 of the Energy Act 1976 and consent to construct under section 36 of the Electricity Act 1989. In England and Wales the responsibility falls to the Secretary of State for Trade and Industry. In Scotland, Scottish Ministers.*
24 *Conclusions of The Review of Energy Sources for Power Generation and Government response to fourth and fifth Reports of the Trade and Industry Committee. Cm 4071. Chapter 10.*
25 *In 1990 customers with a peak demand of over 1MW were able to choose their own supplier, and in 1994 those with a peak demand over 100kW became eligible to switch supplier.*

The New Electricity Trading Arrangements exposed the electricity generation industry, including British Energy, to the full rigours of the competitive market

2.5 The introduction of the New Electricity Trading Arrangements (NETA) in March 2001[26] created a bi-lateral commodity market and substantially increased companies' exposure to risks through trading. Companies now have to actively manage their trading positions. A generator is paid the price it can agree with a buyer for the electricity it sells. There are no longer any payments just for making capacity available for security of supply.

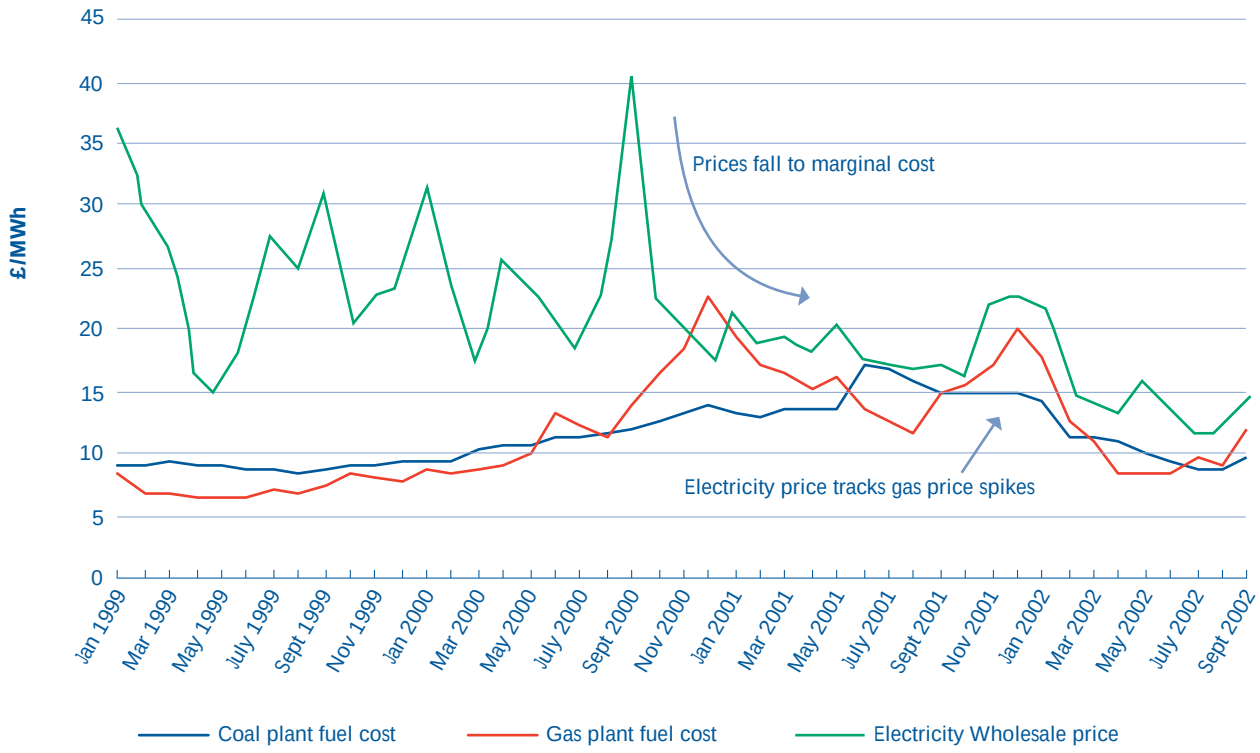
2.6 To be able to trade, market participants have to convince other companies that they are creditworthy. Electricity companies gain creditworthiness by giving guarantees or putting up collateral. The amount and type[27] of collateral varies dependent on the date of delivery, the volume of power being traded and the standing of the company. A very large electricity company such as British Energy will have obligations running into hundreds of millions of pounds.

2.7 Once a generator has secured a contract, it then schedules its stations to generate without instruction from National Grid. The regime places incentives on participants to keep the system in balance, generating sufficient power to meet their contractual position. Any imbalance resulting from a mismatch results in a charge, reflecting the costs of replacing the lost capacity at market prices. Technical limitations mean that British Energy's nuclear stations are among the most inflexible generation stations, and some have proven unreliable and susceptible to these charges. Also, flexible stations are better placed than inflexible ones, such as those owned by British Energy, to take advantage of short term changes in prices resulting from short-term changes in generation availability or demand.

2.8 The Department had identified that British Energy would be one of the losers from the new arrangements, but did not have any quantification of what the impact on the Company would be, from British Energy, from Ofgem or other sources. The key result of the new arrangements was to accelerate the rate of decline in prices brought about by the other market changes taking place at the time, (See Appendix 3).

6 Competition caused prices to fall in 2001 and 2002

Severe competition drove prices to the marginal cost of generation. Although the marginal plant varied between coal and gas fired stations, the wholesale electricity price now tended to track the gas fuel cost.



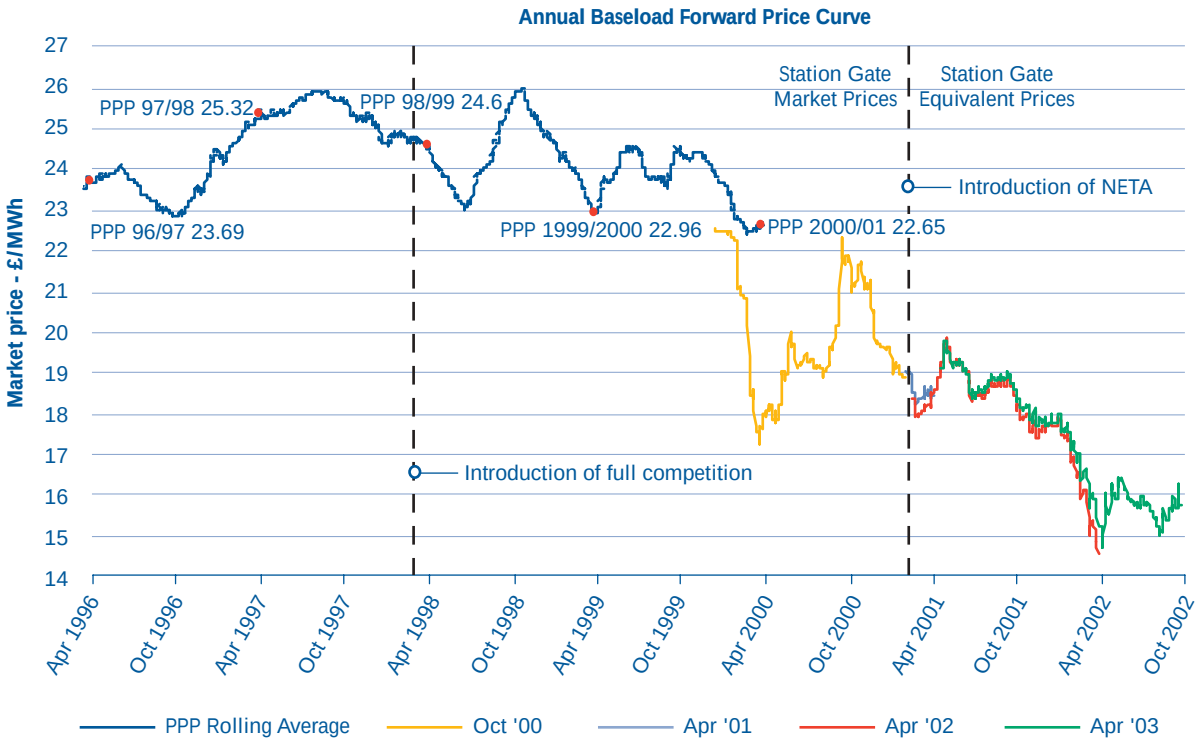
Source: Salomon Schroder Smith Barney

26 Legislative changes required to implement the New Electricity Trading Arrangements were contained in the Utilities Act 2000.

27 Collateral can be posted in many forms such as guarantees, letters of credit or cash payment. Typically a company of low credit standing will have to use more expensive forms of collateral such as letters of credit or cash.

7 Wholesale electricity prices fell sharply as the market changed

Wholesale electricity prices began to fall due to increased competition.



NOTES

1 Market price pre-NETA is the daily rolling average Pool Purchase Price (PPP) for power delivered to the station gate.

2 Forward prices post NETA are daily published market prices for annual baseload power delivered to the national balancing point (NBP) minus an allowance for Balancing Services Use of System charges and Transmission Losses (to make them comparable to pre-NETA PPP).

Source: British Energy

2.9 Concerned about its lack of flexible generation and the effect of this under the New Electricity Trading Arrangements, British Energy bought the 2,000 Megawatt Eggborough coal fired station from National Power plc early in 2000 at a price of £650 million. This coal fired station, commissioned in 1968, is more flexible than British Energy's nuclear stations and was purchased to address the volume risk created by that inflexibility.

Stable retail prices cushioned the vertically integrated companies from the fall in wholesale prices

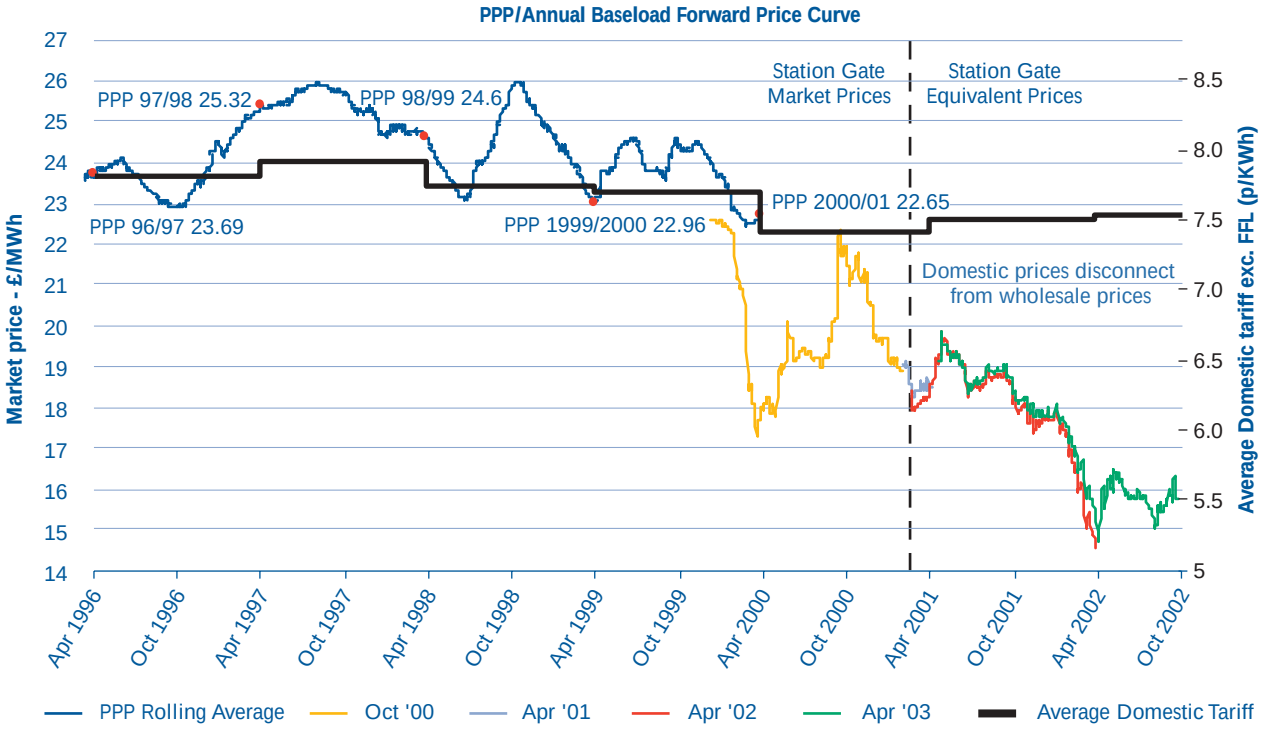
2.10 Domestic electricity supply businesses that are able to source cheap generation have enjoyed rising profit margins. The price disparity is particularly significant because although domestic consumers comprise one third of the market by volume, they make up half of the market by value and over 90 percent of all electricity customers. Some supply businesses wrote down long-term purchase contracts that had become uneconomic as a result of the price falls.

2.11 Following the acquisition of the MANWEB[28] supply company by Scottish Power, the two largest fossil fuel generators, National Power plc and Powergen plc, pursued a strategy of vertical integration so that they would both generate electricity and supply it to consumers. Their aim was to maximise value across their supply chain and to mitigate the risks in the wholesale market. Powergen plc[29] and National Power plc[30] acquired retail supply businesses in 1998 and 1999 respectively. Since the full liberalisation of supply in 1998 retail customers have proven less inclined to switch suppliers than have industrial and commercial customers. The disinclination to switch on the part of 62 per cent of these customers has allowed retail suppliers to maintain profit margins and has reduced the volume risk to integrated businesses.

28 *The Public Electricity Supply company covering Manchester and the North West of England.*
29 *Powergen plc purchased East Midlands Electricity in July 1998. Powergen was taken over by E.ON AG of Germany in October 2002.*
30 *National Power plc purchased Midlands Electricity in June 1999. National Power demerged into Innogy and International Power in October 2000. Most of the England & Wales business was transferred to Innogy which was purchased by RWE AG of Germany in May 2002.*

8 Retail tariffs became disconnected from wholesale prices

Over the period wholesale prices dropped sharply while retail tariffs did not.



NOTES

1 Market price pre-NETA is the daily rolling average Pool Purchase Price (PPP) for power delivered to the station gate.

2 Forward prices post NETA are daily published market prices for annual baseload power delivered to the national balancing point (NBP) minus an allowance for Balancing Services Use of System charges and Transmission Losses (to make them comparable to pre-NETA PPP).

3 Average Domestic Tariff is the average tariff charged by the incumbent suppliers to in-area domestic customers excluding the fossil fuel levy.

4 Wholesale prices use the left scale, the tariff uses the right scale.

Source: British Energy

The fragmentation of plant ownership left merchant generators like British Energy in an aggressive competition for the remaining demand

2.12 As a result of advice from the Director General of the Office of Fair Trading both the then National Power plc and Powergen plc were allowed to purchase electricity supply businesses on condition that they disposed of part of their generation capacity. These disposals left the two companies with more balanced portfolios of generation and supply **(see Figure 9)**.

2.13 Without the cushion of being vertically integrated, merchant generators like British Energy faced increasingly severe competition. The acquisitions of the divested power stations had been largely paid for using debt finance. The new owners of the stations had to generate more power than the previous owners to meet their debt repayments. This increased the downward pressure on wholesale prices.

2.14 The combination of the above factors drove wholesale prices down to the marginal cost of generation. Prices at these levels are below the price at which British Energy can make an overall, sustainable profit.

The Department did not conduct separate analysis on the specific effect of changes on British Energy

2.15 The 1998 White Paper "Review of Energy Sources for Power Generation" contained analysis and modelling of the effects of the proposed policies on the main fossil fuel generators; National Power, Powergen and Eastern Generation. The modelling projected that the combined

generation business profits of the three companies would decline from £1.6 billion in 1998/99 to around £0.8 billion in 2000/2001[31]. The White Paper did not contain such analysis for the effects on British Energy. A similar fall in profits at British Energy would clearly impact on the Company's ability to meet its nuclear liabilities. The White Paper's analysis of nuclear power was limited to the view that nuclear fuel would play a decreasing role in energy generation[32].

2.16 Nuclear levies are used by other European Union member states to meet their nuclear liabilities[33]. Such a levy had existed in Great Britain from 1990 to 1998, when Public Electricity Suppliers were required under the Non Fossil Fuel Obligation Orders to secure the availability of a specified amount of nuclear generating capacity. At its peak the nuclear element of the levy was contributing £1 billion per annum to the nuclear industry. However following the privatisation of British Energy, it was paid exclusively to the state owned nuclear generators. The nuclear element was removed by the Fossil Fuel Levy Act 1998. The Department considered the use of a nuclear levy as a possible solution to British Energy's problems only in August of 2002, immediately prior to the collapse of British Energy. It calculated then that a levy of 2.3 per cent on electricity bills would raise £200 million per annum.

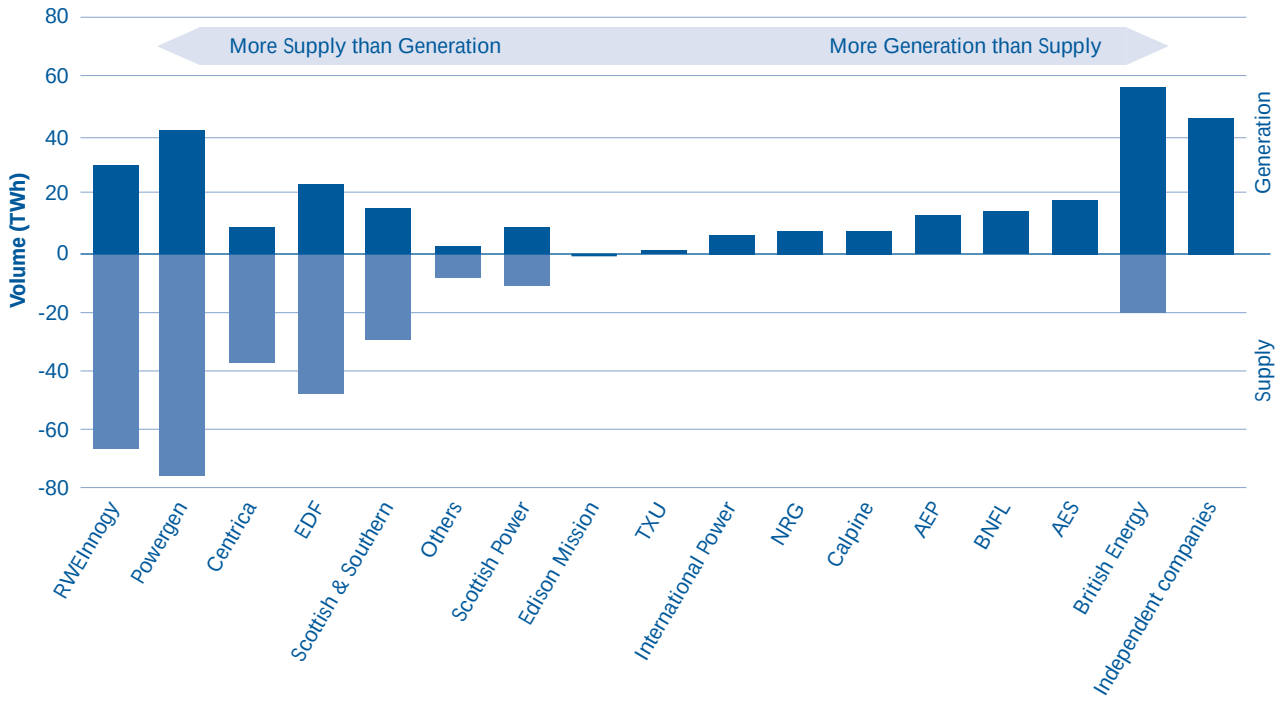
British Energy itself did not respond effectively to the market changes

British Energy's reprocessing contracts with British Nuclear Fuels plc left British Energy fully exposed to falls in the wholesale electricity price

2.17 Shortly after its privatisation British Energy renegotiated its reprocessing contracts with British Nuclear Fuels plc. British Energy pays British Nuclear Fuels plc approximately £400 million per annum towards the cost of fuel and fuel services, including reprocessing. The pricing of these contracts contained an escalation mechanism related to the Retail Prices Index. British Energy had, in the past, sought a linkage with electricity prices though this had been rejected by British Nuclear Fuels plc. British Nuclear Fuels plc believed that to accept a link to electricity price would have meant a transfer of risk to them from British Energy. Consequently, there was no link between this cost and British Energy's revenues, which were governed by the wholesale electricity price. So as wholesale electricity prices fell, British Energy faced rising reprocessing costs.

9 By late 2002 most of the large generators were vertically integrated with matching supply businesses

Significant vertical integration has taken place in England and Wales.



Source: British Energy

31 *Conclusions of The Review of Energy Sources for Power Generation and Government response to fourth and fifth Reports of the Trade and Industry Committee. Cm 4071. Annex F.*
32 *Ibid. Page 67 paragraph 8.28.*
33 *Inventory of public aid granted to different energy sources, COMMISSION OF THE EUROPEAN COMMUNITIES 2002.*

The move towards vertical integration through the purchase of SWALEC was too little, too late

2.18 British Energy was concerned that its large market share in generation would lead to regulatory difficulties in becoming vertically integrated. Therefore it took active steps to pursue vertical integration only after its key competitors began to integrate. In 1998 British Energy bid for London Electricity[34] and in 1999 for SWEB[35], but in both cases was outbid by Electricité de France, the French state-owned power company. In June 1999, British Energy managed to buy SWALEC and its 1.3 million electricity and gas customers, the vast majority based in Wales (see Figure 2). SWALEC gave British Energy a six percent share of the England & Wales electricity supply market. The price represented around £200 per customer.

2.19 British Energy believed that four to five million customers were required for a sustainable supply business, and that it would have to acquire another supply company. British Energy did not believe that it could grow the domestic supply business organically. SWALEC was the smallest of the former Public Electricity Suppliers.

2.20 Unable to purchase a second supply company at a price they considered acceptable[36], and believing that the self-supply restrictions in the licences of the vertically integrated former Public Electricity Supply companies would be strictly enforced[37], British Energy took the decision to exit the domestic supply market. In August 2000, a few months after completing the purchase, British Energy sold SWALEC to Scottish and Southern Energy for £210 million pounds. Although British Energy secured purchase agreements for 10 Terawatt hours of its electricity as part of the deal, for the most part these agreements had floating prices, exposing British Energy to movements in wholesale power prices. With only a small industrial and commercial supply business remaining, British Energy had a significant volume of electricity to sell in a ferociously competitive market without the cushion of high profit margins from domestic retail sales.

International diversification failed to compensate for losses in the core UK business

2.21 In response to increasing competition in the United Kingdom, British Energy's management decided instead to expand overseas, particularly in North America, where the scope for refurbishing stations and improving performance offered the prospect of better returns. By purchasing stations in the USA and Canada, British Energy increased its generation portfolio by some 80 per cent in less than two years[38].

2.22 In 1997 British Energy formed AmerGen, a joint venture company which owns three nuclear stations in the United States. During the year ended 31 March 2003, AmerGen generated profits of £47m[39]. In May 2001 British Energy took over eight reactors at Bruce in Ontario, Canada[40]. The transaction comprised a 'lease for life' arrangement over the 18 years of operation to planned closure, with an option to extend the lease by up to 25 years. The management anticipated that each of the operating reactors would contribute an average of £20 million annual profit to British Energy by 2003/04.

2.23 The North American projects were profitable, but the need to refurbish the stations meant that the profits had to be re-invested in those projects. In the long term they would make a significant cash contribution to British Energy in the United Kingdom. In the short term the American businesses were unable to produce sufficient cash to support British Energy's weakening United Kingdom business.

British Energy overpaid for Eggborough power station

2.24 The purchase of Eggborough by British Energy occurred at the peak of the market for power stations in Great Britain. Almost immediately thereafter the prices that power stations attracted began to fall. In 2002 the value of the station was written down by 50 per cent to £300 million. The acquisition had also increased the volume of electricity that British Energy would have to sell.

34 The London based electricity supply company.
35 The electricity supply company primarily serving the South West of England.
36 Between 1998 and 2000 British Energy made a number of unsuccessful offers for electricity supply companies.
37 Suppliers who were previously a Public Electricity Supplier are prohibited from entering into new purchase agreements with their affiliated generation companies for the supply of electricity to designated customers. Designated customers are customers within the previously authorised area of a Public Electricity Supplier that are supplied with electricity at either domestic premises or premises at which the normal annual consumption of electricity is less than 12,000kWh. Ofgem does not routinely gather information as to the contracting patterns of vertically integrated suppliers and intends to remove this licence condition from the relevant licences.
38 British Energy's nuclear portfolio 2002: eight UK stations (9600 MW), a half share of three US plants (2300 MW) and six Canadian reactors (4700 MW).
39 British Energy plc Annual Report & Accounts for the year ended 31 March 2003.
40 Of the eight reactors at Bruce four were shut down at the time of acquisition.

Part 3

The Department considered that it was unable to manage the risk actively

The Government's interactions with British Energy are complex

The Department has a number of roles to play regarding British Energy including industry liaison and as monitor of the British Energy risk

3.1 Since privatisation the Department has had to balance a number of distinct roles in relation to British Energy. The Department has a role in accounting for nuclear safety to Parliament, especially for its regulation by the Nuclear Installations Inspectorate, and for regulation of nuclear security by the Office of Civil Nuclear Security. In liaising with the electricity industry, it works to maintain a competitive energy market ensuring a level playing field for all generation and retail companies, while achieving safe, secure and sustainable energy supplies for consumers. It aims to set out a fair and effective framework in which competition can flourish for the benefit of customers, the industry, and suppliers, and which will contribute to the achievement of the Government's environmental and social objectives.

3.2 The Department also had a further role, which it saw to be, to monitor the risk that British Energy's nuclear liabilities might revert to the taxpayer as a result of British Energy becoming unable to meet its obligations. But this role would be subject to considerations implicit in its other roles, particularly in maintaining a level playing field between British Energy and its competitors. The Department had to be confident that anything it might do to help British Energy would not distort competition and could be defended to competition authorities in the UK and Europe.

3.3 A number of teams in the Energy Group of the Department had responsibility for these roles **(See Figure 10)**. The Electricity Directorate was responsible for liaising with the industry, including British Energy, regarding market activities. Issues relating to the operation of nuclear stations and to the Segregated Fund for decommissioning them lay with the Department's Nuclear Industries Directorate. This branch was also responsible for management of the relationship with British Nuclear Fuels plc, the Government-owned company to which British Energy was committed for handling its fuel. Responsibility for issues relating to the closure of stations and fuel treatment straddled both directorates. Not until early 2002 was any single individual, post holder or branch in the Department given defined responsibility as co-ordinator of risk monitoring in respect of British Energy's residual liabilities, with a specific brief:

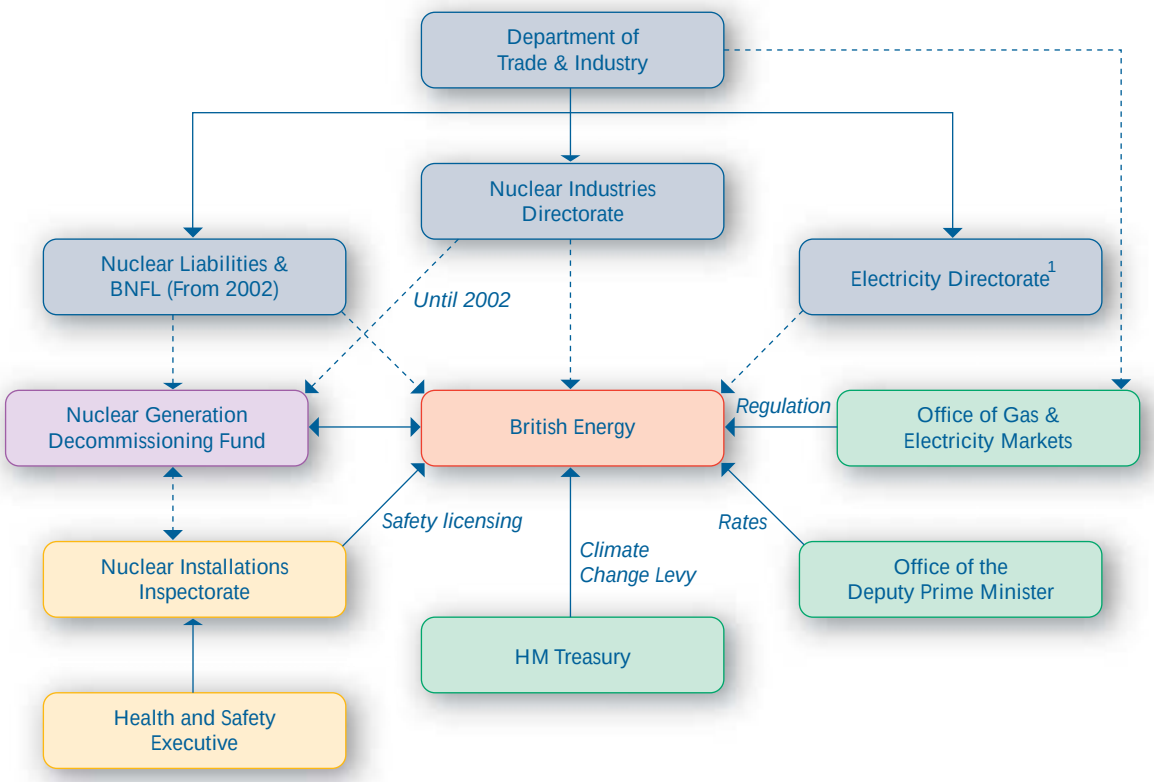
- to evaluate how developments in the electricity market and proposed Government initiatives or policy changes could impact on British Energy, and
- to inform decision makers on how these changes would affect the probability and impact of nuclear liabilities falling on the taxpayer.

Several other bodies have responsibilities which affected British Energy's business and profitability

3.4 The Department's risk management role in respect of British Energy's nuclear liabilities was a particularly challenging one for it to discharge, partly because the Company was privately owned and operating in a competitive market. But risk management was further complicated by the large number of public or publicly owned bodies whose policies and actions have an effect on the business and profitability of the Company. The most prominent of such bodies are Ofgem, HM Treasury, the Office of the Deputy Prime Minister and the Nuclear Installations Inspectorate of the Health and Safety Executive.

10 British Energy's relationship with Government

British Energy has to deal with several branches of the Department and many other Government bodies. These bodies did not always act in concert to the best interests of the taxpayer.



NOTE

1 This directorate took on responsibility for gas after 1999 and changed its name.

Source: National Audit Office

3.5 Ofgem is the regulator for Britain's onshore gas and electricity industries. Its role is to protect the interests of consumers by promoting competition where appropriate, and through the regulation of monopoly businesses. Ofgem worked in co-operation with the Department to design and implement the New Electricity Trading Arrangements that have contributed to the substantial reduction in wholesale electricity prices. In the Department, the Electricity Directorate oversaw the implementation of the New Electricity Trading Arrangements.

3.6 The Office of the Deputy Prime Minister also has an influence over British Energy's finances to the extent that it determines the rateable values for different types of electricity generation stations. The rateable values of British Energy's stations are substantially higher than other types of generation despite the fact that they receive the same market price for the electricity the generate.

3.7 The Treasury also has an influence in that it has determined the structure of the Climate Change Levy, which, from 2001, has been payable by industrial and commercial customers of British Energy at the standard rate also applied to generators using fossil fuels. The Climate Change Levy adds £4.30 per Megawatt hour to the price paid by customers for British Energy's greenhouse gas free generation. Full relief from the levy would have a value of around £150 million to British Energy[41].

3.8 The Nuclear Installations Inspectorate of the Health and Safety Executive sets safety standards for nuclear sites and ensures that operators, including British Energy, comply with the terms of their licences granted under the Nuclear Installations Act 1965. The Act prohibits the direct transfer of a licence. The need for the Inspectorate to vet any new applicant for a licence under the terms of the Act, and for the specified consultation, makes the transfer of installations to another operator, administrator, liquidator, the official receiver or insolvency office holder a difficult and lengthy process.

41 The exact value of relief would depend on how British Energy chose to use the exemption.

3.9 British Nuclear Fuels plc is a wholly-owned government company for which the Department has responsibility. It is of key importance to British Energy, which had contracts with British Nuclear Fuels plc for reprocessing and managing nuclear fuel at predetermined prices up to 2086. In 2001/02 payments to British Nuclear Fuels plc represented 34 per cent of British Energy's costs.

The Department in discussions with other departments whose policies affected British Energy did not specifically draw their attention to the risks posed by British Energy's liabilities

The Climate Change Levy

3.10 British Energy argued that its carbon free nuclear output should not be penalised by the Climate Change Levy. The Department saw British Energy's treatment under the Climate Change Levy as a matter for the Treasury. In May 2000 it passed on the Company's representations to the Treasury at Ministerial level, suggesting that it should make direct contact. The Department felt that British Energy were pursuing this issue in hope rather than expectation of relief. During the design stage of the Climate Change Levy, between 1999 and 2000 British Energy had used the same arguments in discussion with the Treasury without success.

3.11 The Treasury believed that a nuclear exemption would have been ill-targeted, with the cost to Government far exceeding the benefit to British Energy. Any exemption would need to cover all nuclear generators, including British Nuclear Fuels plc's Magnox stations and imports through the Anglo-French electricity interconnector[42]. In addition a nuclear exemption would have led to pressure to exempt large scale hydro-electric generation from the scheme. This would have had a detrimental impact on the financial viability of the Levy. Overall, the Department and the Treasury considered that excluding British Energy from the Levy would have affected the logic of the tax; which was designed as a downstream energy tax, and would have adversely affected its financial viability and thus the integrity of the whole scheme.

3.12 Even were these issues to have been resolved, the Treasury and the Department consider that it would have been inappropriate to act while the Company was still paying dividends to private investors and unless the Company was in publicly evident distress. The Department and the Treasury believe that any intervention before then would have been opaque and premature and would not have protected taxpayer's interests. They also told us that if intervention was required, it is unlikely this would be through ex-post changes to the tax system, with major risks to the credibility of the tax system and revenue security. We found no evidence that the Department discussed with the Treasury the extent to which full or partial exemptions from the Climate Change Levy would reduce the probability of nuclear liabilities returning to the taxpayer.

The Business Rating system

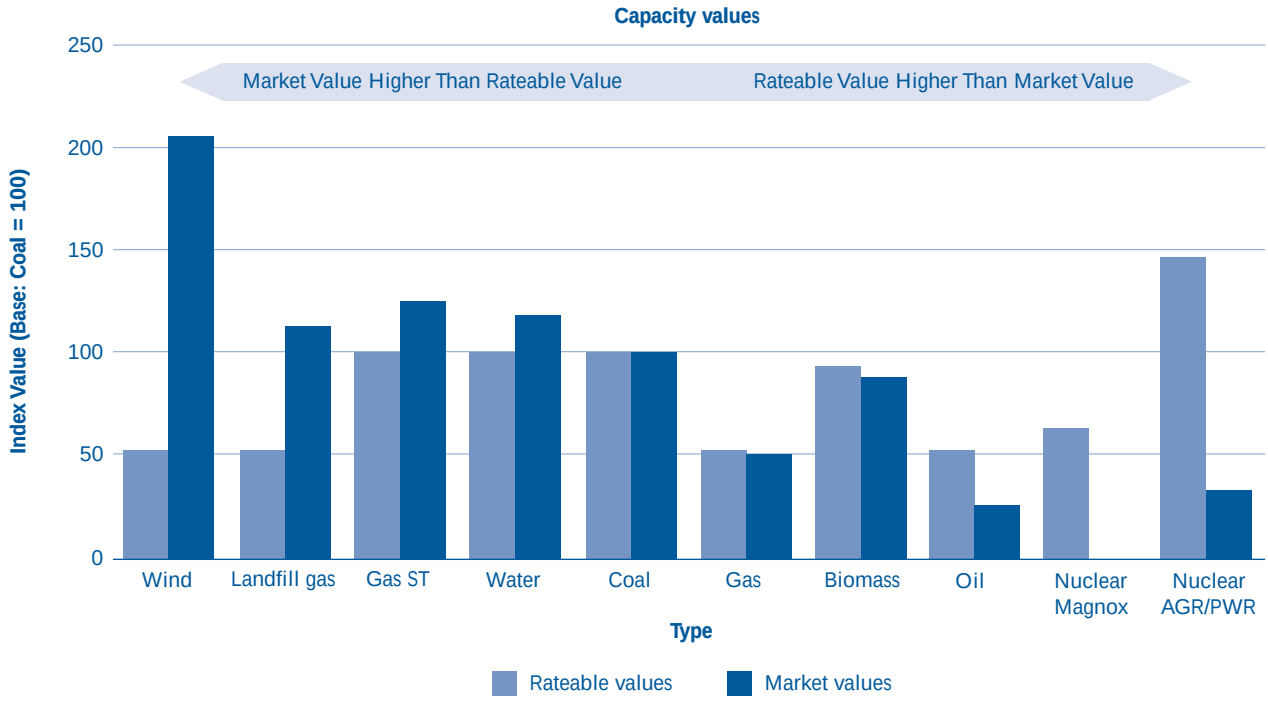
3.13 In April 2000 a new system of rateable values was introduced by the Department of the Environment Transport and the Regions (now the Office of the Deputy Prime Minister). The rates were supposedly based on the 1998 market value of the different types of generation. The rateable values for British Energy's nuclear stations were set at a substantial premium over other types of generation. British Energy's rates are the highest in absolute terms at £14,000 per Megawatt of capacity compared with £9,500 per Megawatt for a coal fired station or £6,000 per Megawatt for a state owned Magnox nuclear station. We have surveyed market participants representing between a third and a half of generating capacity to determine whether an index of market values bears any correlation to the index of values assigned by the Department of the Environment Transport and the Regions **(See Figure 11)**. Generally the values are well correlated, with the exception of nuclear generation and certain types of renewable generation. The rates levied on British Energy's stations are the highest compared with the market values reported by the National Audit Office's survey of generating companies. British Energy has quantified the theoretical cost of its higher rates liability at some £25 million a year.

3.14 In January 2000, the then Secretary of State wrote to the responsible Minister at the Department of the Environment Transport and the Regions in support of British Energy, urging that nuclear stations should be rated at the same level as coal or gas stations. The letter did not contain any information or argument regarding the Government's exposure to nuclear liabilities. The approach was not successful. The Department of the Environment Transport and the Regions believed that British Energy had been treated fairly. Reducing the rates liability of its stations to the same level per Megawatt as other types of fossil fuel generation would not have solved British Energy's financial difficulties, though it may have been a significant signal to financial markets that Government was supporting fuel diversity. A transition scheme is phasing in by annual stages changes in bills resulting from the 2000 revaluation. Given the transitional arrangements, British Energy estimate the cost to the taxpayer of rating non Magnox nuclear generation at the same level as coal and gas generation would have been around £2 million over the five years of the rating lists.

42 The Anglo-French interconnector, connecting the electricity grids of England and France, has a capacity of two Gigawatts. As France has a very high level of nuclear generation it is likely that imports would qualify for a nuclear exemption.

11 **Index of rateable values of different types of generation**

The rates levied on British Energy's stations are the highest compared with the market values reported by the National Audit Office's survey of generating companies.



NOTE

The market value of Nuclear Magnox is zero.

Source: National Audit Office

The New Electricity Trading Arrangements

3.15 As shown in Appendix 3, Ofgem brought forward proposals to reform the trading of wholesale electricity in 1998 and following consultation, implemented these from March 2001. British Energy had taken the opportunity to comment to the Regulator on these proposals, copying its representations to the Department. British Energy's stance was not to oppose the changes but to question their timing and details of implementation. As late as December 1999 British Energy still expressed confidence that its efforts to continue reducing its operating costs, and to acquire a retail business, could cope with the reduction of 10-20 per cent in generating prices that it expected. Against this background neither British Energy nor the Department had formally lobbied Ofgem during the design stage of the New Electricity Trading Arrangements on grounds of heightened risk to meeting the cost of nuclear liabilities. Ofgem received no representations from the Department regarding British Energy's nuclear liabilities during the design of the New Electricity Trading Arrangements.

The Department treated British Energy no differently from other electricity companies

Interaction between British Energy and the Department was instigated by the management of British Energy

3.16 Concerned to maintain a level playing field for all companies and reflecting the Department's open market policy and its commitment to increased competition in the electricity market the Department took an essentially reactive approach. Interaction between the Department and British Energy was instigated by British Energy's management. Prior to early 2002 when the Company invited the Department to inspect its books the Department had no access to key financial information inside British Energy. The Department were uncertain as to the validity and balance of the information provided by British Energy during the Company's lobbying, and how far it was special pleading. It placed more reliance on publicly available information, including data published under Stock Exchange rules which the Department therefore considered should be sufficiently accurate and timely for their purpose.

3.17 It was not until the first quarter of 2000 that concerns were heightened, when a 10 per cent fall in wholesale prices, followed by a further 20 per cent fall in forward prices, indicated that prices might collapse and could stay below British Energy's cost level for some considerable time. Senior managers of British Energy approached Departmental officials and Ministers in March and April 2000 to identify this major change in fortunes. By May 2000 British Energy warned the Department that if prices did fall by 20 per cent it would threaten the viability of British Energy and raise the issue of its ability to meet liabilities. It primarily suggested two ways in which its financial position could be ameliorated: lower prices for its reprocessing service from British Nuclear Fuels plc and exemption from the Climate Change Levy.

Until early 2002 the Department relied mainly on publicly available information

3.18 Following approaches, in Spring 2000, from the Company that it considered itself to be facing financial difficulty, the Department continued to rely mainly on publicly available and market information, until early 2002 when the Company offered open access to their books. In particular the Department made use of brokers' investment analysis as a source of information regarding British Energy's financial health. Analysts' reports are produced by brokerages, based on information from a variety of sources including information from the company, in support of their sales activities. As a sales tool, analysts' reports have a tendency to accent the positive. While acknowledging British Energy's exposure to price risk, some analysts pointed to North American profits offsetting losses in England and Wales. But as has been already stated, these activities were not sufficiently cash generative for the Company, (paragraph 2.23).

3.19 In contrast to generally positive analyst statements, British Energy's representations to the Department focussed much more on the threat from falling wholesale electricity prices. Without full analysis the various branches of the Department could not come to evidenced conclusions about British Energy's future. In May 2001 the Department accepted analysts' views that British Energy was not yet in serious difficulty, based on the view that companies will tend to present a negative view when lobbying Government and that a more positive interpretation was being formed by the investment community. It was also possible that electricity prices could rise. But by November 2001 it was clear that prices were not recovering and that British Energy was still losing money.

3.20 In May 2001 the Department commissioned some analysis from Credit Suisse First Boston. This analysis was based on publicly available information and looked at the financial position of British Energy and the risks facing the company. Public statements made by British Energy had a more positive tone than the projections being provided to the Department. The Department identified these inconsistencies, but did not take steps to reconcile these differences until early 2002, when at the invitation of British Energy, the Department appointed Credit Suisse First Boston to review British Energy's internal company information. Before then the Department could not be certain as to the true condition of British Energy, as reports from different sources presented contradictory opinions.

3.21 The Department took particular note of the payment of dividends by British Energy. In 1999 British Energy paid a special dividend with a total value of £432 million. More significantly, In May 2002 British Energy announced a full dividend of 5.3 pence per share amounting to a total of £31.45 million. Both the Department and British Nuclear Fuels plc[43] concluded from this that British Energy's situation was not as serious as the Company was claiming. British Nuclear Fuels plc was concerned that any benefits from renegotiated contracts might be paid out to shareholders. British Energy had seriously considered cutting the 2002 dividend. However when the Company had cut its 2000 dividend by 50 per cent, its share price had fallen by 15 per cent in a single day[44]. Mindful of precipitating a similar share price collapse, British Energy decided to maintain the full 2002 dividend. British Energy subsequently informed the Department and British Nuclear Fuels plc of the reasoning behind their decision. However the Department felt that if the Company were in financial difficulty, the Company would be unlikely to consider it appropriate to make continued dividend payments and would be focused on cash conservation rather than the potential share price impact.

3.22 Credit Suisse First Boston had been advising the Department on a proposed Public Private Partnership for British Nuclear Fuels plc. Given the sudden deterioration in the situation of British Energy, over the winter of 2001, the Department had to respond quickly. With no contingency arrangements in place, in January 2002, Credit Suisse First Boston was appointed as financial adviser to assist the Department on British Energy without competitive tendering. Credit Suisse First Boston was paid £350,000 for the work done in the period up to 30th June 2002. After that fixed monthly fees of £250,000 per month were paid for work in July and August 2002. Given the severe downturn in the investment banking market at the time a better deal may

43 At the time British Nuclear Fuels plc were in negotiations with British Energy over the contracts for the provision of new fuel for British Energy's power stations.
44 Closing price to closing price - The intra-day fall was 30%. A share price fall of 15% reduced the market capitalisation of British Energy by £151 million.

have been available through even a limited competition. However, the Department was concerned to minimise the possibility that public knowledge of the Department taking advice may have precipitated the crisis that the Government was hoping to avoid, and was keen to appoint an adviser familiar with the nuclear context.

The Department found it difficult to mitigate the risk

Changing information on British Energy's financial situation limited the Department's ability to take action

3.23 As shown in paragraph 3.17 above, it was not until April-May 2000 that British Energy approached the Department with various requests for government assistance. This was after the major changes affecting British Energy's solvency were either already implemented or well advanced in design. By this stage, the main factor which would determine whether British Energy could remain solvent without relief was the future level of market prices for electricity.

3.24 The Department responded to British Energy's May 2000 request by stepping up its monitoring of British Energy's finances, particularly by monitoring forward electricity prices and brokers' views, as well as considering the likely implications of early plant closures for the adequacy of the Nuclear Generation Decommissioning Fund. It concluded by June 2000 from brokers' reports, and from feedback from British Nuclear Fuels plc, that British Energy "might be overdoing the gloom." The Department's stance appeared to have been vindicated when British Energy's share price recovered by the end of 2000. However British Energy advised the Department that they expected only to break even in 2000/01 and to make pre-tax losses of up to £50 million in 2001/02 unless forward prices recovered from their then level of £20 per Megawatt hour. A fall in prices to £17.50 per Megawatt hour would expand the loss to £200 million, though the Department was uncertain whether prices would fall this far.

The Department did not have the tools that the private sector would use in analogous situations

3.25 The sale of British Energy was a traditional privatisation which divorced the Government from involvement with the business. This left the Department with no effective rights over the Company other than the limited rights attached to the special share. The Department had no rights to internal Company information. Mindful of the need subsequently not to become a shadow director[45], the Department has exercised great care in the relations between Government and individual companies. Since the privatisation of British Energy, Public Private Partnerships have been developed to address situations where a private sector enterprise carries risks falling to the public sector.

3.26 Nevertheless, situations often arise in the private sector where companies have to identify, evaluate and mitigate financial risks to them from other companies. Sometimes they are exposed to risk from companies in which they do not have an ownership or management interest and do not wish to acquire such an interest. These situations are analogous to the relationship the Department had with British Energy. In these situations a number of tools are used by the private sector to protect their interests. We commissioned financial advisers Wilmington Capital to produce a report into risk management in the private sector. The full text of their report is at Appendix 4.

3.27 These tools are based on the contractual application of best practice principles. Wilmington Capital reported that the main elements of private sector best practice for this type of risk management can be briefly stated as follows:

- **Appraisal**. It is important to ensure that the initial analysis of the company, and the particular circumstances of the contract, identifies all the potential weaknesses or risks that may arise over time.
- **Protection**. If a residual risk remains after a contract has been executed, then it is essential to have a continuing contractual relationship which will enable the situation to be monitored and appropriate steps taken in the event of things going wrong. If the circumstances allow it, arrangements should be made to take security for any amounts due.
- **Monitoring**. Where contractual remedies exist, it will be important to maintain a detailed knowledge of the current circumstances of the company concerned. Contractual arrangements usually underpin the form and timing of the provision of information. If it is not possible to identify the problem in a timely fashion, it will not be possible to take any steps to mitigate the liability.

3.28 In the private sector, if there is a risk that a liability will arise in the future, then there should be a contingency plan in place should circumstances deteriorate. The contingency plan must be based on a contractual arrangement that will enable the original party to put itself on at least no worse a footing than the other creditors of the business. Even if the liability is being gradually funded or repaid, the rights should remain in force until the liability has been fully funded or removed.

45 From Section 741 Companies Act 1985, a shadow director is a person in accordance with whose directions or instructions the directors of a company are accustomed to act i.e. that person who has real influence over the affairs of the company. A shadow director takes on the liabilities of a full director.

3.29 We also noted that due to the structure of the original wholesale privatisation of British Energy, the Department lacked useful tools of the type that have been built into recent Public Private Partnerships, where the Government has recognised that the State has unavoidable responsibilities and exposures to risk. For example, our recent report on the PPP for National Air Traffic Services identified a number of such tools including:

- Rights to nominate non-executive Partnership Directors who sit on the company Board,
- Powers for such Directors to require access to information and where necessary to commission external reviews of the company;
- A strategic partnership agreement between the controlling private sector shareholders and the Crown, giving the latter various rights of consultation or approval over matters such as the business plan, external investments or financial commitments.

From March 2002, the Department's strategy was to avoid assisting British Energy unless it was in publicly evident distress.

3.30 The Nuclear Generation Decommissioning Fund has no special rights as a creditor. In the event of insolvency the Fund must take its place with other creditors. Currently the Fund, in common with many pension funds, has suffered a reduction in its assets as a result of lower equity values. Any significant change in the decommissioning schedule, such as early station closure, would severely undermine the ability of the Fund to meet its liabilities. British Energy would remain responsible for any shortfall in the value of the Fund. In the event of insolvency the liabilities would then fall to the Government. This potential liability limited the ability of the Department to allow market forces to run their course, if this ended in British Energy's insolvency.

3.31 British Energy is British Nuclear Fuels plc's largest single customer. Insolvency at British Energy would have a knock on effect on British Nuclear Fuels plc. As a state owned business, financial difficulties at British Nuclear Fuels plc would result in further calls on Government's funds. There is no evidence that the Department had in place measures to manage the risk that British Energy posed to British Nuclear Fuels plc. It declared to British Energy that its contractual relationship with British Nuclear Fuels plc was a commercial matter for the two companies in which the Government, though owner of British Nuclear Fuels plc, would not intervene. Throughout the period covered by this report the Department maintained a strict arms length position to the relationship between British Energy and British Nuclear Fuels plc.

3.32 Having received advice from Credit Suisse First Boston in April 2002 that British Energy potentially faced serious financial difficulty and that British Energy would face serious refinancing difficulties within 6-9 months[46], the Department began to make contingency plans to deal with a potential insolvency, based on a strategy of avoiding liquidation. The planning, taken forward in conjunction with Ofgem, the Nuclear Installations Inspectorate and drawing on advice from insolvency practitioners, covered:

- Ensuring security of electricity supply;
- Ensuring that arrangements would be in place for continuing high standards of nuclear safety; and
- Clarifying the likely exposure of the Government, and dealing with state aid considerations.

3.33 After 2000, the Department, concerned with being even handed in the market, had considered many issues raised by British Energy, but decided to implement no remedial actions. The Department chose not to act until the crisis at British Energy had deepened beyond the ability of British Energy to recover its position and distress was clearly apparent. In 2002 several events following after each other forced the hand of the Directors of British Energy. In July 2002 proposals by British Energy to raise new bond financing in the United States were received unfavourably[47]. On the 12/13th August a vibration problem forced the closure of the Torness station[48]. Finally the inability of British Energy and British Nuclear Fuels plc to renegotiate acceptable terms for their fuel contracts brought matters to a head in early September 2002.

3.34 The Board of British Energy attached particular importance to the implications of British Nuclear Fuels plc's proposal. On 5th September 2002 the Directors of British Energy, in light of the perceived general longer term prospects of the Company, announced that they were seeking financial support from the Government. On 9 September 2002 the Government granted the Company a credit facility of up to £410 million to provide working capital for British Energy's immediate requirements and to allow British Energy to stabilise its trading position in the United Kingdom and North America. On 26th September 2002 the Government agreed to extend a revised facility for up to £650 million until 29th November 2002 to give the Company sufficient opportunity to develop a restructuring plan. On 28th November 2002 the facility agreement was further extended until 9th March 2003.

46 British Energy's undrawn facilities of £650 million required partial refinancing in March 2003.

47 In 2002 the US bond market had suffered as a result of several unrelated high profile corporate collapses. In addition US bond analysts reacted unfavourably to falling UK wholesale electricity prices and the apparent indifference of the Government towards nuclear generators - Source: British Energy.

48 At the time it was thought that the problem might also affect the similar reactors at Heysham 1 and 2, making the situation much more serious.

3.35 On 14th February 2003 British Energy announced that it had entered into binding standstill agreements and had reached a non-binding agreement on the principles of the Company's restructuring with certain of the bondholders, the steering committee of the bank syndicate that had funded the acquisition of British Energy's Eggborough power station, The Royal Bank of Scotland plc as provider of a letter of credit to the Eggborough banks, Teesside Power Limited, TotalFinaElf and Enron Capital & Trade Europe Finance LLC. The significant creditors and British Nuclear Fuels plc agreed with British Energy that they would not take any steps to initiate any administration proceedings or demand or accelerate any amounts due and payable by British Energy during the period commencing on 14th February 2003 and ending on the earliest of 30th September 2004 or a termination event or the completion of the restructuring.

3.36 On 1st October 2003 British Energy formally agreed, with its key creditors and the Government, the terms of its proposed restructuring. The restructuring will only be implemented once all the conditions of the formal agreements to the proposed restructuring are met. These include receipt of state aids approval from the European Commission, which enforces European Union restrictions on state aid to industry. The National Audit Office will produce a further report on the advance of emergency aid and the terms of the restructuring of British Energy once the restructuring is completed.

3.37 The Department's management of the financial risks to the taxpayer of British Energy's nuclear liabilities evolved during three main phases:

- The period between privatisation and early 2000, when the Company appeared to be prospering but when the causes of its subsequent financial decline were in fact being put in place. During this phase the Department liaised with British Energy as it did with other electricity companies and its monitoring of the company tended to focus on its contribution to the Nuclear Generation Decommissioning Fund and nuclear regulatory issues. The National Audit Office considers that at this time the Department's monitoring of British Energy's ability to meet its nuclear liabilities was conducted with a light touch. The Department considers that monitoring was proportionate given the apparent success of the privatised Company during the period;
- The period from Spring 2000 to early 2002, when the Department, uncertain in the face of mixed messages from the Company therefore increased its monitoring of the risks, trying to understand the real extent of the Company's difficulties from outside, and decided to 'wait and see'; and
- The period from March to September 2002, when the Department's advisers having for the first time looked inside British Energy, advised that given recent falls in electricity prices, it was indeed highly vulnerable. The Department decided not to intervene unless the Company was in a position of publicly evident distress, and prepared contingency plans to ensure nuclear safety and security of supply.

Glossary

Term	Meaning
Administration	A process that allows companies in financial difficulties to gain protection from their creditors in order to restructure the company.
Advanced Gas cooled Reactor (AGR)	A type of nuclear reactor which is a development of the Magnox reactor. The design is unique to the UK where it is operated by British Energy. Typical electrical output of an AGR is 660MW and its thermal efficiency is about 40%.
Available	A generating unit which is ready to be dispatched.
Backend Fuel cost	See Nuclear fuel.
Balancing	The process of matching Generation to Demand.
Balancing Services Use of System Charges (BSUoS)	A charge levied on generators and suppliers by National Grid under the New Electricity Trading Arrangements for the following: (i) The costs of the Balancing Mechanism i.e. Bid and Offers accepted by the System Operator (ii) Balancing Services Contract costs e.g. Frequency Response, Black Start etc (iii) National Grid incentive payment (or receipt) (iv) Internal costs of the System Operator function e.g. salaries, facilities etc
Baseload	The minimum level of electricity demand throughout the day.
British Nuclear Fuels plc (BNFL)	The state owned nuclear fuel company and owner of the first generation Magnox nuclear stations. British Nuclear Fuels Limited converted to a plc in 1984.
Capacity	The volume of electricity that can be generated/demanded in one second. Measured in watts. A typical domestic house has demand capacity of less than 25 kilowatts.
Capacity margin	Capacity margin is calculated through the formula: (Installed Capacity - Peak Demand)/(Peak Demand), expressed as a percentage. It shows the margin of available generating plant over expected peak electricity demand.
Capacity payments	Payments made to generators for making capacity available for scheduling by the System Operator to balance the system. This was essentially an incentive payment that was intended to ensure there was enough generating capacity to keep the lights on at all times of peak demand.

Climate Change Levy	The Climate Change Levy was introduced from 1 April 2001, and has been payable on the use of energy by all non-domestic customers throughout the UK at a rate of £4.30 per MWh. Renewable generation is exempt from the Levy, and it was announced in the 2002 Budget Statement that 'good quality' Combined Heat and Power plant would also be exempt. Nuclear power is not exempt.
Collateral	A guarantee against non payment of bills. Collateral can be posted in many forms such as company guarantees, letters of credit or cash payment. Typically a company of low credit standing will have to use more expensive form of collateral such as letters of credit or cash.
Commodity Markets	Market for the wholesale trade of a commodity such as coal, oil, gas or electricity.
Competition Commission	The statutory competition authority for the United Kingdom. It replaced the Monopolies and Mergers Commission.
Consents	To operate a power station in Great Britain requires two consents from the Secretary of State: consent to burn fuel under section 14 of the Energy Act 1976 and consent to construct under section 36 of the Electricity Act 1989. In England and Wales responsibility falls to the Secretary of State for Trade and Industry; and in Scotland, to Scottish Ministers.
Constraint	A limitation on the use of a power system due to lack of transmission capacity or other System conditions.
Contract for Differences	Financial contracts designed to reduce spot price risk in the Pool. A contract for differences passes the difference between the agreed contract price and the Pool price between the parties to ensure that they trade at the contract price. Eg In a contract with a contract price of £25 MWh: if the Pool price is £26 MWh then the purchaser will pay the Pool £26 and receive £1 from the generator. The generator will receive £26 from the Pool. If the Pool price is £23 MWh, then the purchaser will pay the Pool £23 and pay the generator £2.
Decommissioning	Removal of an nuclear installation from service. Decommissioning is split into 3 stages. Stage 1 is the removal of fuel. Stage 2 is making the site safe and safe storage of radioactive structures. Stage 3 is dismantling and making the site available for unrestricted use.
Demand	Demand represents the users of electricity; that is the suppliers, and ultimately the customers (domestic and non-domestic). The highest demand ever recorded on the National Grid system was 54,430MW in the half hour ending 17:30hrs on 10th December 2002.
Dispatch	The action of instructing a power station to export electricity onto the system.
Distribution	The system of wires and switches and transformers that serve neighbourhoods and businesses. A distribution system reduces or downgrades voltage from high voltage transmission lines to a level that can be used in homes or businesses.
Flexibility	The ability to increase or decrease generation or demand rapidly.
Fossil Fuel Levy	A Levy on all electricity bills, to subsidise the cost of electricity generated from non-fossil means, ie renewables. The Levy pre-dated the Renewables Obligation.

Fuel diversity	The use of energy technologies to diversify energy supply sources, thus reducing reliance on a particular fuel.
Generating unit	Any apparatus which produces electricity.
Generation	The production of electricity.
Gigawatt	1,000 Megawatts.
Gigawatt hour (GWh)	A capacity of one Gigawatt applied for one hour.
Historic liabilities	Nuclear liabilities arising from the operation of British Energy's nuclear power stations before the privatisation of British Energy in 1996.
Imbalance	Under the New Electricity Trading Arrangements, when a market participant deviates from its committed level of generation or demand from the System. This could be the result of over or under generation, or failing to meet demand commitments either by exceeding consumption or not consuming enough.
Industrial & Commercial Market	The sale of electricity to non domestic customers.
Kilowatt (kW)	1,000 Watts.
Kilowatt hour (kWh)	A capacity of one kilowatt applied for one hour. The average domestic electricity user consumes 3,300 kWh per annum.
Magnox	Magnox is the trade name of the magnesium alloy cladding around the natural uranium fuel of this type of reactor. The design is peculiar to the UK although UK Magnox reactors were also exported to Japan and Italy. Overall thermal efficiency - the proportion of the energy in the fuel which is converted to electricity - is about 30 per cent. Typical electrical output is 300 MW.
Megawatt (MW)	1,000 kilowatts.
Megawatt hour (MWh)	A capacity of one Megawatt applied for one hour. The main unit of wholesale electricity trading. Equals 1,000 kilowatt hours.
Marginal cost of generation	The cost of a Generating Unit producing an additional Megawatt hour of electricity. It is primarily made up of the cost of fuel. In the case of nuclear stations this cost is relatively low.
Merchant Generator	A power station owner who sells their electricity in the Commodity Markets at the prevailing market price.
Merit Order	Stacking the bids from generators in ascending order of price together with quantity of electricity each station can generate. Particularly used in the former electricity "Pool" to set prices.
Model	A computer simulation used to predict financial and operational outcomes from programmed scenarios.
New Electricity Trading Arrangements (NETA)	The New Electricity Trading Arrangements. The name of the current trading arrangements for England and Wales, which came into effect on 27 March 2001 and replaced the Pool. It is a bilateral market with a method to manage real time supply and demand needs, known as the Balancing Mechanism.

National Grid Transco plc (NGT)	The Transmission System Operator in England and Wales.
Nuclear Fuel	Fuel used in nuclear power stations. British Energy's AGR and PWR stations use different types of nuclear fuel. The fuel is not interchangeable between the two types of reactor. The unique design means that costs are typically higher for AGR fuel. Front end costs relate to the purchase of new fuel. Back end costs relate to the storage and processing of used fuel after use.
Nuclear Liabilities	Liabilities arising from the operation of nuclear installations. These include paying for decommissioning costs and fuel processing.
Nuclear Generation Decommissioning Fund (NDF)	A segregated fund established at the time of the privatisation of British Energy to pay for the decommissioning of British Energy's nuclear power stations.
Office of Electricity Regulation (OFFER)	The electricity market regulator between 1989 and 1998.
Office of Gas and Electricity Markets (OFGEM)	The Office of Gas and Electricity Markets, the executive arm of the Gas and Electricity Markets Authority, the regulator of the onshore gas and electricity markets in Great Britain.
Peakload	All electricity demand in addition to baseload.
Plant margin	See Capacity Margin.
Pool	The Pool was the market for trading electricity in England and Wales between 1989 and March 2001. Almost all electricity generated had to be bought and sold through the Pool. All licensed generators and suppliers had to sign the Pooling & Settlement Agreement, which governed the constitution and operation of the Pool and the calculation of payments due to and from generators and suppliers.
Pool Purchase Price	The price at which the previous arrangements for trading electricity, the Pool, bought power from Generators.
Pool Selling Price	The price at which supply companies purchased power from the Pool. It was made up of the Pool Purchase Price plus Uplift.
Price setting	Bidding into the Pool such that the bid sets the System Marginal Price for a particular half hour.
Price taking	Bidding into the pool at a low or zero price to ensure that a power station is scheduled, knowing that the station will receive the PPP for its power and not the bid price.
Public Electricity Supplier (PES)	A holder of a type of electricity supply licence in use prior to full retail competition. They owned and operated the distribution networks in their designated regions; and had an exclusive sales agreement with domestic customers in the transition period to full retail competition. There were 12 PES in the market area of England and Wales, based on the pre-privatisation area distribution boards.
Pressurised Water Reactor (PWR)	This is the most common type of commercial reactor and was originally developed in the USA for submarine propulsion. Nearly 60% of the world's commercial reactors are PWRs. The UK has one commercially operating PWR power station - Sizewell 'B'. Thermal efficiency is about 32%. PWR outputs range from about 300MW to 1,300MW.

Renewable energy	Renewable energy is energy derived from a wide range of non-fossil and non-nuclear sources. This includes many naturally-occurring, replenishable energy sources that occur repeatedly in the environment.
Renewables Obligation	An obligation on all electricity suppliers to buy a certain amount of their power from renewable sources, currently 3 per cent.
Restructuring	Re-organisation of a company's organisation and finances.
Retail Market	The market for the supply of electricity to end users. Made up to two parts: Industrial and Commercial and Domestic.
Scheduling	The process of deciding which power stations will be dispatched to meet demand. Under the Pool this was done by National Grid creating the Merit Order. Under NETA generators self schedule.
Security of supply	Ensuring that demand and supply are balanced without recourse to emergency arrangements, such as power cuts to the extent that this is economic.
Settlement	The payment for supplied or demanded electricity.
Supply	The sale of electricity to end users.
System	The physical electricity transmission and distribution networks.
System Operator	The body responsible for the operation of an electricity network. In England and Wales the Transmission System Operator is National Grid Transco plc.
Terawatts	1,000,000 Megawatts.
Terawatt hour (TWh)	A capacity of one Terawatt applied for one hour.
Transmission	The transfer of electricity at high voltages from the point of generation to the companies responsible for distribution to end users. High voltages are used to increase capacity and minimise losses.
Uplift	The cost of operating the Pool and transmission system, charged to electricity supply companies under the Pool.
Vertically-integrated business	A business which owns both generation and supply operations and whose generation and supply activities are of broadly comparable size.
Volt	The International System Unit for the measurement of electrical potential. The analogy is often used with water in a pipe; voltage is the pressure of the water.
Watt	The International System Unit for electrical power. One Watt equals an electric potential of one Volt flowing at a current of one Amp.
Wholesale Market	The trade in electricity between generation companies, brokers and supply companies. Prices are set per Megawatt hour on a half hour by half hour basis.

Appendix 1 Methodology

The key question that this current report addresses is whether the Department effectively and in a timely manner identified, monitored and managed the risks posed to the taxpayer by British Energy's nuclear liabilities

Scope

Our examination covered:

- what analysis of British Energy's ongoing ability to meet its nuclear liabilities has been undertaken by the Department, and whether it was kept updated as the wholesale market for electricity changed;
- whether the Department, British Energy, the Nuclear Generation Decommissioning Fund and the Nuclear Installations Inspectorate worked together effectively to assess the credit and equity risk facing British Energy;
- whether having assessed the risks, the Department took appropriate action;
- what lessons there are from the above analysis for the future oversight of the liabilities arising from British Energy's operations;
- whether the analysis suggests more general lessons eg for risk management in the public sector or for departments' oversight of commercial businesses which the public sector has a strong interest in.

Main aspects of the National Audit Office's Methodology

In undertaking this examination we:

- Designed the examination using experience acquired on earlier studies of privatisations and departmental monitoring;
- Reviewed information from the Department's staff, advisers and records about the background to the privatisation and the Department's subsequent actions;
- Met with the current and previous directors and officers of British Energy;
- Used external expertise to advise us on best practice in risk management in situations where there is no control over the business; and
- Obtained the views of interested parties in the electricity industry.

Collection of information

We gathered relevant information from a number of sources including:

- an extensive examination of the Department's papers and documentation prepared by advisers;
- interviews with the Department's relevant officials and advisers, on how they approached the monitoring of British Energy;
- the financial model submitted by the Department in support of their state aid clearance;
- monitoring of reports and commentary in specialist energy press;
- reviewing analysts reports from the period;
- interviews with staff at Ofgem and HM Treasury;
- the published papers of the Office of the Deputy Prime Minister and the Nuclear Installations Inspectorate;
- and a survey of major generators to determine the market value of generating capacity.

Use of external expertise

We commissioned Wilmington Capital Limited, which has previous experience of reviewing departments' monitoring of commercial activities, to advise us on;

- the relationship between the Department and British Energy during the study period;
- whether there are any analogous situations that arise in the private sector;
- and how private sector entities identify, monitor and mitigate financial risks to them from other companies in which they do not have an ownership interest.

Survey of generators and power project developers

To determine the relative market value of generation capacity in England & Wales, We surveyed the following companies:

- The three largest generating companies in England & Wales: British Energy plc, RWEInnogy plc and Powergen plc. Together these companies represent 39% of the registered generating capacity in England & Wales.
- For balance we approached two large international power development companies, with experience of the market in England & Wales:
  - GE Structured Finance of the United States, which has developed 18 Gigawatts of generation capacity globally - equivalent to 30% of the registered generating capacity in England and Wales;
  - Marubeni Corporation of Japan, which has developed 66 Gigawatts of generation capacity globally - equivalent to the entire registered generating capacity in England and Wales.

The companies agreed to take part in the survey on the basis that their individual responses were kept confidential. The results of the survey were used to produce an index of the relative market value of different types of generation. The market value index was compared to an index of the rateable values of the different types of generation. The results are presented in Figure 12.

Seeking views of interested parties

We consulted a range of electricity industry bodies and participants during the course of our work. These include:

- The Electricity Association;
- Edison Mission Energy Limited;
- The Nuclear Generation Decommissioning Fund;
- Anthony White Consulting;
- British Nuclear Fuels plc.

Appendix 2 Chronology

Date	Event
31 Mar 1996	Vesting Day - British Energy and its operating subsidiaries, Nuclear Electric Ltd and Scottish Nuclear Ltd.
	Nuclear Electric plc changed name to and vested as Magnox Electric plc.
24 Apr 1996	Government blocked National Power's takeover of Southern Electric and PowerGen's takeover of Midlands Electricity.
15 Jul 1996	British Energy floated.
3 Dec 1996	The Government sold virtually all residual shareholding in British Energy.
April 1997	British Energy signs new contracts with British Nuclear Fuels plc for reprocessing services. Contracts commit British Energy to paying rising prices for these services. Main issue raised by the Department was whether British Nuclear Fuels plc were taking on excessive liabilities.
30 Jan 1998	The Government's shareholding in Magnox Electric was transferred to British Nuclear Fuels Plc. Magnox Electric became a wholly-owned subsidiary of British Nuclear Fuels Plc, to be known as British Nuclear Fuels Plc Magnox Generation. Full integration took place 30 January 1999.
23 Jun 1998	British Energy announced the planned merger of its operating divisions Nuclear Electric and Scottish Nuclear. Completed 1 January 1999.
27 Jul 1998	PowerGen takeover of East Midlands Electricity completed.
25 Nov 1998	Midlands Electricity announced the sale of its supply business to National Power.
30 Nov 1998	British Energy's bid for London Electricity rejected.
31 Dec 1998	Electricité de France purchase of London Electricity completed.
1 Jan 1999	The roles of the Office of Electricity Regulation and the Office of Gas Supply merged. Intended merger of Nuclear Electric plc and Scottish Nuclear limited, previously operating subsidiaries of British Energy, merged to form a single division - British Energy Generation Ltd announced.
30 Jan 1999	Full integration of Magnox Generation and British Nuclear Fuels plc. Magnox Generation is now one of British Nuclear Fuels Limited's five Business Groups.
23 Jun 1999	Hyder announced it had agreed to sell SWALEC'S supply business to British Energy.
30 Jun 1999	National Power's acquisition of Midlands Electricity's supply business completed.
23 Sep 1999	The Government approved British Energy's acquisition of SWALEC'S electricity and gas supply business.
14 Jan 2000	Department writes to the Minister of Local Government and the Regions, urging that British Energy's nuclear plant be treated in the same way as other plants for Business Rating. The approach was unsuccessful.

20 Jan 2000	Utilities Bill introduced in House of Commons.
Spring 2000	Decline in the level of forward prices for electricity. Some analysts predict that market prices might dip below British Energy's generating costs.
17 Feb 2000	British Energy takeover of SWALEC supply business completed.
3 Mar 2000	British Energy acquires Eggborough power station.
31 Mar 2000	Chairman of British Energy advises Ministers of a major reverse to the fortunes of the Company, due to a 20 per cent fall in prices and the difficulty of finding further cost reductions given an "increasingly tough line" by safety regulators.
28 Apr 2000	British Energy Directors obtain meeting with Departmental officials, and highlight British Energy's need for concessions on the Climate Change Levy and in the cost of services from British Nuclear Fuels plc. Officials advise that there is no prospect of change on Climate Change Levy, and agree to keep in touch on development on both issues.
May 2000	British Energy Chairman formally raises Climate Change Levy and British Nuclear Fuels plc issues in letter to Ministers. Officials briefed by BNFL that they and BE are "far apart". Ministers respond that Climate Change Levy is a matter for Treasury and that negotiations with BNFL are a commercial matter for both companies, declining to become directly involved or to direct British Nuclear Fuels plc.
June 2000	Department concludes from review of brokers' reports that British Energy "might be overdoing the gloom".
July 2000	British Energy Chairman obtains meeting with Ministers. Similar requests and responses to previous meeting in April.
13 July 2000	British Energy announces a dividend cut by 50 per cent.
28 Jul 2000	Utilities Act 2000 received royal assent.
7 Aug 2000	British Energy sold Swalec to Scottish and Southern Energy, abandoning their strategy of vertical integration.
15 Aug 2000	ELEXON Ltd took over the responsibility for the Electricity Pool and the introduction of the Balancing and Settlement Code which will support the New Electricity Trading Arrangements.
December 2000	Meeting between British Energy's Chief Executive and Departmental officials. The Company recognises that its share price had risen despite a half year loss, due to better operational performance. But the future level of prices remained uncertain and so whether the Company could survive the next 3 years. Competition Commission find in favour of British Energy against Ofgem's Market Abuse Licence Clause.
January 2001	Further meeting between British Energy directors and senior officials. British Energy remind the Department that if the Company becomes insolvent in the worst case scenario, some £14 billion of undiscounted liabilities could fall to the Government. Agreement that future trends in prices will be a critical factor.

26 March 2001	New Electricity Trading Arrangements introduced.
March 2001	Department appoints Credit Suisse First Boston to help it evaluate a proposal from British Energy to merge with British Nuclear Fuels plc, to include advice on British Energy's prospects.
May 2001	British Energy purchases Bruce Power in Canada.
May 2001	Department concludes that with electricity prices holding steady at £19 per Megawatt hour, British Energy can withstand short and medium term difficulties and their position is not critical. Share price has partially recovered.
Winter 2001-2002	Wholesale electricity prices fall further to £13.50 per Megawatt hour, compared to an estimated break-even point for the British Energy of £17.50 per Megawatt hour.
November 2001	Report on energy by the Performance and Innovation Unit of the Cabinet Office concludes there is a need to maintain a nuclear capability. Department uses the case to prompt Treasury again on more favourable treatment for British Energy under the Climate Change Levy.
December 2001	Department begins work on a Strategy Paper for British Energy.
February 2002	Department meets with Nuclear Installations Inspectorate to clarify the operational and safety implications of British Energy's financial difficulties. British Energy agree to a financial assessment of the Company by the Department's advisers, CSFB. CSFB conclude that British Energy will face serious refinancing difficulties within 6 to 9 months. Department plan for possible insolvency but decide not to pursue options in response to the Company's other requests that might 'ward off' insolvency, citing state aid issues.
May 2002	British Energy pays a dividend to shareholders.
July 2002	British Energy is unsuccessful in obtaining new bond finance to replace expiring debt. British Energy settles the Nuclear Energy Agreement dispute in Scotland.
12 Aug 2002	Torness outage.
3/4 Sep 2002	British Energy and British Nuclear Fuels plc fail to agree terms for revision of spent fuel management.
5 Sep 2002	British Energy approaches Government for rescue aid.

Appendix 3 Key Changes in the Electricity Markets 1996-2002

The 'Dash for Gas'

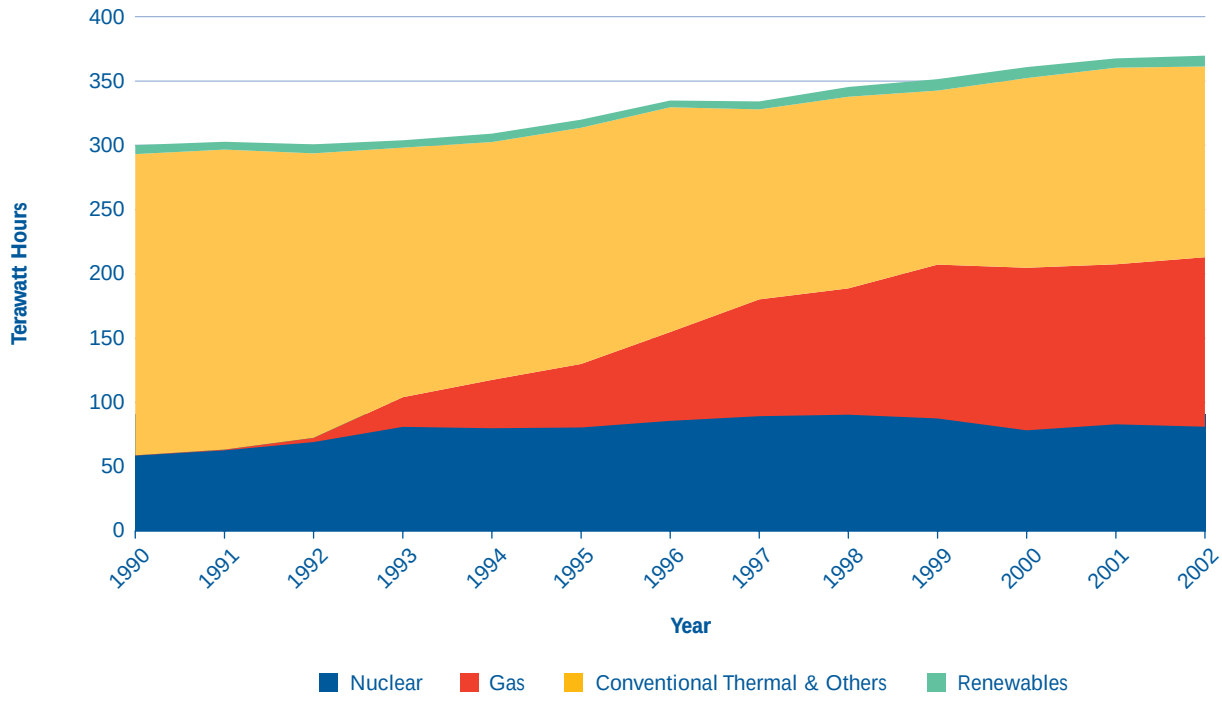
1 Between privatisation and March 1998 most electricity customers were required to buy their electricity from their local Public Electricity Supplier, who thereby enjoyed a guaranteed level of sales and were willing to enter into long term fixed price power purchase agreements with generators. Starting in the early 1990s, the availability of gas on long term contracts at a lower cost than coal favoured the building of gas fired power stations. A significant feature of the gas supply contracts available at the time[49] was that the stations were required to take a large minimum quantity of gas each year and were not allowed to sell the gas on in the Commodity Markets. This led to the situation where stations had to be run in order to ensure that they met their minimum gas purchase agreements.

2 The liberalisation of the generation market, the Public Electricity Supply system and the distortions in Pool prices maintaining high wholesale power prices created circumstances which encouraged developers to build new gas fired power stations. Between 1990 and 1997 gas fired generation rose from two per cent to 24 per cent of all generation[50] **(See Figure 12)**. This resulted in a surplus of generation over demand which created downward price pressure in the wholesale market.

3 The downward price pressure was somewhat ameliorated by distortions in the wholesale Pool price. With contracts fixing their price, the gas generators had no incentive to compete in the Pool. They were happy to act as price takers. This increased the market power of the active participants or 'price setters'. The wholesale price remained at a level which encouraged further gas fired power stations to be built.

12 The Dash for Gas

In the ten years since 1990 gas has become a significant fuel for electricity generation.



Source: Department of Trade and Industry

49 *Long term interruptible contracts available from British Gas.*
50 *The Electricity Association.*

Full supply competition

4 Full supply competition for domestic customers was introduced progressively from March 1998. By mid 1999 all customers were free to purchase their electricity from any licensed supplier. The Public Electricity Suppliers lost their secure demand. This increased the volume risk carried by supply companies, making them less willing to enter into long term power purchase agreements.

5 Industrial and commercial customers were quick to take up the opportunity to negotiate with competing suppliers for the best price. To reflect this supply companies sought competitively priced wholesale power and wholesale power prices began to fall (See Figure 7).

The New Electricity Trading Arrangements

6 Since the privatisation of the electricity industry in 1989, there had been growing dissatisfaction in Government and consumer organisations with the way the wholesale Pool operated. It was perceived that generators were able to distort wholesale prices from their true market level. Between 1994 and 1996 the then Director General Electricity Supply had introduced a price cap on the Pool price to mitigate these distortions[51]. Nevertheless the dissatisfaction remained.

7 In October 1997 the Minister for Science, Energy and Industry invited the Director General of Electricity Supply to conduct a review of electricity trading arrangements. In July 1998 the Director General published proposals for new market based trading arrangements for electricity. In October 1998 the Minister for Energy announced that the Director General's proposals[52] on the reform of the electricity market in England and Wales were the right way forward and that further work on these proposals was to begin. The Office of Electricity Regulation (OFFER), now Ofgem, and the Department were responsible for the overall direction and leadership of the implementation process.

8 The proposals led to the introduction of the New Electricity Trading Arrangements (NETA) in March 2001[53]. NETA created a bi-lateral commodity market. Under NETA generators must contract directly and competitively with other market participants **(See Figure 13)**.

Vertical Integration

9 In 1999 the two largest fossil fuel generators, National Power plc and Powergen plc, realised that their position was under severe threat from the increase in competition in the wholesale market. Following the acquisition of the MANWEB[54] supply company by Scottish Power, they pursued a strategy of vertical integration between generation and retail supply to mitigate the changes in the wholesale market. Effectively they bought retail supply companies and their 'books' of retail customers. Since the full liberalisation of supply in 1998 retail customers have proven less inclined to switch suppliers than have industrial and commercial customers. The disinclination to switch has allowed retail suppliers to maintain profit margins and has reduced the volume risk to integrated businesses.

10 As a result of a Competition Commission enquiry both the then National Power plc[55] and Powergen plc[56] were allowed to purchase electricity supply businesses on condition that they disposed of four Gigawatts of generation capacity each. The disposal acted as an aid to the two companies as it left them with well balanced portfolios of generation and supply (See Figure 10).

The fragmentation of plant ownership

11 The forced sale of eight Gigawatts of capacity led to considerable fragmentation of the generation market **(See Figure 14)**. British Energy was left as the biggest single generating company, with about 20 per cent of the UK's generation market. With a relatively small supply business, British Energy has had to compete with other 'merchant'[57] generators to find takers for its electricity.

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51 On threat of a referral to the Monopolies and Mergers Commission by the Regulator, National Power and Powergen agreed to a voluntary undertaking to bid into the Pool so as, under normal circumstances, not to exceed a yearly average Pool Purchase Price (PPP). The price cap was set at 2.4p/kWh time weighted and 2.55p/kWh demand-weighted, both in October 1993 prices. The cap level was calculated by the Regulator to be between one year avoidable costs of 2.2p/kWh and long run average prices of 3.0p/kWh.

52 Review Of Electricity Trading Arrangements: Framework Document November 1998.

53 Legislative changes required to implement the New Electricity Trading Arrangements were contained in the Utilities Act 2000.

54 The Public Electricity Supply company covering Manchester and the North West of England.

55 National Power plc purchased the supply business of Midlands Electricity in June 1999. National power demerged into Innogy and International Power in October 2000. Most of the England & Wales business was transferred to Innogy which bought the supply business of Yorkshire Electricity in 2001. RWE AG of Germany purchased Innogy in May 2002.

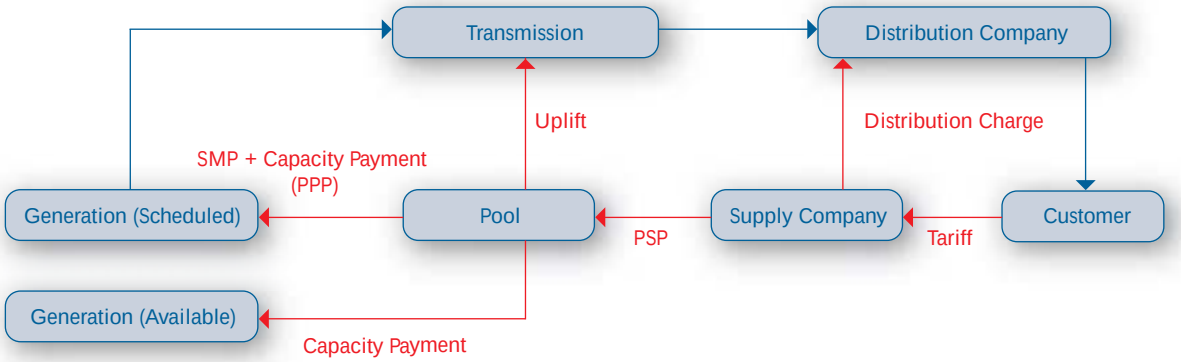
56 Powergen plc purchased East Midlands Electricity in July 1998. Powergen was taken over by E.ON AG of Germany in October 2002.

57 A merchant generator is a generator who does not have long term contracts for the sale of his power in terms of both price and volume.

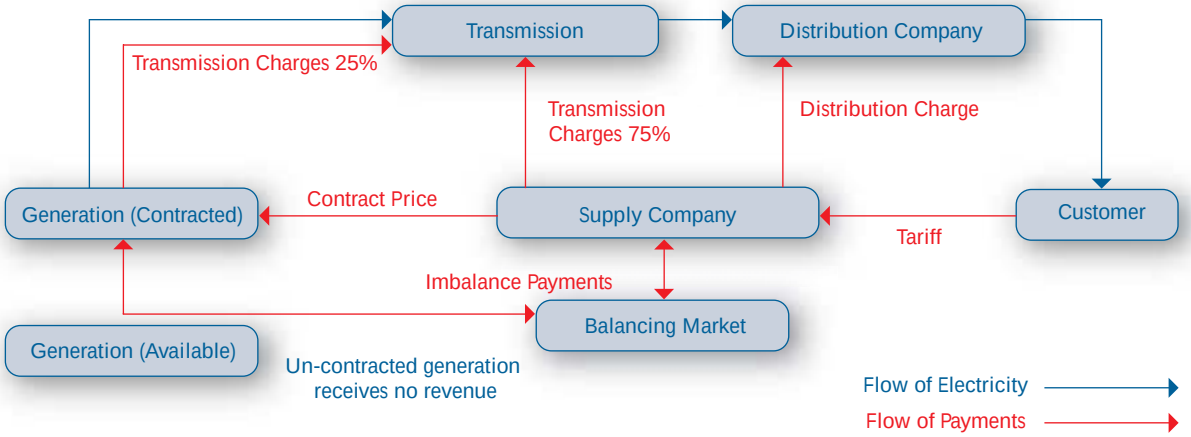
13 Commercial relationships changed with the introduction of NETA

Unlike the pool system generators must contract directly with other market participants under NETA to secure revenue earning contracts.

Pool: 1990 - 2001



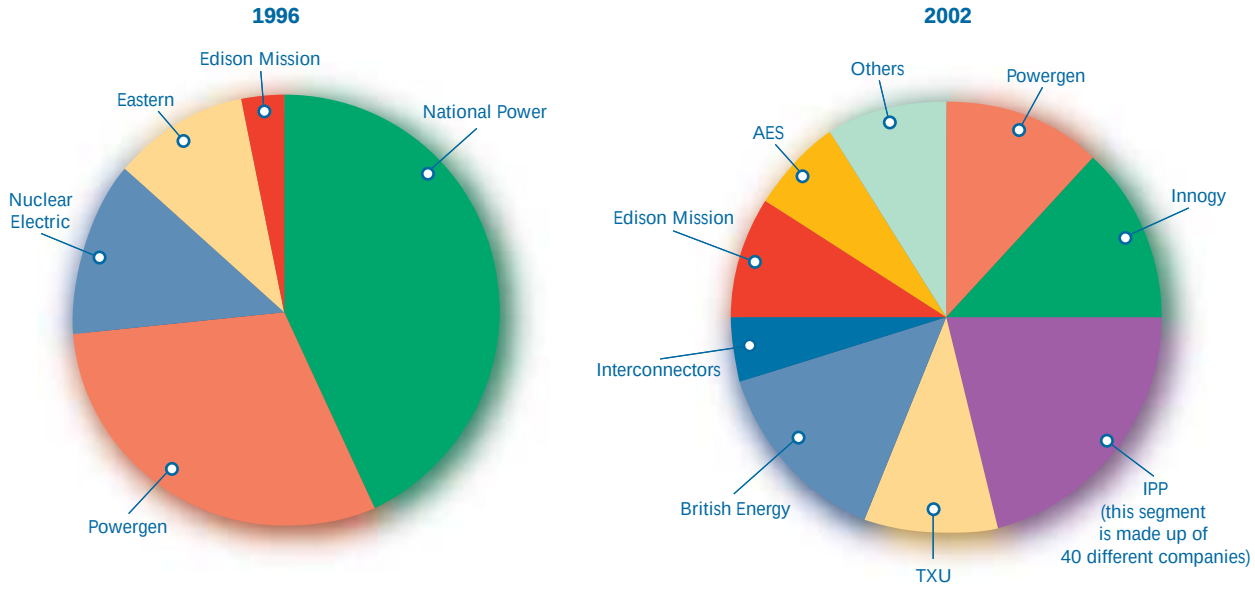
NETA: 2001-



Source: National Audit Office

14 New entrants brought market fragmentation

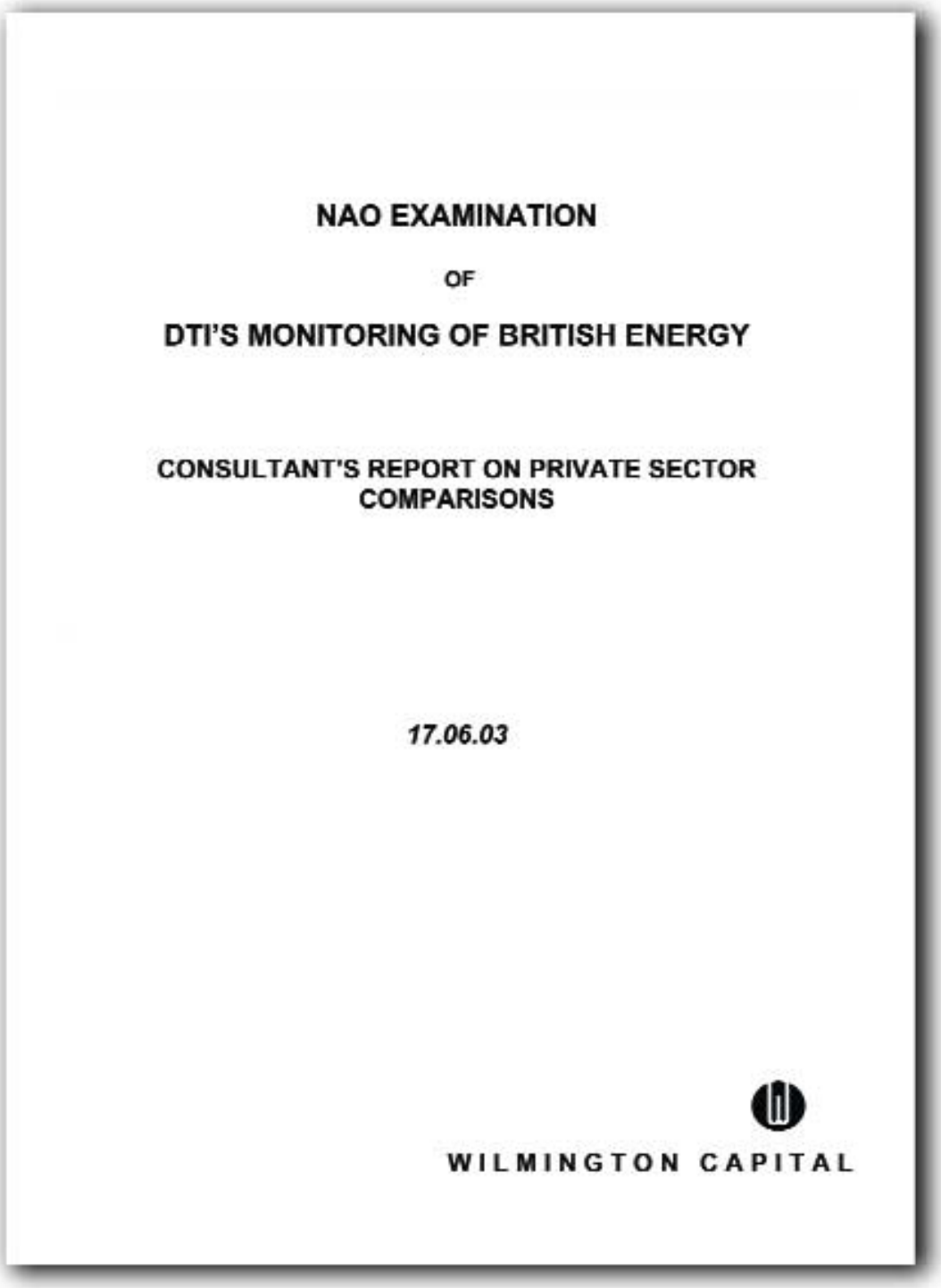
Between 1996 and 2002 the generation market fragmented from five main participants to over 40 participants.



Source: Department of Trade and Industry

Appendix 4

Private Sector Comparisons Report by Wilmington Capital



NAO EXAMINATION

OF

DTI'S MONITORING OF BRITISH ENERGY

CONSULTANT'S REPORT ON PRIVATE SECTOR COMPARISONS

17.06.03

WILMINGTON CAPITAL

Contents of the Report

1. Instructions in relation to the Report

1.1 The National Audit Office ("NAO") is conducting an examination into the Department of Trade and Industry's ("DTI") monitoring of British Energy plc ("BE") in the period from its privatisation up to the time when it became necessary to put in place a financial support package. Wilmington Capital Limited ("WCL") has been asked to consider the relationship between the DTI and BE during this period and determine whether there are any analogous situations that arise in the private sector. In particular, we have been asked to describe how private sector entities identify, monitor and mitigate financial risks to them from other companies in which they do not have an ownership interest.

1.2 The starting point for our report has been an analysis of any financial and contractual relationships between DTI and BE that arose from the structure of the privatisation or were already in existence by virtue of the general role of the DTI and the nuclear related nature of BE's business. From this we have sought to identify comparable situations which result from relationships between companies in the private sector. Although there are no exactly comparable situations, we have identified and analysed in this report certain arrangements that have some features in common. We have particularly been asked to consider in our analysis situations which may have some lessons for future conduct.

1.3 We have briefly looked at the history of the actual relationship between DTI and BE in the period from privatisation up to the implementation of the restructuring. However, this has only been done in order to obtain a fuller picture of the relationship for the purposes of identifying private sector comparisons. We have not been asked to comment on the DTI's handling of its relationship with or monitoring of BE.

1.4 This report has been prepared by Mr Gerry Grimstone and Mr Johnny Reed both of whom are directors of WCL, a corporate finance advisory company regulated by the Financial Services Authority. Mr Grimstone and Mr Reed each have over 20 years of relevant experience, covering privatisations, restructurings, lending and corporate finance.

1.5 The contents of this report are based on the direct experience of Mr Grimstone and Mr Reed or reflect their knowledge of market practice in related areas. We have not been asked to undertake any interviews nor study in detail the documentation in the possession of the NAO relating to their report.

2. Analysis of the DTI/BE relationship

2.1 Prior to privatisation in 1996, the nuclear generation industry in the UK was state owned. Nuclear plants operated by the predecessors of BE and its subsidiaries were the responsibility of HMG both through their direct ownership and on a different level through undertakings given in international nuclear treaties and other statutory obligations. The DTI was the government department responsible for oversight of the nuclear generators.

2.2 When the electricity industry was privatised in 1989, nuclear generation was not included due to uncertainties surrounding the long term liabilities associated with nuclear plant decommissioning. This was one of the key issues in structuring the privatisation of BE and was eventually addressed in two ways. Firstly, only the modern plants were included in the privatisation with the older reactors remaining in government ownership under a new company, Magnox Electric plc. Secondly, in order to cover the long term residual decommissioning liability, a nuclear decommissioning fund ("NDF") was established to accumulate funds to cover the estimated future costs[1].

2.3 The NDF was endowed with an initial sum and then annual contributions were to be made by BE so as to ensure that the terminal value in the fund would meet the current estimation of costs. A five year review process was incorporated into the fund structure following which BE's contributions for the succeeding five years could be adjusted, up or down. At the review dates in 2001 and 2006, HMG retained the right to claw back 50% of any surplus if it were determined that the fund had been over endowed.

2.4 After the establishment of the NDF, the DTI and HMG were to have no role in its running or management. This role was vested in trustees who had the responsibility to ensure that the fund was properly managed. Although the government retained the right to appoint three of the five trustees, albeit from a short list provided by BE, they had no power to influence the trustees whose role was enshrined in a trust deed. The function of monitoring the state of the fund was carried out by the trustees, having taken advice from various expert advisers. They also had a certain monitoring role in respect of BE since the Nuclear Decommissioning Agreement[2] contained events of default under which the trustees could take certain steps if, for instance, there were an insolvency event. However, the actions they could take following an event of default were unsecured and limited to an acceleration of payments due up to the next review date.

1 The actual arrangements for the NDF involved a more complicated two tier structure of a trust and a fund company. In this report, we shall refer to the NDF as if it were one entity as its structure does not have any impact on our analysis.

2 We have not had sight of the original agreement but have reviewed the Nuclear Decommissioning Agreement Consolidated Deed dated 4th February 2003, which is assumed to have similar events of default provisions.

2.5 The NDF was designed to be in a position to pay for the decommissioning operation once a station had been closed and was no longer capable of generating a cash flow. Until that time, the income that the station generated would be used to replace and reprocess burnt fuel and, ultimately, to defuel the station completely once it had ceased operation.

2.6 An important continuing relationship with the public sector concerned the reprocessing of spent fuel rods and the purchase of new fuel that was to be undertaken by British Nuclear Fuels Limited, a state owned company, under various contracts. The nature of these contracts, and the relative expense of reprocessing versus storage of spent nuclear rods, has been the subject of considerable debate between the DTI and BE. We understand that the latter considers that the arrangement imposes an unfair burden on the company which would otherwise choose the cheaper storage option. We are not in a position to comment on this and view it as a contractual relationship between two companies and not part of BE's relationship with the DTI.

2.7 The day-to-day business operation of BE was subject to monitoring by the Nuclear Installations Inspectorate division of the Health and Safety Executive. OFGEM also had responsibilities towards the company. This was the case prior to privatisation and so had no real impact on the DTI relationship with BE. Both of these organisations needed to be cognisant of the financial situation of BE as part of their regulatory oversight.

2.8 Although the privatisation resulted in the government eventually disposing of all its shares in BE, as well as the residual debt that it had had immediately after privatisation, it did retain a Special Share which gave it a continuing connection with the company. In effect, the existence of the Special Share meant that it could have a right of veto over certain things. Any matter which was deemed to affect the rights of the Special Share required the holder's consent, namely :

(i) amendments to certain provisions of the Articles of Association, in particular relating to issues of shares which would cause a breach of or amendment to the 15% shareholding restriction[3];

(ii) the appointment of the Chairman; and

(iii) the disposal of the shares in the subsidiaries of BE or the creation of additional shares in the subsidiaries.

2.9 The features of the Special Share meant that the DTI had a direct means of ensuring, for public interest reasons, that certain features of the privatisation would be retained. The Special Share had an initial life of 10 years and thereafter would be redeemed by the company if so requested by HMG. Once redeemed, all the residual elements that it protected within BE, including the 15% shareholding limit, would fall away.

2.10 In addition to the particular relationship between the DTI and BE created by the terms of the privatisation, the DTI still had a wider but less defined brief in relation to the company. As a large British company, the DTI had a general interest in its well being and was asked on occasion to act as its champion in government. This was not dissimilar to its relationship with other large companies but it was particularly relevant in the sensitive nuclear sector and also reflected the historic role of the department.

2.11 The DTI's interest in monitoring BE, however, had a more direct relevance than was the case with other major companies. The financial health of BE would be essential if it were to continue to handle the significant costs of spent fuel reprocessing prior to decommissioning and to make the required contributions to the NDF. Were this not to be the case and the fund proved insufficient to cover all the decommissioning liabilities, the ultimate obligation would fall on HMG. This would be both a practical matter in that the government could not allow public safety risks to go untended and also by virtue of the fact that the international treaties covering the nuclear industry put a clear obligation on the signatories to ensure that no nuclear risks are created in their own territories. In addition, HMG would also be under some pressure to act as a lender of last resort for such a major electricity generating company in an environmentally sensitive area.

2.12 In general, the legal relationship between BE and the DTI post privatisation was very limited. As long as the company did not seek to breach any of the features enshrined in the Special Share, such as approval for the appointment of a new Chairman, the DTI had no other rights of intervention or influence in the conduct of the company. In all other respects, its position with BE was the same as it would have been with any other major British private sector company.

3 It is worth noting that the European Court of Justice has recently ruled that the use of special shares by the UK government in BAA went against the principle of free movement of capital within the EU. However, this was not relevant to BE at the time of privatisation.

3. Private sector comparisons

3.1 Although we have seen that the legal relationship between BE and the DTI was limited post privatisation, the one significant feature was that the government had a very direct interest in making sure that the company continued to be viable so that it could meet its nuclear obligations, both in terms of defuelling costs and contributions to the NDF. This had both a general public interest element, which is not comparable in the private sector, and a contingent financial liability which would vest in HMG if the company failed to meet its obligations. This latter element does have several parallels outside government.

3.2 Risk management is an important aspect of running a business. Every company is at risk from various claims that may arise from things such as product liability, employee liability or business disruption. These are events that may happen but there is no expectation that they will. They are not mentioned in the company's accounts as contingent liabilities and are normally covered by insurance. However, the dividing line between what is a normal business risk and what is a contingent liability can be a fine one. In general, if there is a theoretical risk that something may happen, it is insured against, or ignored. On the other hand, if a specific risk situation can be identified and quantified, even if it is considered to be remote, it must be treated in a more serious way. This may fall short of disclosure in the accounts as a contingent liability, particularly if this would potentially crystallise the claim, but will still require constant monitoring and evaluation.

3.3 The DTI resource accounts do not mention HMG's potential liability to support any of BE's nuclear obligations, including contributions to the NDF, and this situation was certainly not mooted at the time of the privatisation. Although it might have been assumed by the public at large, who would have been concerned by the dangers of nuclear liabilities being in non government hands, it would have been of less concern to the new shareholders of BE. They were interested in the future earnings potential of the business. If the situation arose that the company were unable to fund its nuclear liabilities, then its shares would almost certainly have lost all their value.

3.4 HMG's potential liability to pick up BE's nuclear obligations in the event that it were unable to meet them, is a very unusual form of contingent liability and not one that would normally arise in the private sector, except as part of a specific contractual arrangement. There are, however, several situations which have some similarities and these may be instructive when looking at the approach to monitoring and to reducing potential risks.

3.5 The NDF has been likened to a "pension fund for retired nuclear power stations". In a pension fund, the trustees will review the future liabilities against the assets on a periodic basis. If there is a shortfall, they will seek additional contributions from the company. Under normal circumstances this would not be a problem but if the company is unable to make contributions because it has gone into receivership, there is nothing that can be done. The pension fund will not be able to meet all prior service liabilities and some arrangement will have to be reached on the allocation of assets between beneficiaries (principally in favour of existing pensioners). For the NDF, the position is similar. However, as we have noted above, if there were a shortfall, HMG would eventually have to meet it so the actual comparison with a pension fund is somewhat limited.

3.6 Without any direct ownership or control by DTI, the relationship between BE and DTI cannot really be compared with a holding company's relationship with its subsidiary or associated companies. Nor would one expect this to be the case. Privatisation was meant to pass the company firmly into the private sector as an independent business operating in and subject to the free market. The Special Share did give HMG certain rights with respect to the company; however, it gave no control as such and merely ensured that certain public interest issues could be addressed.

3.7 When a holding company sells a subsidiary, it will lose all future influence over that company and sever all relations unless there is some residual legal contractual relationship, such as will normally be found in specific warranties and indemnities. Such an arrangement is likely to relate to an unknown liability that might arise in the future, usually because full disclosure has not been made to the purchaser. However, if a liability has been fully disclosed then this will have been taken into account in arriving at the agreed price. The seller will then walk away from the entire business and it will be up to the new owner to look after these liabilities.

3.8 A possible exception to this is in the case of environmental pollution. This is considered in Example 5 below. The seller will use all its efforts to ensure that the liability is properly passed on; however, if this is not possible, then it must form a view about the purchaser and its ability to fulfil its obligations, or seek some form of insurance or guarantee to cover the event that the purchaser fails to complete its side of the contract and the liability returns to the vendor company.

3.9 In the case of BE, the government had taken steps but in fact had not completely removed its potential liability to pick up BE's obligations in relation to the nuclear liabilities. It had, therefore, a very specific interest in the company's viability. In the private sector, there are two main types of situation where one company ("ACo") will have an interest in the financial viability of another company ("BCo"), even though ACo has no ownership in BCo and is also not able to exercise any control over it. These are :

(i) ACo is owed money by BCo; or

(ii) BCo is undertaking some service or payment that ACo will have to undertake if BCo fails to fulfil its obligations.

3.10 In both these situations, ACo will have to take a view as to whether BCo is likely to continue to be viable and what steps it can take to protect its position. This determination will depend very much on the type of liability involved and its duration. Unless ACo is in the business of determining such risks (eg a bank), it will seek to limit its exposure to the shortest possible time and have contingent plans in place.

3.11 For a short term risk, ACo will normally make a one time appraisal of the transaction and the risk of dealing with BCo. The outcome will be known relatively soon so there is little real benefit in monitoring the situation because no action could be taken in the time available. However, for longer term risks, it will be necessary both to have the means to take action if certain events occur and to monitor the position of BCo on a regular basis to see if they do occur. There is little point having powers to take action if the situation is not monitored and vice versa.

3.12 As noted above, the trustees of the NDF did have the power to call an event of default in certain circumstances and accelerate the payments due to the fund. However, it is not clear that the DTI could or should have taken any comfort from this as the amount was limited and no security had been taken for the payment.

3.13 The government's position in relation to the NDF is fairly easy to delineate. However, before any actual payments in this respect might be required, the government would be under some pressure to provide support for a company of this size and environmental sensitivity if it ran into financial difficulties. The NDF was only designed to meet the costs of decommissioning after defuelling. The fuel reprocessing costs of this would have been considerable if the company could not be kept as a going concern. In the event of a failure of BE, the government was always going to have to make a difficult choice between keeping the company going by injecting funds or letting it fail and run down its operations.

3.14 In the following sections, we describe some of the private sector situations which we think are relevant when considering the DTI/BE relationship. The examples used are as follows:

(i) a bank or other party acting as a financial guarantor for one company's obligations with respect to another party (Example 1);

(ii) a bank or other party providing a performance bond for one company's obligations with respect to another party (Example 2);

(iii) a party which has undertaken to perform a particular service to another party has subcontracted some or all of that duty. If the subcontractor does not fulfil its contract, the first party will still be liable to complete the contract (Example 3);

(iv) a property is sublet but the original lessor remains responsible to the landlord (Example 4); and

(v) an original liability, for instance to reinstate a particular piece of land which has been polluted, is passed on to another party but the ultimate liability is not passed on. If the acquirer of the land fails to keep the reinstatement, the original party will remain liable (Example 5).

3.15 The position of a bank lender is also another situation where there is a contractual relationship between parties that have no ownership relations. However, we feel that the situation of a guarantor (bank or otherwise) is a closer analogy because of the more contingent nature of the obligation. In any event, the terms of the two arrangements are very similar as the guarantor will have built in all of the protections that a lender has for monitoring the status of the borrower and taking steps if its financial situation deteriorates.

3.16 The examples set out below are very much generalised ones based on normal market practice. Each can be subject to a number of variations according to the specific situations concerned. However, in all cases, the principles that we are seeking to explain will still hold true.

4. Example 1: Financial Guarantee

4.1 This example covers the situation where one party guarantees the particular obligations of another to a third party. Although HMG was not the stated guarantor of the liabilities for decommissioning that would be funded through the NDF, in practical terms it was always at risk of having to cover any shortfall if things went wrong.

4.2 In general, a guarantor is usually required to provide a guarantee because the party concerned is not of sufficient credit standing for a third party to accept its credit rating unsupported. Guarantees are used in many different situations but it will help to use a specific example.

4.3 A typical situation is where a company ("AcCo") acquires an asset or business from a vendor ("VCo") and gives VCo a loan note or IOU rather than a cash payment. Since VCo is not entirely comfortable with the credit standing of AcCo, it asks for the loan note to be guaranteed by a first class bank. The bank will then become the credit risk for the loan note and VCo can obtain payment when it falls due directly from the bank if AcCo defaults.

4.4 On the other hand, the bank is prepared to accept AcCo's credit risk because it knows the company better, has a more positive view of its credit standing or perhaps is prepared to take (or already has) security. Although VCo could form a similar credit judgement, it is not set up to do so as this is not its business. In this situation, the direct contract for the payment of money is between AcCo and VCo. If such payment is not made, VCo can go straight to the bank guarantor for payment. The bank guarantor would have a counter indemnity from AcCo and if it is required to pay Vco, it would then proceed to recover its money from AcCo.

4.5 The bank's guarantee of AcCo is not significantly different from the situation where it had made a direct loan to AcCo to fund the purchase price. The bank still has a full liability for the amount of the loan notes and this will come off its capital for regulatory purposes. The only difference between this and the loan is that the bank is not actually funding the loan nor charging an interest rate. Instead it charges a guarantee commission which will be similar to its lending margin. The analogy with the position of HMG and the NDF is that if all goes well then the bank will never have its guarantee called. AcCo will pay VCo the money when the loan notes are due and the guarantee will fall away. In a similar fashion, if the contributions of BE and the NDF are sufficient to meet all the decommissioning liabilities then there will be no problem for HMG. However, if this is not the case, the government will have to fund the difference, on the assumption that BE no longer exists to meet any additional liabilities.

Appraisal

4.6 A bank will only issue a guarantee if it is satisfied that the company's credit standing is sufficient for the length and the amount of the obligation. This may be on an unsecured basis or the bank may insist on taking security (depending on the circumstances) if it is concerned about the credit risk. Even if it has security, it will want to see the company able to repay any amounts due without having to call on the security. However, with or without security, it will impose a number of undertakings and covenants on AcCo in order to protect its position should the financial situation of AcCo deteriorate.

Protection

4.7 Undertakings normally cover the requirements to provide certain financial information (including certification that covenants have not been breached) and that the company will not do certain things such as give any security to creditors without consent nor dispose of principal assets. The most important covenants will relate to financial ratio tests that must be met at all times, or at least when accounts are available. These can cover a wide range but are all designed to be triggered when the financial condition of the company deteriorates. Typical examples are :

(i) debt not to exceed a certain percentage of capital and reserves;

(ii) current assets to exceed current liabilities;

(iii) a minimum level of tangible net worth;

(iv) interest to be covered a certain number of times by profits before interest and tax.

4.8 If any of these covenants or undertakings are breached, it will be an Event of Default and the bank can then call for its obligations under the guarantee to be met by the company providing a cash deposit with the bank to cover the full amount of the guarantee or adequate security to be given if this is not already in place. An Event of Default will also normally occur if the company is in breach of any of the covenants of its other loan agreements, thus enabling the bank to be in a similar situation to that of the other lenders.

Monitoring

4.9 As part of its operating procedures, the bank will monitor the financial position of AcCo from information given to it by the company. Under normal circumstances this may be no more than a review of the annual and half yearly accounts when published, followed by a discussion with the company. However, if circumstances deteriorate or covenants are looking in danger of being breached then the bank will require information to be provided on a monthly or quarterly basis and more detailed discussions held with the company on the nature of its problems and how these will be addressed. If the situation deteriorates further and the company is in breach of covenants, the bank may call for an accountants' report on the company to help it determine what is the best course of action.

4.10 Although there may be little that a bank can do to prevent a company's business deteriorating, it is very important that it be forewarned of any problems. In these circumstances, it can consider ways in which to make its position more secure and also consider the likely attitude of other lenders and creditors if it suddenly appears that the company might be put into liquidation. In practice, a default under one loan agreement will mean default under any other loan agreement or guarantee so once a default arises, any of the banks can call for its money and bring the company down. At this point the banks have to consider whether their best course lies in working out the situation or calling in a receiver or liquidator.

4.11 Even if there is very little that a bank can do because its covenants have not actually been breached, being aware of a company's difficulties may enable it to position itself in the best possible way to minimise loses. It will also of course start to make specific provisions against the outstanding liability to the company which may help to spread the impact of any loses over two or more years.

4.12 The DTI did not have covenants which could trigger an Event of Default. All its influence was confined to prohibitions on certain acts, including the disposal of assets, enshrined in the Special Share. In this respect, it was in a very different position from a bank guarantor or lender which had built protective measures into its agreements. However, in some ways, it was similar to a bank that can see a company's position deteriorating but is unable to do very much until a covenant has been breached, on the assumption that it was monitoring the situation as closely as a bank would have done in the circumstances.

4.13 Best practice in the private sector requires that a bank builds sufficient protection into the legal relationship between it and the party it has guaranteed, and that it keeps a close watch on the company's fortunes to make sure that it has advance warning of any difficulties that are likely to arise.

5. Example 2: Performance bond

5.1 Performance bonds are issued in a number of different situations but one common example is in the context of a major project where the principal is not willing to run the risk that the contractor does not complete on time and to specification. The performance bond is issued by a prime bank and can be called for payment in circumstances where the contractor has not performed. It is thus not dissimilar to a guarantee for a third party debt obligation and its terms are largely similar.

5.2 In the same way that a guarantee is deemed to be a contingent liability, the performance bond is a form of insurance and under normal circumstances should never be called. HMG could be viewed as providing the ultimate performance bond for the decommissioning process in the event that BE and the NDF failed to complete it through insufficient funds or for other reasons.

5.3 The issuer of a performance bond will receive an indemnity from the company concerned and will have the same covenants and undertakings as a guarantee. However, the circumstances are potentially more "contingent" than a guarantee and will be likely to have a lesser risk weighting for the bank. This is because if the company completes the contract, which is in its normal course of business, then no call will be made under the bond. The risk determination is thus initially a business one and only becomes a financial commitment if the contract fails.

5.4 Apart from this slightly different risk profile, the performance bond is very similar to a guarantee. The terms of the two instruments will be comparable and the points made in the previous section concerning the appraisal, protection and monitoring aspects of a guarantee exposure will apply equally to a performance bond.

6. Example 3: Subcontractor

6.1 When HMG privatised BE, it effectively subcontracted all its obligations to BE for the safe operation and ultimate decommissioning of the eight reactors that formed part of the privatisation. In actual fact, the government sold the reactors to BE and with them the liabilities for the decommissioning. It sought to ensure that these liabilities would be met by providing BE with a viable financial structure and through the establishment of the NDF but, in practice, the ultimate liability for performing the decommissioning remained with HMG.

6.2 There are many examples from the private sector when a company that is performing a particular contract seeks to subcontract some of the work to another company ("SubCo"). If SubCo fails to carry out its contact as required, through poor work or financial failure, then the obligation to the principal to complete the work remains with the original contracting company.

Appraisal

6.3 Before entering in to a subcontract arrangement, the company will want to be sure that SubCo has the expertise and financial resources to complete its subcontract. This will require a certain amount of enquiry and due diligence. In practice, subcontractors will usually be known to the main contractor or have some reputation in the market. This knowledge would be supplemented by a review of its latest accounts and possibly a check by a credit rating agency.

Protection

6.4 There is little protection that can be included in the contract apart from normal contract law remedies. If SubCo does not perform, it will have to be replaced and if necessary sued for breach of contract and damages that result.

Monitoring

6.5 In most cases, contracts will be relatively short but the monitoring of progress will be built into its terms. This will be a feature of the overall contract where stage payments are only made after certification by an architect or quantity surveyor that the work has been completed.

6.6 As the main contractor's remedy in the event of a serious problem will usually be to finish the work itself or subcontract another company, time will be important as it will need to take steps before time penalties are incurred. It will, therefore, need to monitor progress carefully and make sure that the stages are being completed and certified within the agreed timetable.

7. Example 4: Sublease

7.1 A further parallel is in the case of a property arrangement for the sublease of a property that has already been leased but is surplus to the requirements of the original lessee. The situation has some similarities with the subcontractor situation but the effects are slightly different as the original tenant will remain responsible for the rental payments if the tenant defaults.

7.2 An example would be a company that is leasing a building on a long-term lease but finds that it has moved the business operation that previously occupied that building to another location. Under these circumstances they would seek to find a tenant to take on the building and thereby cover or possibly exceed the rental they had undertaken to pay to the owner of the building.

7.3 However, if the new sub-lessee defaults in payment then the original lessee[4] will still be responsible for making up payments to the owner. This is not dissimilar to the situation where BE is required to cover the fuel reprocessing liabilities and to make payments to the NDF. If it fails to do so, HMG will effectively be responsible for making good the difference to ensure decommissioning is safely accomplished.

Appraisal and protection

7.4 The lessor will need to be completely satisfied that the sub-lessee is likely to be able to have the financial means to pay the rentals. In practice, this analysis is not critical as, for all but the highest quality tenant, the lessor will require a deposit covering a full year's rent and possibly a bank or personal guarantee as well.

Monitoring

7.5 Monitoring of the lessee's financial situation is unlikely to be undertaken to any great extent by the lessor company. As long as the rentals continue to be paid, the company is satisfied. If payments cease, it will have the protection of the guarantee or deposit for cover. Although it might have to fund some of the payments, the 12 month deposit should give it a sufficient amount of time to obtain an order to evict the existing tenant and find another one, although possibly not on such favourable terms.

7.6 A company seeking to sublet will take as little risk as possible. It is market practice to ensure that adequate deposit cover is taken to ensure that allow the property can be re-let as soon as possible after a default while minimising the risk of losing any rental payments.

4 It should be noted that under current legislation the liability only extends back one level. If the sub-lessee of the original lessee then itself sublets, the liability for rental payments will stop at the level of the first sub-lessee.

8. Example 5: Environmental liabilities

8.1 There are very few liabilities which will persist through a sale. However, one example is where a company has undertaken operations that give rise to pollution or waste materials which will need disposal. If the business, property or company is then sold, the responsibility for remedying this pollution will be enshrined in the contractual sale arrangements. However, in the event that the new owner fails to carry out the restatement of the land and goes into liquidation having failed to carry it out, then under recent environmental legislation[5] the liability may remain with the original perpetrator of the pollution.

8.2 The position of the original or "Class A" polluter can be improved through certain actions but, in general, any remedial orders issued by the authorities will be taken against the polluter first. The principle of "the polluter pays" may still be relevant despite the terms of the legislation which provides for certain exemptions.

8.3 HMG was responsible for the establishment of the nuclear reactors which will give rise to significant environmental hazard if not managed safely and then decommissioned at the appropriate time. Steps were taken to ensure that BE was financially viable and to set up a fund to cover the final decommissioning costs. These factors were taken into account in arriving at the eventual price obtained for the BE shares. However, if these steps prove ineffective, the liability will return to the government in much the same way as a pollution claim.

Appraisal

8.4 The vendor of a contaminated site will obviously be very concerned that the acquirer of the property will have the means to carry out any environmental work that is required. Even if he feels that he is sufficiently protected by the terms of the contract, it will be unwelcome publicity if he has to defend this position. Public scrutiny may be less sympathetic when it is clear that the company in question caused the original pollution.

Protection and monitoring

8.5 The most appropriate protection for the Class A polluter is to put aside funds at the time of the sale for the land or buildings to be cleaned. As long as this has been done quite clearly, there is a good defence against subsequent claims. Monitoring the situation is unlikely to be of any value unless the vendor company has some control or contractual rights over the acquirer, which in most situations will not be the case.

8.6 HMG did take steps to ensure that the liability was passed on fully to BE but, as the guardian of public safety, it could never disassociate itself entirely from the ultimate liability if BE failed. Its only real protection was for BE to be a financially healthy company that could meet all of its nuclear obligations.

9. Conclusion

9.1 Although none of the above examples is an exact parallel of the relationship between a fully privatised BE and the DTI, there are a number of factors in common. We consider below what are the common elements that can be considered as "best practice" in the private sector and how these might have applied to the DTI's particular situation in relation to BE.

9.2 The main elements of private sector best practice in this type of risk management can be briefly stated as follows:

(i) Appraisal

It is important to ensure that the initial analysis of the company and the particular circumstances of the contract identifies all the potential weaknesses or risks that may arise over time.

(ii) Protection

If a residual risk remains after a contract has been executed, then it is essential to have a continuing contractual relationship which will enable the situation to be monitored and appropriate steps taken in the event of things going wrong.

If the circumstances allow it, arrangements should be made to take security for any amounts due.

(iii) Monitoring

Where contractual remedies exist, it will be important to maintain a detailed knowledge of the current circumstances of the company concerned. If it is not possible to identify the problem in a timely fashion, it will not be possible to take any steps to mitigate the liability.

9.3 If there is a risk that a liability will arise in the future, then there should be a contingency plan in place should circumstances deteriorate. This must be based on a legal contractual arrangement that will enable the original party to put itself on at least no worse a footing than the other creditors of the business. Even if the liability is being gradually funded or repaid, the rights should remain in force until the liability has been fully funded or removed.

5 Part IIA of the Environmental Protection Act 1990 was inserted by s57 of the Environment Act 1995 and implemented through the Contaminated Land Regulations 2000. It came into effect in 2000 and was subject to statutory guidance in DETR Circular 2/2000. The legislation is highly complex, particularly in relation to exclusions from liability, and there have not been many precedents to date. The more cautious view of the exclusions (eg for information) contained in the legislation is that they will not automatically operate where there is only one remaining member of a liability group, as in the situation where the purchaser has been liquidated while the seller (the Class A polluter) still remains.

9.4 When looking at the overall position of the DTI in relation to BE, the example of the financial guarantee is probably the one that has the most relevance. The situation was, of course, very different in practice but the most valuable lessons can perhaps be learnt from this particular private sector arrangement.

9.5 Although the government was not the stated or contractual guarantor of any of the nuclear liabilities, it was quite clear from the circumstances of BE and the nature of the nuclear industry that this was the case. It was not a company that could be let go into receivership and its assets sold off to the highest bidder. The DTI could have used this remote but nevertheless actual liability to improve its position in the very unlikely event (as perceived at the time) that things did go wrong. In any credit arrangement, nobody expects a bad debt, but they take precautions in case the worst happens.

9.6 A possible arrangement would have focussed on two types of protection for the DTI :

(i) A contractual arrangement whereby it could monitor and take certain actions if BE's financial position started to deteriorate; and

(ii) Taking security over some of BE's assets to protect some of HMG's obligations in relation to the nuclear liabilities, and to give it a better bargaining position, if it became necessary to restructure or close down the company at some point in the future.

9.7 The first step would have been to give the DTI a continuing contractual relationship with the company which enabled it to take action in certain circumstances. This could have been a staged approach based on certain covenants and undertakings given to the government at the time of privatisation :

(i) While the company continued to trade satisfactorily and did not breach any of its covenants, the DTI would have no role (as was actually the case).

(ii) If the company breached any of a first line of relatively weak covenants, the DTI would be entitled to call for more detailed and more frequent financial information.

(iii) If the situation continued to deteriorate and the next layer of covenants were breached, the DTI would be able to call for an accountants' or management consultants' report on the company and its problems.

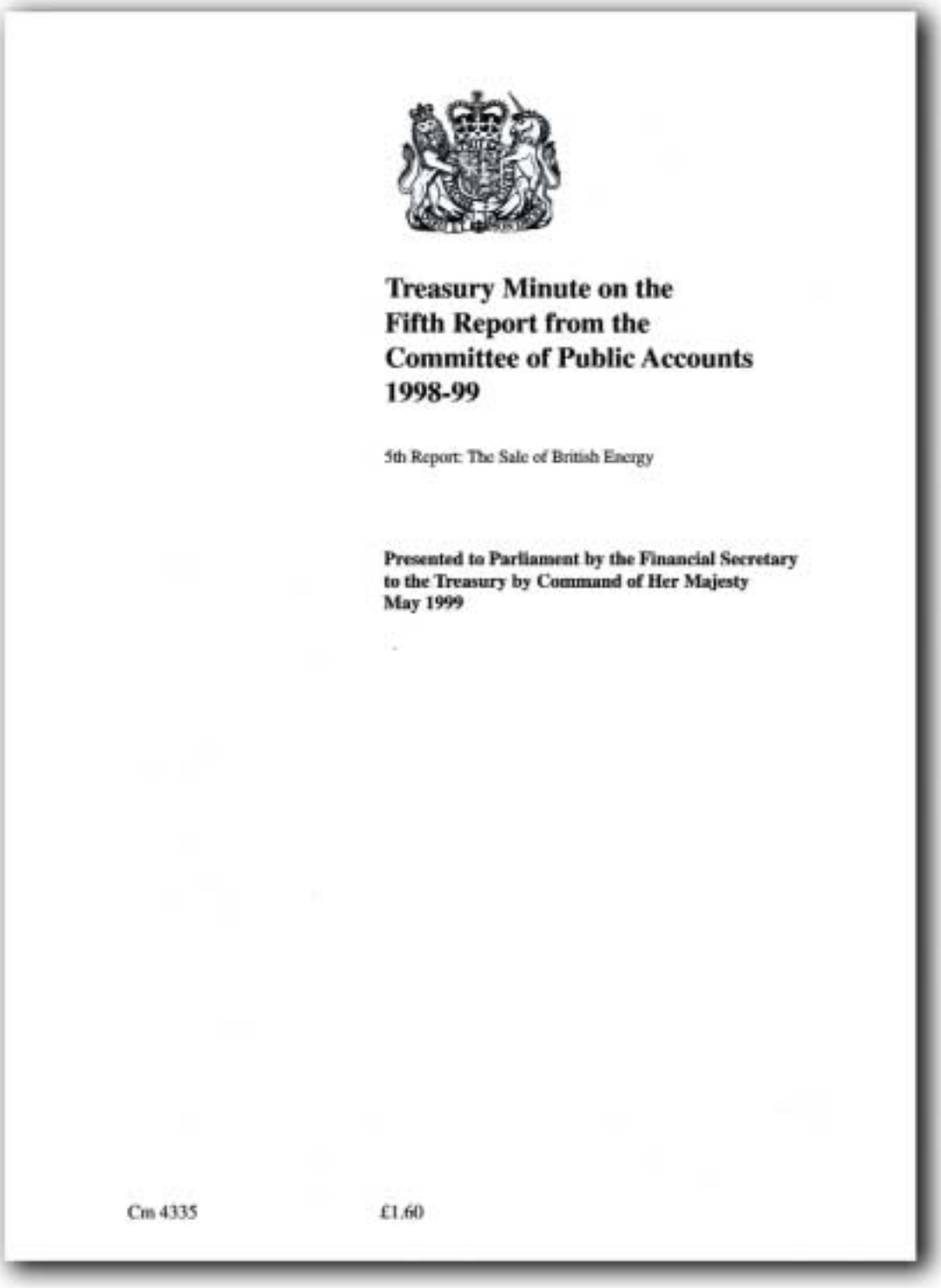
9.8 A further layer of covenants would probably be superfluous as any more serious breach would trigger similar events of default in the company's lending arrangements. This would be the signal for a full scale and formal arrangement between the company's creditors. However, by virtue of its stage 2 position above, the DTI would at least have had the opportunity to consider the problem and its options.

9.9 In order to protect the government's position if the company actually became insolvent, it would be advantageous to have some form of prior call on the assets. This would specifically relate to nuclear liabilities that would need to be met by any receiver before a distribution could be made to other creditors. Such an arrangement would have affected the terms of the privatisation. But since the circumstances would have been considered to have been remote at the time, the impact might have been mitigated to some extent.

9.10 The effect of taking security would have been to put any of the unfunded nuclear liabilities on a priority basis in the event of the company's insolvency. In this way, the DTI might have had a viable alternative to being forced to refinance the company and given itself a stronger bargaining position with the other creditors.

Appendix 5

Treasury Minute: The Sale of British Energy



Treasury Minute on the Fifth Report from the Committee of Public Accounts 1998-99

5th Report: The Sale of British Energy

Presented to Parliament by the Financial Secretary to the Treasury by Command of Her Majesty May 1999

Cm 4335 £1.60

Department of Trade and Industry
The Sale of British Energy

On the taxpayers' financial exposure to British Energy's nuclear liabilities

PAC conclusion (i): .... Because of the nature of nuclear liabilities there are some inevitable uncertainties especially in the very long term surrounding British Energy's ability to finance them. We therefore recommend that the Department monitor carefully the company's ongoing ability to meet their liabilities without recourse to the taxpayer.

PAC conclusion (ii): We note the Department did the best they could to obtain assurances that British Energy would be able to meet their financial liabilities in future on the basis of information available at the time of the sale.

PAC conclusion (iii): We are concerned that there remains uncertainty about the size of nuclear liabilities in the future. This uncertainty arises because the technologies for dealing with longer term decommissioning are untried and because there is currently no costed strategy for the disposal of certain kinds of nuclear waste. We note the Department's recognition that there are no 100 per cent guarantees or room for complacency in the monitoring and managing of these risks in future and we recommend that they should monitor the progress of the nuclear industry in developing its technologies for undertaking these tasks.

1. The Department will continue to monitor carefully as recommended the company's ability to meet its liabilities and the development of technologies for the disposal of waste. However, all experience to date has been that decommissioning costs have been progressively reduced as the industry has gained experience of new techniques etc for dealing with longer term decommissioning. Despite this, British Energy's cost estimates remain deliberately conservative, resulting in a very wide margin of cost safety and even with the current uncertainty on 'Intermediate Level Waste' disposal policy, there is no reason to believe that the company's share of the costs of implementing the chosen policy will be greater than its current estimates. The Department will continue its current level of monitoring in this area.

PAC conclusion (iv): We are also concerned about the taxpayers' exposure to increases in the cost of reprocessing spent nuclear fuel, which results from the fixed price nature of the contracts struck by British Energy with BNFL. We therefore welcome assurances given by both BNFL and the Department that these contracts were entered into on a fully commercial basis and do not represent an implicit subsidy by the taxpayer to British Energy. We recommend that the Department continue to take the risk of the taxpayer's exposure to increases in the cost of reprocessing spent nuclear fuel carefully into account when exercising their sponsorship and oversight role in relation to BNFL.

2. The Department notes the Committee's conclusions. BNFL is run on a commercial basis by its Board. The Department will take account as appropriate to its sponsorship role in relation to BNFL, of risks facing the company.

On the arrangements to ensure that finances are in place to meet British Energy's long-term nuclear liabilities

PAC conclusion (v): We are not convinced that, in agreeing with British Energy that the Fund should receive an initial endowment of £228 million, the Department fully explored alternative methods of financing the Fund, such as higher contributions in British Energy's first years in the private sector or some element of the contributions linked to the company's profitability. We consider that the Department should have been clearer about their options and should have more fully evaluated their eventual course of action.

PAC conclusion (vi): We recommend that in any future sales where departments seek to establish segregated funds to meet certain defined liabilities, they should give careful consideration to all possible options and the best balance of such factors as levels of endowment, initial contribution from the privatised entity, and shares of any residual surpluses at the end of the life of the fund.

3. The Department notes the Committee's views. The Department examined alternative options and saw significant drawbacks in each. The alternative, in particular, of requiring British Energy to make higher contributions during its first years after privatisation would in the Department's view have produced a lower level of assurance to taxpayers and had a negative impact on the company's sale proceeds.

4. The initial level of contributions was set in the light of the Department's actuarial advisers estimate based on assumptions relating to the industry's decommissioning costs and tested on an economic model which used 10,000 different projections. This model had come to be regarded as the industry standard and is based on the projected cost of decommissing each of BE's stations and current tax rules. Future levels of contribution will be set relying on similar expert advice.

PAC conclusion (vii): We recommend that the Department maintains communication with the key parties responsible for monitoring the level and financing of nuclear liabilities: British Energy, The Nuclear Installations Inspectorate and the Nuclear Decommissioning Fund's Trustees. In this way, the Department can assure themselves that all parties are focused closely on the best means of managing nuclear uncertainties and financial risks.

5. The Department notes the Committee's conclusions. The Department already maintains close communications with British Energy, the Nuclear Industries Inspectorate and the trustees of the Nuclear Decommissioning Fund with a view to ensuring this and other objectives.

PAC conclusion (viii): We recommend in particular that the Department monitors whether any significant dispute arises between the Trustees and British Energy, because such a dispute may provide an early warning of impending problems.

6. The Department notes the Committee's conclusions. The Department will continue to monitor the operations of the Nuclear Decommissioning Fund.

PAC conclusion (ix): .... We therefore recommend that the Department consider carefully the need to retain Special Shares beyond 2006 as, at that date, it is still likely that many uncertainties and risks about the ability of the company to finance their long-term liabilities will remain.

7. The Department notes the Committee's conclusions. The Government is committed to retaining special shares until 2006 and will review the need to retain them beyond that date in light of the circumstances which prevail at the time.

On the level of Proceeds obtained from the Sale

PAC conclusion (x): Despite evidence that the sale was well conducted and that the Department sought to maximise proceeds we consider that the proceeds from this sale were disappointing ....

PAC conclusion (xii): .... We recommend that, in future, departments start with the presumption that a partial sale will lead to higher proceeds for the taxpayer.

8. The Department accepts the Committee's view. The Treasury's view has been that departments should always give very careful consideration whether or not to stage a sale. It is content for departments to start from this presumption but, to protect the taxpayers' interests judgement needs to be exercised and each case should be assessed on its merits.

PAC conclusion (xi): We note that the Department privatised British Energy with £600 million in debt owed to the Treasury and that £265 million of this debt has since been repaid. The Treasury have announced their intention to sell the remaining debt in the course of 1999-2000. Given the disappointing proceeds on the initial flotation, we look to the Treasury to do all they can to maximise the price they get on the sale of this residual debt.

9. The Treasury will ensure that it achieves best value for money from the sale of remaining British Energy Debt. The ability of the Treasury to deliver value for money from the sale of its residual debt holdings has been recognised by the NAO in two previous reports.

PAC conclusion (xiii): The Committee recommend that, in future sales, departments give careful consideration to negotiating a clawback on future unanticipated increases in the profitability of the company being sold.

10. The Department accepts the Committee's recommendations.