

9 Views of the Director General of Electricity Supply

Contents

	<i>Page</i>
Introduction	254
The nature of the problem	254
Examples of the scope for manipulation	255
Capacity withholding	255
Bidding strategies	255
Manipulation of complex rules.....	256
Influence of contractual position	256
Return on capital employed.....	257
Substantial market power	258
AES	258
British Energy	259
The effects of the problem.....	260
Prices	260
Contract prices.....	260
Demand-side participation	261
The abuse of market power	262
Market definition.....	262
The Pool	263
NETA	263
Types of conduct involving manipulation.....	263
Significance of the price/cost relationship.....	264
Profitability of generators.....	264
General level of prices.....	265
Other adverse effects	265
Solutions to the problem.....	266
Generation market structure	266
Rule modification	267
NETA	267
Other legislation	268
The MALC	269
Criteria.....	269
Regulatory certainty	270
The Human Rights Act.....	272
Application of the MALC to AES and British Energy.....	273
AES	273
British Energy.....	273
International comparisons	274
The public interest test	274
The position of the non-referred generators	276
Hypothetical remedy	277
Principles and reasons underlying the MALC.....	278
The MALC and NETA.....	278
The CC's proposed licence condition.....	279
Undertakings	281

Introduction

9.1. The DGES argued that he needed to introduce the MALC into the generation licences held by AES and British Energy in order to fulfil his statutory duties of promoting competition in electricity generation and protecting the interests of consumers, in particular in terms of prices. He commented that the existence of an electricity-specific regulatory regime recognized the special nature of electricity compared with other commodities and the need for additional safeguards for the electricity market.

9.2. In this chapter we summarize the views put to us by the DGES in a number of written submissions and at four hearings, including a joint hearing with AES, British Energy and other interested parties.

The nature of the problem

9.3. The DGES said that, since the introduction of the Pool in 1990, there had been recurring concerns about abnormal patterns of pricing in the market for wholesale electricity, where price movements did not appear to reflect changes in demand and supply and underlying market conditions. These concerns had prompted a number of investigations into prices by OFFER and Ofgem (see Table 8.1).

9.4. The scope for manipulation lay in the special nature of the wholesale electricity market that required, in particular, moment-to-moment balancing of the transmission system for a product that was largely impossible to store. If the system operator failed to balance the system, the consequences would be potentially far more serious than in other markets and in extreme circumstances would be a loss of part or all of the system, jeopardizing the security of electricity supplies. If the grid failed, customers' demand would be unsatisfied and there would be very limited potential to switch to alternative fuel sources at short notice. This feature, combined with the short-term inelasticity of both generation and demand, made it possible for a generator that was not obviously dominant to exercise substantial market power. The DGES maintained that there were many examples of manipulation by both large and small generators, and that the ability to influence prices under the Pool was not restricted to generators that set SMP. So-called baseload generators, which typically submitted very low bids into the Pool, were able to influence prices indirectly by changing the capacity that they made available to the market.

9.5. The ability of generators to influence price-setting was likely to continue to some extent under NETA. Changing the trading arrangements could not alter those physical and economic characteristics of the wholesale electricity market that rendered it vulnerable to the exploitation of market power close to real time. Nonetheless, the DGES believed that some of the particularly injurious features of the market would disappear with the introduction of NETA.

9.6. The generic problem, according to the DGES, was that prices had not fallen in line with supply and demand fundamentals despite falling costs. On a 12-month rolling average basis, prices had remained at around £25/MWh, in real terms, since March 1991 although there had been substantial entry to and exit from the generation market and concentration had declined. Neither input costs nor supply and demand fundamentals explained why prices had not fallen. More recently, although prices had been comparatively low from December 1999 to March 2000, they had returned to their former level during April and May 2000, when average prices were £24.8/MWh. Moreover, prices remained well above new entry cost levels, which, according to the DGES, most commentators estimated to be in the range of £17 to £20/MWh at a 90 per cent load factor.

9.7. The DGES commented that overall costs of generation had fallen by around 40 to 50 per cent over the period in which the Pool had been in operation. Fuel costs had declined substantially, the average conversion efficiency had risen and the capital costs of new CCGTs had also declined sharply. Other costs associated with electricity generation had also declined. Labour productivity had increased, in part as a result of the replacement of labour-intensive coal plant with lightly-manned CCGTs and in part because of de-manning and increased productivity at existing plant. In addition, transmission

charges had fallen by 10 per cent in real terms. Despite these factors, generating output prices had remained essentially unchanged, which was irreconcilable with effective competition. The DGES told us at the joint hearing that, as a consequence of this absence of effective competition, generating output prices, which accounted for about half of final consumer electricity prices, were higher than they should be for all consumers.

Examples of the scope for manipulation

9.8. To give some indication of the scope for manipulation that he believed existed and would continue to exist, the DGES outlined four examples of different types of manipulation. These are examined in more detail in Chapter 8.

Capacity withholding

9.9. Examples of capacity withholding went back to the earliest days of the Pool. OFFER's first Pool price report, published in December 1991, related to manipulation of capacity and the closure and mothballing of plant (see paragraphs 8.3 to 8.12). More recently, the increase in Pool prices and EFA prices in April and May 2000 had been, in part, a consequence of the decision by several generators temporarily to withdraw generating capacity from operation. The impact of this withdrawal had been to increase capacity payments in April to 20 times the level they would have been if the capacity had remained on the system. The behaviour of Edison at this time had been investigated under the terms of the MALC (see Appendix 8.1).

9.10. The DGES said that capacity withholding was a powerful form of manipulation under the Pool since modest changes in capacity availability could lead to large changes in the capacity element of Pool prices when the gap between demand and available generation was already quite tight. The potential for capacity withholding by portfolio generators would remain under NETA although it would be mitigated by the removal of capacity payments. Under both the Pool and NETA it was possible to calculate the increase in prices that would be required for the withdrawal of one 500 MW genset to increase the overall revenues of a portfolio generator under a number of simplifying assumptions. It would be profitable for a generator to withdraw a unit only if the loss in revenues (less avoided cost) from the unit was more than offset by increased revenues for its remaining plant as a result of higher prices. Such an analysis did not seek to demonstrate that by withdrawing capacity a generator could increase prices (this would depend on market conditions and competitors' response). It simply showed the price rise that would be necessary to make the strategy profitable for the generator withdrawing capacity (see paragraphs 8.224 and 8.225).

9.11. Under NETA, the potential for capacity withholding by portfolio generators, although mitigated by the removal of capacity payments, would remain. One example might be that if enough capacity were withheld from the forward markets, the system might be short of energy at the start of the Balancing Mechanism and the system operator would have to purchase electricity. The generator(s) manipulating the market would be aware of this fact and would be able to offer to sell electricity at an inflated price in the Balancing Mechanism.

Bidding strategies

9.12. The DGES said that the use of excessively high bids, with no movement in underlying costs, to exploit temporary market power had been the focus of the investigation into Pool prices in winter 1997/98 (see paragraphs 8.40 to 8.42) and of an investigation in July 1999 (see paragraphs 8.80 to 8.99). In both of these cases, National Power and Powergen had been found by Ofgem to have used their positions of market power to increase wholesale electricity prices by significant amounts, when other market conditions and costs had remained largely unchanged. Manipulation was not, however, just the preserve

of the larger players. TXU, for example, had set SMP on average for 22 per cent of the time during 1998 and 1999 when it had accounted for only 10 per cent of capacity (it was the fourth largest generator by capacity). Another example was Brigg, an independent generator with a capacity of only 272 MW (well below 1 per cent of capacity), which had set SMP for 122 half-hour periods during December 1998 and January 1999.¹

9.13. Generators also used bidding strategies to exploit their local market power, which enabled them to take advantage of local transmission constraints to considerable gain. The very short-term nature of many constraints meant that the opportunities to exploit local market power were continually changing so that there was no fixed constraints market that could be defined on a continuing basis. The DGES said that an investigation by OFFER in 1992 had found that, by significantly increasing the price for plant that had traditionally provided local system support, Powergen had been able to accrue £88 million of exceptional profit in 1991/92.

9.14. The ability to exploit constraints would remain under NETA, particularly until new transmission access and pricing arrangements were introduced. These had originally been planned for April 2001 but would not now be brought in until autumn 2001 at the earliest. There was a proposal for a market in access rights to be set up for participants wishing to use the transmission network. As far as possible, NGC as system operator would use this market rather than the Balancing Mechanism to resolve constraints. Nevertheless, local market power would still exist.

Manipulation of complex rules

9.15. The DGES told us that the requirements for minute-by-minute balancing of electricity systems necessitated complex rules, which resulted in opportunities for gaming. Under the Pool, the bids that generators posted at the day-ahead stage were extremely complex and contained a total of nine parameters, five of which were pricing characteristics. The structure of bids into the Pool had originally been designed to reflect the operating characteristics of generating plant but generators had used them for commercial as well as operational reasons. The DGES commented that during winter 1998/99, the incidence of price spikes (ie SMP greater than £60/MWh) increased significantly because of the use of high incremental bids for the last few MW of output. These spikes had resulted in Pool costs some £90 million higher than might have been expected during this period.

9.16. For NETA, the DGES had sought to make the Balancing Mechanism as simple as practicable but the rules governing it were inevitably complex because they had to deal with balancing the system over very short timescales. Participants would submit bid/offer pairs specifying the price at which they were prepared to move away from their declared position (their Final Physical Notification) and also the price for undoing any action that the system operator instructed. A generator would be able to say, for instance, that it would increase its output from 100 MW to 120 MW for £10/MWh but would only pay back £8/MWh for reducing its output back down from 120 MW to 100 MW. Up to ten bid/offer pairs (five above the Final Physical Notification and five below) could be submitted for each generating unit for each half-hour. The DGES said that generators and suppliers could almost certainly find ways of exploiting the rules to their benefit. For example, the acceptance of a Balancing Mechanism action would not change the imbalance position of market participants, so in certain circumstances there could be incentives on participants to over- or underdeliver on Balancing Mechanism actions in order to move into energy balance. Over- or underdelivery would force the system operator to take additional actions and thus affect the energy imbalance prices that out-of-balance participants faced. This, in turn, could influence prices in forward markets.

Influence of contractual position

9.17. The DGES had major concerns about the potential for generators to exploit market power using a mix of contractual and physical actions. He said that generators might take a long energy position in the futures market and then raise spot or forward prices by increasing their bid prices or withholding capacity. The withdrawal of just over 3 GW of plant during spring 2000 had had a significant effect on

¹In total, Brigg had set prices in only 128 periods since 1 January 1998 and consequently did not meet Ofgem's criteria for the MALC.

EFA prices and, in principle, it would have been possible for a generator withdrawing capacity to have bought contracts in the period preceding the withdrawal (ie to have taken a long contract position) and subsequently to have sold them at a substantial profit (ie to have moved into balance) when prices had risen following the capacity withdrawal. He drew attention to a specific example, involving National Power and Powergen, that had occurred in July 1999 (see paragraph 8.97).

9.18. Although the DGES would expect generators to contract ahead under NETA, he said that there was a possibility that they could attempt to manipulate forward prices through activity close to real time and by withholding capacity. The DGES said that capacity withholding might increase forward prices. If enough energy that was usually traded on the spot market were withheld, the system operator might need at the start of a half-hourly trading period to buy electricity to balance the system, thus increasing the System Buy Price. If the system operator had to accept offers, the implication would be that there were suppliers/customers who were out of balance and hence would be exposed to the excessively high System Buy Price. The DGES suggested that pushing up the imbalance price by withholding capacity forward would be analogous to increasing Pool prices to encourage suppliers/customers subsequently to contract at higher prices.

Return on capital employed

9.19. At our request the DGES provided information about the return on capital employed (ROCE) for generators. He told us, however, that he believed it was inappropriate to consider the ROCE in the context of our inquiry because of the substantial divestment of plant and changes of ownership that had occurred in the industry. In his view, there was a circularity in the calculation of a ROCE when generation assets had been acquired rather than built. That was because the acquisition price of the asset (and hence its asset value recorded in the generator's accounts) would simply reflect the buyer's estimate of the net present value of future profits for the remaining life of the plant. The estimate would depend on the buyer's expectations of future wholesale prices. If the buyer expected high prices, the estimate of the value of the plant would be high, as would the acquisition price and the asset value. If prices subsequently fell, the ROCE would be lowered but this might simply reflect the fact that the acquirer had overpaid for the asset. Moreover, the DGES believed that in markets, such as the England and Wales generation market, that were generally open to entry, rates of return were not good indicators of either the existence or the exploitation of market power. The weakness of price competition, for example, might show up in the form of excess capacity in the market rather than high ROCE.

9.20. It was not the DGES's argument that the MALC was required because generators had earned, and might continue to earn, ROCE in excess of normal levels. His concern was with the generators' power to control prices and their potential to abuse that power. He said that this position was consistent with the general approach under competition law, which rejected defences of price-fixing that argued the prices set had been in some sense 'reasonable' (usually judged in relation to average costs, including a normal ROCE). In his view, the appropriate rate of ROCE in any period should be determined by the competitive process, and policy should aim to ensure that this process worked effectively. The MALC sought to achieve that by restricting the extent to which the power to control prices could be abused. More specifically, whilst it was necessary for those making investment decisions to take a view on whether future prices were likely to yield at least a normal ROCE, it did not follow that it was acceptable for generators, once in the market and irrespective of the consequences for consumers and competition, to exercise control over market prices so as to achieve this, or any other, target ROCE.

9.21. The DGES commented that the Pool arrangements set up at the time of privatization had been heavily influenced by the established procedures of the CEGB and had created a one-sided market in which producer interests were predominant and consumer influence was largely absent. Among other things, NETA was seeking to redress that balance by stimulating genuine, two-sided markets. The MALC was intended to reinforce this shift by helping to create markets in which both prices and ROCE were determined by normal, competitive interactions between generators and their customers.

Substantial market power

9.22. The DGES believed that, under the Pool-based trading arrangements, companies that accounted for at least 5 per cent of output or of SMP-setting might possess substantial market power and have the potential to abuse it. This belief reflected his judgement that:

- (a) at least in certain periods, modest changes in the level of output offered to the market could lead to substantial changes in market prices; and
- (b) in the Pool, control of price-setting enhanced the degree of control that could be exerted over market prices as a whole.

9.23. He did not assume that a generator that accounted for more than 5 per cent of output or SMP-setting would, in fact, possess substantial market power. Rather, the 5 per cent threshold was a mechanism for screening out generators that were unlikely to possess such power. The DGES maintained that the application of the MALC to a class of generators did not discriminate against that class, but was entirely consistent with his general duties under EC law and, in particular, with his obligations under the directives applying to the electricity sector.

9.24. Neither the MALC nor the guidelines issued in connection with it stated that a generator would be deemed to possess substantial market power only if it could raise prices profitably. The DGES told us, however, that that was his view and that he intended to incorporate the point in the guidelines when they were reviewed.

9.25. In determining whether a generator met the criteria for the MALC, the DGES had taken into account all generation assets in which a company held a controlling interest. He did so because he recognized that management structures within corporate groups were capable of change at short notice. Moreover, it was not always easy to tell whether a company was operating its generation assets as a portfolio. Whilst many of the companies that operated in that way had highly visible energy-management centres, a company could run its assets as a portfolio through a series of telephone calls between station managers, or through a series of contacts between the stations that aligned incentives and encouraged coordinated behaviour. He did not, therefore, accept that generators in common ownership which, at a particular point in time, appeared to operate units independently should be judged to be independent when determining whether or not they could have a position of substantial market power.

AES

9.26. The DGES said that, following its recent acquisition of plant, AES was likely to satisfy both the output and the SMP-setting criteria for possessing substantial market power. If it had owned Drax throughout 1999/2000 and had operated the plant in a similar way to National Power, its share of output would have been 8.3 per cent and its share of SMP-setting 17 per cent. However, whilst AES might, at certain times, possess substantial market power, as the sixth largest generator in England and Wales it was unlikely to meet the criteria for dominance as defined, for example, in the OFT's guidelines to the Competition Act.

9.27. The DGES noted that AES Barry, AES Drax, AES Fifoots Point and AES Indian Queens were separately licensed and run as four separate companies, although all were wholly-owned by AES Corporation. Nevertheless, for the reasons discussed in paragraph 9.25 and in the light of their corporate structure, he had treated them as a single entity for the purpose of determining whether or not the MALC should apply. In this context, he had noted that two people, including the Managing Director of AES Electric (which was responsible for all AES Corporation's British operations), were members of the board of each of AES Barry, AES Drax, AES Fifoots Point and AES Indian Queens. There were strong incentives on generators to operate their assets as a portfolio and AES Corporation was notably one of the few generators to operate its stations independently.

9.28. Given its mix of plant, the DGES maintained that AES had the potential to exercise substantial market power in relation to bidding strategies, exploitation of complex rules and capacity withholding. With regard to bidding strategies, three of the plants owned by AES Corporation had set prices in the past: between 1 January 1998 and 30 April 2000, Barry had set SMP 78 times, Indian Queens 178 times and Drax 5,913 times. These figures suggested that AES had the potential to influence prices, particu-

larly now that it owned Drax. As an example of this potential, he told us that Drax, before it was sold to AES, had been responsible for setting consistently higher than average SMP overnight in the Pool, when prices were usually very low as a result of low demand. Since AES had taken control of Drax in December 1999, the frequency with which this plant set SMP had not changed significantly: it had done so nearly 12 per cent of the time between January and April 2000 inclusive compared with under 11 per cent during the same period of 1999.

9.29. The DGES said that the very flexible nature of Indian Queens, combined with its favourable location from the perspective of resolving transmission constraints, gave it potential to exploit local and temporal market power under both the Pool and NETA. This potential might be greater under NETA given the short timescales involved in the Balancing Mechanism.

9.30. The combined capacity of the four AES stations (some 4,700 MW) was large enough for capacity withholding potentially to be an attractive strategy. The DGES estimated, on simplifying assumptions, that AES would have to raise prices by 12 per cent for the withdrawal of a 500 MW unit to be profitable.

British Energy

9.31. The DGES said that, following its recent acquisition of the Eggborough coal-fired plant, British Energy was likely to satisfy both the output and SMP-setting criteria for possessing substantial market power. If it had owned Eggborough throughout 1999/2000 and operated the plant in a similar way to National Power, its share of output would have been 17.8 per cent and its share of SMP-setting 8.8 per cent. However, whilst British Energy might, at certain times, possess substantial market power, it could not be said to be obviously dominant, as defined for example in the OFT's guidelines to the Competition Act. Although it was now the largest generator in England and Wales, its market share (whether measured by capacity, output or SMP-setting) was below 20 per cent.

9.32. British Energy currently owned six nuclear plants and one coal-fired plant in England and Wales, amounting to some 9,100 MW of capacity. It could therefore potentially have a significant indirect influence over prices via the availability declarations for its nuclear plants and a direct influence via the prices it bid for Eggborough. For example, the four gensets at Eggborough had set SMP over 8 per cent of the time in 1999 and for a similar percentage of the time since British Energy took control of the plant in March 2000. Whilst most of the SMPs set by Eggborough during 1999 were below £30/MWh, during winter evening peaks it had set SMP at above £60/MWh on 34 occasions. This was largely because of changes in bidding strategy. The DGES believed that a comparison of bids submitted by Eggborough unit 4 on two days in early 1999 (see paragraph 8.521) suggested that, given appropriate market conditions, Eggborough was able to adjust its bidding strategies and influence prices, in part by exploiting complex market rules.

9.33. The DGES said that the size of British Energy's portfolio gave it the potential to benefit substantially from capacity withholding. On simplifying assumptions, British Energy would have to raise prices by only 5 per cent for the withdrawal of a 500 MW unit to be profitable. There was plenty of evidence from the Pool to show the significant effect that nuclear outages could have on Pool prices, although the DGES was not suggesting that such instances were evidence of past manipulation. Under NETA, the risks faced by inflexible plant, such as nuclear plant, were likely to increase. Such plant would no longer be able to act as price-takers (offering low or zero bids to run and then being paid the SMP) and their inflexibility might increase their exposure to energy imbalance prices. The incentives on the owners of inflexible plant to manipulate the market might, therefore, increase. For example, if an inflexible plant was likely to spill energy on to the system (because its contract position did not match its physical position), it would be to its owner's advantage to try to increase the System Sell Price that it would be paid for the spill. This might be achievable by changing the bid prices submitted into the Balancing Mechanism for more flexible plant owned by the same company. British Energy might have the incentive to adopt this strategy with regard to its Balancing Mechanism bids for Eggborough.

The effects of the problem

9.34. The DGES outlined a number of effects of price manipulation by generators that he believed were detrimental to consumers and to competition and, therefore, contrary to the public interest.

Prices

9.35. The most obvious effect of price manipulation, namely that average prices remained high relative to costs, had affected the prices paid by all consumers. Large customers that chose to purchase some or all of their electricity on Pool-related terms suffered directly from prices that were unjustifiably high. Domestic customers were also affected, since wholesale prices accounted on average for some 50 per cent of their bill. The DGES drew attention to the following as examples of excessively high prices to suppliers (as measured against prices in previous years when market conditions were similar):

- (a) £88 million of exceptional profits identified in Powergen's accounts for 1992 (arising from exploitation of local market power);
- (b) £90 million of increased Pool price costs in January 1999 (arising from the exploitation of complex market rules); and
- (c) £13 million increase in profits for National Power and Powergen during two weeks in July 1999.

The DGES did not maintain that the prices or profits were excessive per se, but simply that they were higher than they would have been in a competitive market not open to manipulation. He said that similar effects, and the potential for them to occur, had been a concern in other liberalized markets such as California.

9.36. The costs to NGC, as system operator, in balancing the system had also been directly affected by the scope for manipulation of prices. Since the bulk of system operations costs was passed through to customers, it was they who ultimately suffered most.

Contract prices

9.37. The DGES told us that electricity purchasers generally had been unwilling to rely on the spot market (the Pool) for any significant proportion of their purchases and 90 per cent or more of demand was covered by contracts. This reflected the fact that suppliers, most of whose customers were supplied under fixed-price contracts, faced greater risks than generators, which could choose not to generate when prices were low whereas the suppliers could not refuse to supply when prices were high. Buyers of wholesale electricity, believing that generators had the ability to exercise significant market power, were prepared to pay a premium for certainty that reflected this belief, resulting in a fixed:floating premium that was generally higher than might be expected.

9.38. The DGES said that there was a strong correlation in the short term between the degree of contract cover that a generator had achieved and its incentive to move Pool prices up or down. In general, generators that were long on energy had a direct incentive to increase prices while those which were short had an incentive to reduce (or at least not increase) prices.

9.39. Both effects could be seen in a comparison of the exercise prices in six-month baseload CfDs struck against the PPP with the time-weighted out-turn prices. The majority of contracts covering the six-month periods October 1998 to March 1999 and October 1999 to March 2000 had been profitable for the seller of the contract (the generator). The average premium achieved for these two rounds of contracts was 13 per cent and 34 per cent respectively. If the buyers of the contracts had based their decisions on average prices over the same six months of the previous year, they would implicitly have been willing to pay 8 per cent and 20 per cent (in nominal terms) above the average prices that had been seen.

9.40. Contract prices for the period April to September 1999, on the other hand, had been generally below out-turn Pool prices. In the DGES's view, this was further evidence of the extent to which Pool

prices had been manipulated in that period. He said that the average contract price paid had been around 16 per cent lower than the time-weighted Pool price during April to September 1998, indicating that at least some generators had expected prices to be lower in 1999, possibly as a result of an increase in the supply-demand margin forecast by NGC.

9.41. The DGES also considered that price volatility was higher than might be expected. He attributed this to the scope for manipulation, arguing that the link between contract prices and spot prices provided generators with a strong incentive to increase volatility. As suppliers were generally more risk-averse than generators, increased volatility was likely to raise the fixed:floating premium that suppliers were prepared to pay.

9.42. The DGES maintained that the scope for price manipulation had restricted the development of traded markets for electricity. He said that the determination of contract prices played a crucial part in futures markets: the threat of manipulation by players with physical positions discouraged trading and liquidity in contract markets and served to restrict the variety of traded products on offer. It was notable that, despite the early liberalization of electricity markets here, Great Britain had had no power exchange until June 2000, a fact that the DGES believed had contributed to a lack of transparency in contract markets. Liquidity in forward markets started to develop strongly only when proposals to replace the Pool with NETA were announced. Although overall liquidity in the EFA market had increased in recent months, there was still a lack of confidence in the market and the volumes traded in particular products could collapse when there were concerns about market conditions.

9.43. Commenting on arguments that liquidity in traded markets had been dampened by other distortions to the market—including the supply contracts that backed the coal contracts entered into by the major generators after privatization, the allowed pass-through of Pool costs under the supply price controls of the RECs and the Pool price cap imposed for 1994/95 and 1995/96—the DGES said that coal-linked supply contracts had accounted for at least 48 per cent of the market until March 1993 and this might indeed have depressed liquidity in the contracts market. However, by 1996/97 coal-linked contracts accounted for only 25 per cent of the market, with a further 11 per cent covered by long-term contracts with new entrants. Participants could freely trade the remaining 64 per cent (around 183 TWh) but chose to sign CfDs with the major generators for the majority of this volume (approximately 143 TWh). Similarly, the share of demand covered by the RECs' supply price controls and not open to competition had declined sharply over time. From April 1994 onwards the franchise market had accounted for approximately only 50 per cent of total demand and the franchise had disappeared completely over the course of 1998 to 1999. Finally, although the Pool price cap had set expectations with regard to annual prices for the two years that it was in place, the possibility of within-year volatility, and consequently the need to enter into contracts to guard against it, had remained.

9.44. Although liquidity might have been depressed for reasons other than the fear of Pool price manipulation, in the DGES's view this could not entirely account for the fact that the range of products and the volumes traded had both remained very small until 1999. He said that traders had explicitly stated that they were reluctant to trade electricity in England and Wales because of the history of and scope for price manipulation. He believed that the absence of the MALC from the licences of generators that might have substantial market power would be likely to lead other market participants to expect manipulation by generators. This would undermine confidence and inhibit the development of the contract and traded markets that were crucial to the success of NETA.

Demand-side participation

9.45. The DGES considered that the scope for the manipulation of prices had artificially lowered demand-side elasticities and made large customers reluctant to participate actively in the market. Since December 1993 it had been possible for a few large customers (approximately 30 industrial sites) to bid load reductions directly into the Pool, but this form of demand-side participation had developed only to a limited extent. Although the volume of load reduction made available to the Pool had increased over time, it still only accounted for approximately 1,000 MW, representing 2 per cent of winter peak and around 3.5 per cent of summer peak. Moreover, demand-side bidding had had a minimal influence as a countervailing competitive force. Demand-side bidders had set prices during only 20 half-hours, the last occasion having been in November 1996.

9.46. Customers' indirect participation in the market by shifting their demand to benefit from lower prices had also been slight. The DGES said that, as a result of price manipulation, shorter-term price movements (seasonal, daily, hourly) did not always reflect the underlying variations in supply and demand. For example, average prices during the period June to September 1999, at £26.9/MWh (in April 1999 prices), had been £1.3/MWh or 5 per cent higher than those during the period November 1999 to February 2000, whereas demand had been 20 per cent lower. Unpredictable fluctuations in prices had discouraged time-shifting of demand.

The abuse of market power

9.47. During the course of our inquiry, the DGES expanded on his definition of abuse of market power and how it could be identified.

Market definition

9.48. The DGES said that, in relation to the Pool, wholesale electricity was the relevant product market: a single price was established for all supplies; electricity from different sources was indistinguishable so far as customers were concerned; and demand substitutability with other energy products was low.

9.49. It was not possible to define the market on the basis of particular types of generating plant and at the same time maintain consistency with the definition of the relevant market contained in the EC guidelines or with the procedures for market definition set out there and in the Competition Act guidelines. For separate markets to exist, it must be possible for the relevant products to command different prices. That was simply not possible in the Pool. The DGES believed that confusion on this issue had arisen from at least two sources:

- (a) Before the Competition Act came into effect the term 'market' had been used in different ways in different contexts, often very loosely. The Competition Act, however, required much more precise use of the term.
- (b) There had been a tendency to conflate the distinct, although related, exercises of defining the market and assessing market power. This tendency had sometimes been reinforced by a belief, contrary to basic economic reasoning and evidence, that a firm could have substantial market power only if it had a high market share. Market power was a function of a range of variables, including measures of demand and supply responsiveness, of which market share was just one.

9.50. The DGES said that the definition of the temporal boundaries of the market for Competition Act purposes was a more complex issue. The legal advice he had obtained indicated that it would be a radical departure from established case law and practice for the relevant market to be defined in temporally highly-restricted terms (for example, as a series of time periods as short as one half-hour). Identification of temporal markets of longer duration was therefore likely to be necessary (for example, electricity supplied during peak hours in the winter). The MALC addressed this issue by assessing price effects over a cumulative duration (for example, a 10 per cent price effect for a cumulative duration of 15 days or 720 half-hours). The numbers had been set to maintain consistency with feasible temporal boundaries under the Competition Act.

9.51. The DGES told us that it was not yet possible to arrive at firm views about likely relevant market definitions for Competition Act purposes under NETA. He expected that there would be considerable innovation in the way in which electricity and related products (such as transmission rights) would be traded, and since market definition depended upon empirical assessments of economic substitutability among products, the evidence required was not yet available. Various options would need to be considered. It was possible, for example that the Balancing Mechanism might come to be considered as a separate market. This would depend, among other things, on the degree of substitutability in demand and supply between selling/buying in the Balancing Mechanism and trading in the power exchanges close to Gate Closure. One important indicator here would be the degree of correlation between cash-out prices and power exchanges: a high degree of correlation would indicate that the relevant market was

wider than the Balancing Mechanism, extending, for example, to power exchange trades made close to real time. This would be a matter for empirical determination when the relevant evidence was available.

9.52. The DGES said that transmission constraints were directly relevant to the assessment of market power. Their significance for market definition would depend on how markets developed. The Pool had established a single electricity price that was not dependent on location. The Balancing Mechanism and NETA would do likewise. Transmission constraints did not, therefore, segment the electricity market. It was, however, possible that generators in favourable locations in relation to persistent transmission constraints could exploit their market power in the Balancing Mechanism. To the extent that their bids were treated separately under the market rules (for example, not averaged into cash-out prices), they might conceivably be held to lie in a localized geographic market, but much would depend on the development of the post-NETA transmission regime.

The Pool

9.53. The DGES said that if a generator with substantial market power used it to manipulate prices, then whether or not the behaviour amounted to abuse would depend on the harm done to consumers (either directly or via increased system balancing costs) and/or to competition. Price movements that were not attributable to the exercise of market power were not an abuse, irrespective of their effects. Similarly, exploitation of market power that raised Pool prices was not an abuse if there were no appreciable harmful effects.

9.54. In respect of the distinction between legitimate commercial behaviour and behaviour that constituted an abuse of market power the DGES said that, under the Pool, it was not generally an abuse for a generator with substantial market power to bid different prices at different periods when market demand and cost conditions were similar. Such conduct might, however, become problematic if it caused market prices to differ between different periods when demand and supply conditions were similar. Whether it was then an abuse would depend on the effects, in terms of harm done to consumers and/or competition. The DGES said that the exemplary abuse identified in paragraph 2(c) of the MALC was a form of price discrimination. It had similarities with one of the exemplary abuses set out in Article 82 of the EC Treaty and the Chapter II prohibition of the Competition Act, although in the Pool it was restricted to inter-temporal discrimination since there was no possibility of customers being charged different prices within the same period. He commented that inter-temporal discrimination was at the root of predation, which was a recognized form of abuse of a dominant position.

9.55. The DGES said that the type of abuse identified in paragraph 2(c) of the MALC was not to do with the issue of whether prices were higher or lower than some hypothetical competitive benchmark. Price discrimination concerned issues of relative price/cost relationships which, when costs were similar, reduced to considerations of relative prices. The extent of discrimination could therefore be assessed by directly comparing prices in the periods concerned. The more difficult part of the assessment concerned the determination of whether or not, in the relevant periods, system demand and cost conditions were similar. Benchmarking to a competitive price was, however, not necessary. There was no minimum length of time for the purposes of assessing abuse. Harmful effects might occur as a result of very substantial damage inflicted for short periods, or less severe damage sustained over longer periods.

NETA

9.56. The mechanics of price determination would be somewhat different under NETA, but the underlying issues would remain the same and the DGES's general reasoning for the introduction of the MALC was unaffected.

Types of conduct involving manipulation

9.57. Commenting further on types of conduct that had involved or might involve price manipulation, the DGES said that there would be many ways for generators to manipulate electricity prices close to real time. Some of them had been manifested by past conduct and others had been identified as future possibilities, but he believed that many awaited discovery. It would be impossible to assess every fea-

ible variant of combinations of price/output strategies that might influence prices. This was largely why he had introduced a general licence condition prohibiting behaviour on the basis of its harmful effects. Any rulebook of prohibited behaviour would be long, inevitably incomplete, and costly and burdensome in terms of enforcement and compliance.

9.58. With regard to capacity withdrawal, the DGES said that any assessment had to take account of the full circumstances of the individual case. If, for example, capacity had been withdrawn for necessary maintenance (albeit unanticipated in earlier periods), or was justified because the plant could not recover its avoidable costs, the withdrawal would not amount to an exploitation of market power and would not, therefore, constitute an abuse for the purposes of the MALC. (In such circumstances the behaviour of a generator in contract markets might, however, raise concerns for the FSA.) If, however, the capacity withdrawal was not objectively justified in terms of the economics of the plant itself or of reasonable maintenance, the issue of abuse would arise. The generator's contracting behaviour might then be part of an exploitative action and would be relevant in assessing the motivation for, and financial effects of, the action and the potential harm that it caused.

9.59. The DGES said that it was possible for a generator to manipulate prices (and so have market power) without possessing substantial market power as defined in the MALC. The guidelines indicated the extent and duration of price changes that might indicate substantial market power, and also stressed that both magnitude and duration of effects would be relevant in assessing what were substantial changes.

Significance of the price/cost relationship

9.60. The DGES did not define abuse in terms of the relationship between prices and costs, although he recognized that costs would be relevant in assessing certain types of conduct. As noted in paragraph 9.55, issues of price discrimination involved comparisons of prices in similar demand and cost conditions. This required analysis of system costs, which would depend chiefly on the plant that was on the system in the relevant periods and the marginal costs of the relevant gensets. In the DGES's opinion, the price of the fuel input was the principal influence on marginal costs at the genset level.

9.61. In relation to withdrawal of capacity, the relevant costs required for the evaluations were the avoidable costs of operating the plant for the relevant period. These would include fixed as well as variable costs. The DGES said that his approach was to compare avoidable costs with the revenues that could be expected from sale of output from the capacity, whether by spot or contract sale. Normally, in a competitive market, a generator would maintain plant on the system if such revenues exceeded avoidable cost. The DGES emphasized that, in a competitive market, an exit decision was based on different criteria from those influencing entry decisions. Entry would occur only if a generator expected to cover all its costs, including a normal rate of return on capital. The avoidable cost test for exit did not imply that the MALC would prevent efficient generators from making normal returns on capital. Rather, it reflected the fact that, in a competitive market, the exit price would be below the entry price.

Profitability of generators

9.62. Commenting on the relevance of profitability to the identification of abuse of market power, the DGES said that abuse could be expected to increase the profitability of generators in general. A generator engaging in abuse would be likely to be motivated by the search for higher profits and would enjoy direct benefits to the extent that it succeeded in exploiting market power. Other generators would usually benefit from higher prices, although this would not always be so. For example, a generator that was short on energy (ie over-contracted) would be adversely affected by higher Pool prices, and price manipulation might be targeted at such undertakings in order to damage them.

9.63. The DGES said that profitability figures, even if correctly measured, might cast relatively little light on the existence, extent or origins of abuse of market power. The relevant indicator would be actual profitability relative to profitability in the absence of abuse (for example, a competitive level of profitability). Given the nature of the market, with long-lived assets and volatile prices, it was very difficult to estimate this precisely for a particular period of, say, a year or two. It was quite possible, therefore, for measured profitability to be at normal levels even though companies were engaging in exploitative conduct, or for profitability to be at higher levels even though generators were acting competitively. Never-

theless, like other indicators, profitability could potentially provide some useful information. Subject to qualifications about measurement, it might be expected to vary to some extent with the demand/capacity balance. Excess capacity could be expected to lead to lower prices and to profitability below normal levels; shortage of capacity could be expected to lead to the reverse. If, therefore, profitability did not vary in this way, it could be interpreted as a sign of market power problems, but abuse could not immediately be inferred. The MALC was concerned with specific problems associated with market power close to real time. It was not directed at all forms of exploitation of market power, and in particular not at excessive prices (ie setting prices that led to excessive profits was not an abuse). The most substantial difficulties in using profitability data were connected with measurement problems, most obviously of the valuation of capital. For example, a generator might buy a power station on the expectation of a given set of prices and enter the acquisition costs into its books. If prices then fell or rose, measured profitability would be lower or higher than normal. The level of profitability would then be an indicator of out-turn against expectation, but not of the state of competition in the market.

General level of prices

9.64. On the question of whether it could be demonstrated that market abuse by generators had caused the general level of prices to be significantly higher than they would have been in a competitive market, the DGES said that it was extremely difficult to identify the precise, individual impact of any particular aspect of the market structure on the general price level, since that was determined by a complex mix of factors that were not easily separable. There were, however, a number of identifiable factors that facilitated soft price competition and which it was, therefore, appropriate for Ofgem to address. Some of these were directly connected with the Pool arrangements and were being addressed via NETA. The MALC addressed a number of others, which were associated with the underlying realities of system operation that could not be changed by reforming the trading arrangements. The two strands of policy were therefore complementary.

9.65. Since system conditions were constantly changing as demand varied and the plant mix changed, including the geographical configuration of plant on the system, it would be difficult, with daily or continuous bidding, for generators to achieve stable, coordinated price outcomes. However, the ability of several generators to exert a substantial influence on prices close to real time would enable them to restore prices to what they considered acceptable levels if competition drove prices to what they considered unacceptable levels. The DGES said that tacit coordination, based on common notions of acceptable out-turn prices averaged over a reasonably long period (for example, a year), was thereby facilitated.

9.66. Among other things, the MALC was aimed at conduct that amounted to an exercise of such control over prices and which gave rise to adverse effects. As a result, it could be expected to help prevent conduct that served to facilitate soft price competition over longer periods. The DGES therefore expected the MALC to have an effect on the general price level, although this would be difficult to quantify. He noted that in early 2000 a combination of circumstances, including the expected introduction of NETA and the MALC, coincided with a period of rapidly declining expectations of future electricity prices that had not previously been manifested, for example in the prices paid for power stations during the divestments.

9.67. The DGES maintained, however, that the MALC was not an attempt to cap prices, nor was it an attempt to achieve any particular level of prices. He had no objective for where electricity prices would be, other than that he wanted them to be the product of a competitive market, operating without abuse of market power.

Other adverse effects

9.68. The DGES said that the exercise of market power, and indeed the potential for it, was generally recognized as hindering the development of liquidity in commodities markets. The ability of some market participants to manipulate prices at the time of physical delivery was an obvious deterrent to the trading of financial instruments based around those prices. Under NETA the establishment of liquid and deep traded markets would be particularly important. Among other things, they would help establish the conditions for efficient entry into generation and for effective competition in downstream electricity supply. Volumes of trading in EFA markets had grown substantially since the first announcement of NETA,

but from a tiny base. Liquidity, depth, the number of products traded and the contract periods covered were still relatively limited.

9.69. The DGES said that it was difficult to quantify adverse effects of market power abuse on traded markets because of the lack of a benchmark (ie what liquidity would have been like in the absence of market power problems). It was likely that, until recently, the effect of market power, considered in isolation, had been small, if only because there were so many other impediments to liquidity. As these had been removed, it could be inferred that adverse market power effects had become more significant. In addition, the relatively slow development of traded markets overseas suggested that the effects of market power close to real time might be very substantial. Apart from these effects, traded wholesale electricity was not so very different from other commodities markets in which liquidity was much higher.

9.70. Market abuse could also have adverse effects through its impact on system balancing costs, and such conduct was the first of the exemplary abuses listed in the MALC. Such increased costs were borne partly by NGC through its incentive arrangements, and partly by buyers of wholesale electricity through the effects on the PSP. [

Details omitted. See note on page iv.

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Solutions to the problem

9.71. The DGES told us that he had considered a number of other possible remedies (see paragraphs 9.72 to 9.89) for the potential abuses and adverse effects he had identified, but had concluded that none of them could provide a complete solution. He believed, therefore, that a MALC was necessary and was proportionate to the problem he had identified.

Generation market structure

9.72. Concentration in the generation market had been substantially reduced since privatization and, on conventional measures, had fallen to levels that would normally be classified as moderate to low. The DGES maintained, however, that the scope for manipulation had not declined accordingly. The current moderate to low level of market concentration was apparent whatever market definition was chosen, for example annual generation output, half-hourly generation output, half-hourly available capacity or SMP-setting. Thus, under no definition of the market was it possible to identify obviously dominant companies and yet both analysis and evidence indicated that, at certain times (especially close to real time), substantial market power could be exercised.

9.73. The DGES said that Ofgem's initial findings from its investigation of Edison under the MALC (see Appendix 8.1) had demonstrated that the scope for market abuse had not disappeared following the changes in market structure since April 1999. Ofgem estimated that the withdrawal of 500 MW of capacity during the period 1 April to 17 May 2000 had led to an increase in average PPP of 11 per cent over that period.

9.74. Although further restructuring, including by new entry, would to some extent limit substantial market power and its potential abuse in the future, the DGES did not believe that it would be desirable or feasible to pursue structural remedies, such as further plant divestment, to the extent that would be required to address the problem he had identified. As players with very small market shares could significantly influence prices under certain market conditions, restructuring might have to be taken down to the level of individual gensets, of which there were currently around 300 on the system, in order to be effective.

9.75. In any event, generators' ability to enter into contracts for output could quickly reverse the economic effects of any given plant divestment. Such contractual relationships already existed and were likely to persist over at least the medium term. The effects of the contracts varied, but in all cases the

overall effect was to provide bidding incentives similar to those that would apply if the market were more concentrated.

Rule modification

9.76. Recognizing that the Pool rules were highly complex and the rule modification process was slow and cumbersome, the DGES had given careful consideration to the new rules under NETA in order to minimize their complexity and to put in place governance arrangements that would speed up the process for subsequent modifications. It was likely that rule changes would be needed as the new arrangements bedded down; indeed the implementation of NETA would be a process rather than a single event. However, the DGES saw three fundamental problems with relying solely on rule modifications to address market manipulation.

9.77. First, complex rules governing the last-minute balancing of the system would always be needed. Past experience indicated that, as a result, when one loophole in the rules was closed, market participants could readily find other ways to achieve similar effects. Thus, relying on rule modifications meant that the regulator was perpetually trying to catch up.

9.78. Secondly, constant rule changes could stifle innovation and damage competition. Participants in the market might be reluctant to take positions based on current arrangements in case these changed in a way that would adversely affect them.

9.79. Thirdly, it was generally undesirable for rule modifications to be retrospective in nature, since this could further increase uncertainty and was likely to dampen trading liquidity and to disadvantage participants who had not been manipulating the market. If, however, modifications were not retrospective, a participant that had manipulated the rules would retain the benefits of that manipulation to the detriment of consumers and potentially of other participants, and would not be discouraged from seeking out and exploiting other loopholes.

9.80. The DGES said that a further consideration with regard to relying on rule modifications was that, in general, he could not initiate them but could only make determinations on modifications that were referred to him. This restriction applied under the Pool arrangements and would continue to apply under NETA. He could not, therefore, rely on this remedy as the solution to the problem of potential abuse of market power.

NETA

9.81. The DGES expected that features of NETA, such as the removal of a mandatory one-sided market, the move away from a single marginal price to a pay-as-bid system and the reliance on bilateral contracting via a range of forward markets, would reduce the scope for abuse of market power. In addition, demand-side participation in price determination could increase significantly under NETA, thus increasing competitive pressures. There was some evidence from the forward market to support the view that participants expected NETA, along with other market developments, to increase competitive pressures.

9.82. Other key developments that would take place with the introduction of NETA were:

- (a) the lifting by the Government of the stricter-consents policy on gas-fired plant, which would, over time, increase the competitive pressures from new entrants;
- (b) the introduction of new governance arrangements both for the energy market and for the connection and use-of-system regime: more flexible governance arrangements in both these areas would increase the speed at which the trading arrangements could be changed when necessary. The

greater role for consumer representatives in the governance arrangements and their concern about the effects of abusive pricing should also strengthen the role of rule modifications in limiting market abuse; and

- (c) the enhanced ability for NGC to contract ahead for balancing services. Providing that the incentives on NGC were properly aligned with the interests of consumers, allowing it to exercise discretion in how it balanced the system, this ability should provide a countervailing force to the market power of participants close to real time.

Nevertheless, the DGES believed that NETA would not solve all the problems of the electricity market. Market power close to real time was likely to remain a particularly intractable issue and the possibility of capacity squeezes would continue.

Other legislation

9.83. The DGES had given careful consideration to the legal powers available to him and to other regulatory agencies. He recognized that his concurrent powers under the Competition Act represented a welcome significant extension and strengthening of his powers under general competition law. He was, however, concerned that, for the reasons set out in paragraphs 3.49 to 3.55, there could be serious cases of manipulation of the wholesale electricity market by generators with substantial market power which would not clearly be prohibited by Chapter II of the Competition Act. Nor was it clear that the market abuse regime in the FSM Act would deal effectively with the specific types of abuse that he was seeking to eradicate (see paragraphs 3.77 to 3.79).

9.84. Commenting on the arguments of AES and British Energy that situations could be addressed by using the concept of joint dominance (see paragraphs 3.59 and 3.67), the DGES said that there was no indication that participation in a market mechanism such as the Pool or NETA amounted to a link between participants sufficient to give rise to an inference of joint dominance. It seemed illogical to suggest that participation in such a mechanism could, alone, lead to an inference that undertakings were adopting the same position in relation to their customers and competitors as a single dominant entity would and were thereby removing effective competition between themselves.

9.85. If AES and British Energy were not relying on the market mechanism, the DGES failed to understand on what other basis the various generators could be assumed to be jointly dominant. No generator had indicated to him that it considered itself to be in a position of joint dominance such that the MALC would be unnecessary.

9.86. In these circumstances, the DGES could have no confidence that any court would support a finding of joint dominance among generators so that he could use the Chapter II prohibition to prevent the types of activity at which the MALC was targeted. In his view, the legal decisions relied on by AES did not purport to depart from the test of joint dominance laid down by the ECJ. They did not suggest that generators in the position of AES and British Energy would be held to be in a dominant position with other generators.

9.87. The DGES noted the argument that if AES, as a result of its participation in the electricity market in Great Britain, were able to engage in the types of conduct that the MALC was intended to prevent, then other large generators would also be in such a position. This reasoning had been used to claim that AES would, therefore, form part of a group that would be considered dominant in any relevant market and that its behaviour could be subject to challenge using the concept of joint dominance. The DGES commented that it was unclear why the test for joint dominance would necessarily be satisfied in these circumstances. All that the points made by AES indicated was that there was potentially more than one generator that could have substantial market power. There was no indication that the generators in question would hold a position of joint dominance, and no reason had been given why the larger generators must necessarily be in a position to act as AES, as a smaller generator, was able to act.

9.88. Whether the Competition Act would provide an effective deterrent against abuse of market power would depend on the extent to which generators that might be in a position to exercise substantial market power recognized themselves to be in a position or potential position of dominance and changed

their conduct accordingly. The DGES considered that the threat of being the subject of action under the Competition Act would not deter a generator that did not satisfy any of the established criteria for dominance, even in a realistically-defined narrow temporal market.

9.89. In the DGES's view, therefore, the MALC was needed to impose a clear obligation on generators with the ability to exercise substantial market power not to abuse their power.

The MALC

9.90. The DGES believed that the MALC was an appropriate and necessary solution to the problems he had identified. No other effective solution had been found. In the absence of the MALC, Ofgem would seek to apply a mix of other measures likely to be less well targeted and possibly more intrusive. If the MALC were in place, such intrusive measures would be unnecessary and furthermore it would be possible to simplify, and possibly remove, some existing conditions from the licences of some generators, such as those conditions concerned with generation availability and closure decisions and those concerned with discrimination, thus reducing regulation.

Criteria

9.91. The DGES's criteria for the inclusion of the MALC in a generator's licence were its share of total output and the frequency with which it had set SMP in the Pool. (In the case of corporate groups, combined shares of output and SMP-setting were the criteria.) The DGES said that these criteria had led him to the opinion that the British Energy and AES generation licences in an unmodified form operated against the public interest.

9.92. The inclusion criteria were a second-best solution in the absence of a collective licence modification process, which was not allowed by the Electricity Act (until amended by the Utilities Act). If the criteria had not been devised, Ofgem would have had to embark on the cumbersome process of seeking the consent of each individual licence-holder (of which there were at present over 40). As an alternative, the criteria were designed to capture those generators which, under the present arrangements, were most likely to be in a position of substantial market power.

9.93. The DGES said that the test for substantial market power would be applied in relation to the circumstances prevailing when conduct under investigation occurred. This recognized that a licence-holder might have a position of substantial market power in some periods but not in others. Thus the fact that a licence-holder qualified for inclusion of the MALC in its licence did not necessarily mean that it continually possessed substantial market power.

9.94. The DGES told us that the proposed licence condition was a transitory measure, designed to cover the final period of the Pool and the first period of the operation of NETA. This would be a time of major change, during which the advantages of a general condition were likely to be particularly pronounced. For example, detailed rule modification targeted at market power—which in any event was not under the DGES's control, either in the Pool or under NETA—would be particularly problematic in this period: it could take too long to do anything effective in the Pool, and further rule change would increase the uncertainties and burdens on market participants in the first stage of NETA when adjustments would almost certainly have to be made to deal with technical issues.

9.95. For the longer term, the DGES believed that a general licence condition would continue to be necessary, at least for so long as there continued to be a distinction between the Competition Act concept of dominance and the concept of substantial market power. It was, therefore, his intention to propose to the Secretary of State, at an appropriate time, that the MALC be included as a standard condition in the licences of electricity generators and suppliers under the new Utilities Act powers. If this proposal were accepted, the current MALC would have been a stepping stone to that longer-term position. If the Secretary of State rejected the proposal, the MALC would have provided, as a transitory measure, a necessary degree of protection to consumers and to the competitive process during a period of major change.

9.96. The DGES said that the MALC set a general standard for conduct, ie that positions of substantial market power should not be abused, rather than detailed rules of conduct. This was consistent with the approach embodied in the Competition Act. Guidelines and precedents would help to define the boundaries between acceptable and prohibited conduct. Generators would, however, have to ask themselves some new questions about their commercial conduct. They would need first to consider under what circumstances they were likely to possess substantial market power, and secondly, if appropriate, whether any of the actions that they were contemplating would amount to exploitation of that power in a way that caused material harm to consumers and competitors. The DGES believed that this was neither a heavy nor an uncertain obligation to place on generators. They knew the market well and were capable of developing sophisticated bidding and trading strategies. The information needed to check compliance with the MALC was no more than that required by an efficient generator to maximize shareholder value (for example, the effects of its action on market price, on volumes sold, on customers and on competitors). The new aspect was the explicit requirement on a generator possessing substantial market power to consider the possibility of potential harm to consumers or competition.

9.97. The DGES acknowledged that the MALC could apply at a lower threshold than Chapter II of the Competition Act. If that were not the case, the MALC would have been unnecessary. He submitted that this lower threshold was needed to meet the particular problems that arose in the electricity market. In particular he made the following points:

- (a) Ofgem was a specialized body charged with supporting the DGES in the regulation of the electricity sector. It carried out continuous surveillance of the market and had a great deal of high-quality data. There was no need, therefore, for Ofgem to carry out the kind of full investigation which the OFT guideline on market power envisaged for the generality of cases examined under Chapter II of the Competition Act, in which no specialized regulator would be involved. Moreover, electricity was a commodity market, which raised different issues for the exercise of competition law from those envisaged in the OFT guideline. Nor was it necessary to define the market, since Ofgem understood the market very well. The DGES had no doubt that, whilst minor instances of abuse might go undetected or be difficult to attribute to an individual generator, it was possible to determine which generators were responsible for clear-cut instances of abuse. He cited the Edison case as an example (see Appendix 8.1).
- (b) For the reasons given in (a), it was possible for the DGES to determine when a price increase was the result of abuse. In the case of capacity withdrawal, the avoidable cost test was the appropriate method of distinguishing between commercial and abusive behaviour. In the case of bidding strategies involving price discrimination between periods when conditions were otherwise similar, the test was whether there was an objective justification for any substantial change in a participant's bid/offer prices, such as movements in costs or changes in availability as a result of, for example, technical problems.
- (c) Substantial harm could be done to consumers by abusive price increases over a short period of time. Given the continuous interactions among market participants in half-hour trading periods, it was possible for competitors to make a rapid response to any initiative by a generator that caused a price rise which did not reflect underlying market conditions. If no such response were forthcoming, the regulator would be justified in intervening to protect consumers.
- (d) The DGES recognized the distinction between manipulation of rules and the exercise of market power inasmuch as he told us there might be some breaches of the MALC that resulted from manipulation of complex rules: in that event, he would consider whether it was appropriate to change the rules in order to prevent a repetition. In his view, however, it would not be possible to devise rules which were proof against manipulation and an attempt to do so might have disadvantages for the efficient running of the market.

Regulatory certainty

9.98. With regard to issues concerning regulatory certainty, the DGES believed that it was necessary to compare the alternatives of:

- (a) introduction of the MALC, coupled with consequential simplification and/or removal of other licence conditions; and

- (b) reliance on other measures, with consequential increases in regulatory activity in other areas.

Given the problems identified, he did not consider that doing nothing was a realistic option.

9.99. The DGES did not suggest that the MALC would have no effect on the uncertainties faced by market participants. He said that undertakings possessing substantial market power tended to face less uncertainty than companies operating in more competitive markets. Where this was the case, one effect of generators having substantial market power would be a lower cost of capital than would be expected in a more competitive environment. Since the MALC was expected to reduce the ability to exploit market power, it was likely that some generators would face greater market uncertainty associated with an increase in competitive pressures. Therefore, the MALC might be associated with an increase in the cost of capital of some generators.

9.100. The DGES said that there was no reason in principle why the introduction of the MALC should significantly increase uncertainty as compared with the alternatives. In support of this view he said that:

- (a) Generators would already have to make similar assessments in order to ensure that they complied with the Competition Act and would be well advised to have in place a compliance programme in respect of both the Competition Act and the FSM Act.
- (b) Ofgem had provided relatively precise, quantitative guidance on the new concept that licence-holders would have to take into account (ie substantial market power). The DGES said that the relevant boundary here was more certain than that defined by the concept of dominance.
- (c) The exemplary abuses in the MALC related to issues that would be familiar, from experience, to licence-holders operating in the wholesale electricity market and that were already addressed, albeit in ways that the DGES did not consider were fully adequate, in existing licence conditions of companies operating in the energy sector.
- (d) Ofgem's guidelines on the operation of the MALC provided further clarification and would be reviewed and updated as necessary in line with any development in the application of the MALC.
- (e) Publication of Ofgem's findings in the Edison case, and of the ongoing development of the principles underlying the MALC, would reduce difficulties over the interpretation of the condition in future.
- (f) Ofgem had provided a mechanism for generators to seek advice on an informal, confidential basis in relation to particular bidding strategies, but had stated that it would publish any general principles.
- (g) The Advisory Body, comprising independent experts, would provide licence-holders with protection against inappropriate application of the MALC by Ofgem.
- (h) The DGES was required to consider whether the use of the Competition Act was more appropriate than the licence condition and had stated that he would use the Competition Act, in preference to the MALC, where he could reasonably conclude that, in the relevant market circumstances, a licence-holder enjoyed a dominant position (whether individual or collective).

9.101. The DGES had also considered whether concerns about uncertainty should be addressed by substituting a prohibition of specific, defined conduct for the general prohibition—with a list of examples—in the MALC. He had decided that this would not be a satisfactory solution. First, it would carry the risk of leaving some potentially serious forms of exploitation of market power outside the scope of regulatory control. Secondly, it might even give incentives to generators to manipulate the market in ways that were not covered by the prohibition. Thirdly, as new forms of exploitation emerged, questions would arise as to whether or not they fell under the existing prohibition. This might ultimately lead to greater uncertainty than the MALC was likely to cause. Fourthly, if a licence condition had to be amended to include a different form of exploitation, this would potentially lead to a series of further references to the CC.

9.102. The DGES said that the major difference between the Competition Act and the MALC lay in the distinction between substantial market power and dominance. He believed that, in the specific

circumstances of wholesale electricity markets and given existing interpretations of dominance, the boundary between dominance and non-dominance was more uncertain than the boundary defined by the concept of substantial market power in the MALC. He argued, therefore, that the MALC would not only provide necessary, additional protection to consumers and to the competitive process, but would also contribute to greater certainty than if he sought to apply the Competition Act to all cases of market abuse.

9.103. The DGES commented that opening an investigation under the MALC would be one of several options open to him where Ofgem's market surveillance and analysis had found anomalous prices or price movements that seemed inconsistent with normal competitive behaviour. He would rely on the Competition Act in cases where he could reasonably conclude that the anomalies resulted from the conduct of a generator or generators holding a dominant position. In circumstances where anomalies were clearly connected with a failure of the market rules, he might give priority to seeking an appropriate modification, although he had no power to change market rules. All that Ofgem could do would be to identify and publicize the problem and its consequences, with the aim of stimulating a market participant to bring forward proposals for modification. The DGES stressed that compliance with market rules would not necessarily imply that a licence-holder had complied with the MALC.

9.104. Potential entrants to the market would not be deterred by the presence of the MALC. Indeed, the DGES thought that the MALC would have a beneficial effect, in that prices would give the appropriate signals for efficient entry. He was not sympathetic to arguments that regulatory risk and uncertainty would deter entry. As noted in paragraph 9.100, he had taken steps significantly to reduce uncertainty. Moreover, entry might be deterred by the absence of the MALC: the deterrent effect on entry of uncertainty in relation to price manipulation should not be underestimated. New entrants with a single plant, lacking the benefit of a portfolio, were exposed to price manipulation by generators in a position to abuse market power. The control of manipulation should also be a particular benefit to new entrants to the supply market that were not vertically integrated with generators and that were, therefore, exposed to the full risks of price manipulation by generators without gaining any advantage from it.

The Human Rights Act

9.105. Responding to British Energy's legal submission on the Human Rights Act (see paragraphs 11.60 and 11.61), the DGES said that, on the basis of legal advice received by the DTI before the enactment of the Utilities Act, he did not accept that the conclusions contained in the submission were correct.

9.106. In the DGES's opinion, the question of whether the Human Rights Act would preclude the imposition of penalties for breach of the MALC, or indeed of any licence condition, was wholly irrelevant to the question whether the public interest required the inclusion of the MALC, or some other new condition, in British Energy's generation licences. Whether, with the coming into effect of the Utilities Act, there was an effective power to impose a penalty could be determined by the High Court if and when a licence condition was infringed, a consequential penalty was imposed and judicial review of the penalty decision was sought by the licence-holder. Even if the power to impose penalties for breach of licence conditions was legally ineffectual, that fact would be no more relevant to the determination of the references before us than was the absence of any such legal power when the references were made.

9.107. Commenting on a further submission from British Energy (see paragraphs 11.62 and 11.63), the DGES said that the Human Rights Act affected only one of the methods of enforcement of Electricity Act licence conditions. Nothing in the evidence from British Energy, including its legal submissions, gave any reason why the MALC (or any other new licence condition) was not compliant with the Human Rights Act. The DGES said that British Energy's arguments appeared to confuse the existence of a licence condition with the availability or otherwise of a particular method of enforcement.

9.108. The DGES did not accept British Energy's analysis of the application of the Human Rights Act to the financial penalty regime. He accepted, however, that the jurisprudence relating to Article 6 of the ECHR might be relevant to whether and, if so, how a financial penalty could be imposed for the breach of an Electricity Act licence condition. This would be true of all such conditions including, but not limited to, any new licence conditions that the CC might find to be required in the public interest. The fact that one of the methods by which the conditions in Electricity Act licences might be enforced might be subject to challenge under the Human Rights Act was not relevant to a decision whether or not to modify the conditions.

Application of the MALC to AES and British Energy

9.109. The DGES said that if AES and British Energy conducted their businesses as they had indicated they expected to do and did not attempt to manipulate prices under either the Pool or NETA, the introduction of the MALC into their licences should not have a major impact on their conduct. He thought it likely that all generators subject to the MALC would give detailed compliance guidance to managers and other staff, and he would expect that the potentially abusive conduct identified in such guidance would be similar to that identified in guidance on compliance with the Competition Act.

9.110. The DGES did not expect the inclusion of the MALC in the licences of AES and British Energy to affect other generators not covered by it. It was possible that those generators might from time to time be in a position to exploit close-to-real-time market power and to profit at the expense of generators subject to the MALC. However, the criteria for determining which generators should be subject to the condition were intended to cover all who were likely to have substantial market power. It was unlikely that other generators would be able to exploit market power in circumstances unrelated to market conditions. If it became clear that there were other generators in a position to exercise substantial market power, he would be looking to introduce the MALC into their licences.

9.111. We asked the DGES whether the scope and incentive for abuse by AES or British Energy would be increased if the six generators that had accepted the MALC continued to be bound by it while AES and British Energy were not. The DGES did not believe that such a situation was likely to arise since, depending on the reasons for our conclusions, he thought it likely that if the MALC were not added to the AES and British Energy licences as a result of our inquiry, it would have to be removed from the licences of the six that had accepted it (see paragraphs 9.127 and 9.128).

AES

9.112. The DGES said, however, that it would be potentially harmful for the MALC not to be included in AES's licences, because AES had a considerable physical position that was more than sufficient to exert a substantial influence on close-to-real-time prices in certain periods. AES could have incentives to exploit this, particularly in combination with prior contract positions.

9.113. The DGES said that he had seen no evidence that AES had manipulated the market to date. However, he regarded that as irrelevant to the question before us. AES had only recently, through the acquisition of Drax, reached a position in which it was likely to have substantial market power. The DGES's view was that if, as he contended was the case, AES had the ability to abuse a position of substantial market power and to profit from doing so, that should be sufficient for the CC to conclude that AES's licences ought to be modified in order to prevent such abuse, bearing in mind that other generators that had been in that position in the past had engaged in abuse.

9.114. [

Details omitted. See note on page iv.

]

British Energy

9.115. If the MALC were not included in the licences of British Energy, it would be less constrained in its trading activities than other generators. Given its plant structure, the DGES believed that British Energy was likely to be very active in trading baseload contracts after the introduction of NETA.

Participants in anonymous trading would know that a player with a major physical position was governed by a different set of rules from other physical players, with fewer disincentives to engage in manipulation. This could affect liquidity and prices, particularly summer prices when owners of baseload plant might have a relatively larger presence. There would, therefore, be scope for distortion of relative prices as well as the overall price level.

9.116. The DGES said that he had seen no evidence that British Energy had manipulated the market to date. However, he regarded this as irrelevant to the question before us. British Energy had only recently acquired flexible plant, in the shape of Eggborough, and it could be expected to be a more active trader under NETA and a major player in forward/futures markets, spot markets, the Balancing Mechanism and other balancing services markets. The size and composition of its portfolio meant that it now had the ability to abuse a position of substantial market power and to profit from doing so. In the DGES's view, that was sufficient for the CC to conclude that British Energy's generation licences ought to be modified in order to prevent such abuse, bearing in mind that other generators that had been in this position in the past had engaged in abuse.

International comparisons

9.117. The DGES submitted evidence about experience in other countries with liberalized electricity markets, including the nature of regulation to curb the exercise of market power by generators. In particular, he drew our attention to the severe problems, in the form of extremely high prices, seen in California in summer 2000. He told us that these problems had reinforced his view that abuse of the market in England and Wales by generators would be possible under NETA. He said that there was now pressure for tighter price controls and more general reregulation of the market in California and that this was creating regulatory uncertainty on a scale well beyond what had been suggested in relation to the MALC. He agreed, however, that the underlying demand and supply position in California was fundamentally different from that in England and Wales, such that periods of low capacity availability relative to demand could be expected to be less frequent in England and Wales.

The public interest test

9.118. The DGES was of the view that in making our assessment as to whether the matters referred might be expected to operate against the public interest we should have regard to the following considerations:

- (a) If we found in favour of AES and British Energy, the DGES would need to consider carefully the case for retaining the MALC in the licences of each of the generators currently subject to it. In the DGES's view, therefore, the likelihood of adverse effects arising from the absence of the MALC from those licences and from the conduct of those generators as a whole was a relevant factor (see also paragraphs 9.127 to 9.133).
- (b) We should take into account the magnitude of the potential adverse effects of market abuse as well as the likelihood of abuse occurring. The DGES advised us to consider the scale of the potential detriment to the development of competition in the wholesale electricity market, the potential impact on prices paid by customers and, ultimately, the potential detriment to the competitiveness of those undertakings that incurred significant electricity costs.

A simple assessment as to whether particular adverse effects were more likely than not to occur would not, therefore, be an appropriate means of answering the public interest question, because it took no account of the magnitude and significance of potential effects.

9.119. The DGES considered that the application of the CC's normal interpretation of 'might be expected to operate' should in any event lead us to conclude that the MALC was appropriate. He said

that there was strong evidence of past and continuing experience of manipulation of wholesale electricity prices. There were also continuing incentives and opportunities for exploitation of market power, and the experience of other liberalized markets was that close-to-real-time market power would be exploited.

9.120. A legal submission from the DGES expanded on these views. It said that, in simple terms, each of the references asked whether, looking ahead, it would be against the public interest if the licence that was the subject of the reference were not to contain a prohibition of conduct of the kind in question. If the answer was 'yes' and if the CC concluded that the public interest detriment could be remedied or prevented by the inclusion of an appropriate licence condition, then the DGES would be required to introduce such a condition into the licences in question. The submission suggested that semantic arguments about the meaning of 'may be expected to operate' were largely beside the point. The essential question was whether the public interest required the inclusion of a licence condition of the kind in question.

9.121. The legal submission said that there was nothing in the Electricity Act that should lead the CC to depart from the standard appropriate procedure for ascertaining whether, in the context of a regulated activity, particular regulation was required in the public interest. That procedure involved consideration of the following matters:

- (a) The probability of public interest detriment in the absence of the proposed regulation. If there were a risk to the public interest, it would be necessary to form at least a qualitative view as to its eventuation (substantial, appreciable, moderate or slight).
- (b) The potential magnitude of any such detriment. A small risk of a very large detriment might well justify the regulation, as might a high risk of a relatively small detriment.
- (c) The disadvantages, if any, that would be associated with introduction of the regulation. The greater the disadvantages associated with the regulation, the greater the chance that they would outweigh the case for implementing it (the balance principle). If there were a perceptible risk of a detriment and it would have an appreciable adverse effect on the public interest, then one would need to be satisfied that there would be real disadvantages in introducing the regulation before one decided not to do so.
- (d) Whether less extensive regulation would serve equally well as the proposed regulation or, if not, whether it would better satisfy the balance principle.

Since the required exercise looked forward to the future with and without the proposed regulation, the CC should be concerned with what might be expected, but that did not mean it should automatically disregard possibilities unless the probability of their occurrence exceeded 50 per cent.

9.122. With regard to the references that we were considering, the legal submission suggested that the only disadvantage that might be said to be associated with further regulation was that, to a greater or lesser extent depending on the terms of the further licence condition(s), it or they would give rise to legal uncertainty and/or increased compliance costs. The submission further suggested that, unless we concluded that any further regulation in relation to the determination of wholesale electricity prices would have disadvantages outweighing the public interest detriment that it would prevent or remedy, we would need to weigh up the relative merits and demerits of two kinds of condition:

- (a) a prohibition embodying a general principle; and
- (b) prohibitions of specified acts in specified circumstances.

9.123. The legal submission said that a type (a) condition would have particular advantages if, as was the case with the MALC, it were modelled on the Competition Act Chapter II prohibition, modified to allow for the particular circumstances of the electricity industry, since considerable guidance was available from EC case law and other sources. A condition of this kind could deal broadly with the problem of abusive conduct in relation to the determination of wholesale electricity prices in circumstances where it was reasonable to believe that the Chapter II prohibition would not apply.

9.124. Type (b) conditions would have the advantage of greater specificity, to the extent that it was possible to identify precisely each type of prohibited conduct, but there would still be areas of judgement and potential disputed interpretation, and it was probable that numerous conditions would be needed. Furthermore, it was likely that additional conditions would be needed quite frequently as licence-holders found new ways to abuse positions of substantial market power.

9.125. Commenting on the legal submission from AES, the DGES's legal submission took issue with the statement that a possibility that AES might be able to cause public interest detriments would be insufficient to justify a conclusion that the matters referred operated or might be expected to operate against the public interest (see paragraph 10.83). The DGES's submission said that that statement assumed that the question for the CC was whether AES might be expected to operate against the public interest, whereas the relevant question, which was indeed the question that had been referred to the CC, was whether the lack of a modification of its licences might be expected to operate against the public interest. Analysis based on the question in the AES legal submission yielded anomalous results. By way of example, the DGES's submission postulated a case where there were eight licence-holders that might on occasions be able to exercise and profitably abuse substantial market power. Supposing that there was no certainty that any one of them, unless restrained by the conditions in its licence, was more likely than not to do so and that a probability of 25 per cent was assigned to the likelihood of each of them doing so in the foreseeable future, there was then a high degree of probability that one or more of them, unless restrained by licence conditions, would act against the public interest. However, applying the reasoning in the AES legal submission, because a probability of more than 50 per cent could not be assigned to the likelihood of any one of them so acting, the DGES would be unable to modify the licence of any of them.

9.126. Even with only one relevant licence-holder, if there were an appreciable risk that its conduct would seriously prejudice the public interest then the public interest would surely require the modification of its licence to remove that risk. This was most obvious where the risk was of physical injury to person or property, but there seemed no reason for a different approach when the risk was of economic loss. However, the line taken in AES's legal submission would lead to the conclusion that nothing could be done unless the relevant risk had existed when the licence was originally granted and was then recognized by the regulator (in which case it would have been appropriate to introduce a licence condition in the first instance to deal with it).

The position of the non-referred generators

9.127. The DGES's legal submission addressed the question of whether we should or should not consider the effect of our conclusions with regard to the licences of those generators that already had the MALC in their licences and had not, therefore, been the subject of references to us (the non-referred generators). The submission took the view that we would be considering whether the public interest required the inclusion of the MALC, or some alternative condition or conditions, in the licences of generators *in the position* of each of the referred generators. It said that if we reached a negative conclusion on that question in respect of any of the referred generators and that conclusion prevailed, then it would be contrary to principles of good administration, and, in particular, the principle of equal treatment of equal situations, for the DGES to maintain the MALC in the licence of any other generator in the same position in the relevant respects as a generator to which the negative conclusion applied. Our conclusions would, however, have no bearing on other generators that were not in the same position in the relevant respects.

9.128. The legal submission recognized that the DGES had proceeded on the basis that there were no material differences between either of the referred generators and the non-referred generators in whose licences the MALC had been included. On that assumption, the submission argued that the DGES would be legally constrained to apply to the non-referred generators any negative conclusion that we reached in respect of the introduction of the MALC into the licences of AES and British Energy. He would, in particular, be subject to the duty, set out in the EC Directive on the Internal Market in Electricity, not to discriminate as between undertakings. The DGES told us that he had informed the non-referred generators that he would review the inclusion of the MALC in their licences if the CC did not recommend its inclusion in the generation licences of the AES and British Energy companies.

9.129. The DGES's legal submission addressed three further questions. The first was whether the DGES, in deciding whether to include the MALC in a licence, was required to disregard the fact that, if he did not include it in that licence, he would be unable to include it in any other licence where the licence-holder was in all relevant respects in the same position as the licence-holder under consideration. The submission said that there was nothing in the Electricity Act or in general legal principles to suggest that the DGES was required to disregard that fact. If and so far as the inclusion of the MALC in other licences was relevant to its inclusion in the licence under consideration, the DGES was free to take that into account as a relevant consideration, and was indeed bound to do so as a matter of general administrative law.

9.130. The second question was whether good regulatory practice positively required the DGES to take into account the overall position if he included the MALC in, or omitted it from, the licences of all generators that were, in the relevant respects, in the same position. The submission said that it was impossible to see how the DGES could discharge his duties under section 3 of the Electricity Act if he could not take into account the overall position. That was not only because of the consideration set out in paragraph 9.129 but also because the proper exercise of the regulatory function often required it. Only by taking these matters into account could the DGES assess the potential magnitude of the public interest detriment that he expected and the overall probability of its eventuation, both of which would be relevant to his decision.

9.131. The third question was whether the CC was required to approach the matter differently from the DGES on a licence modification reference under section 12 of the Electricity Act. The legal submission commented that it would be perverse if, on such a reference, the CC was obliged to reach a result different from that reached by the DGES even though he had reached a result that, having regard to his powers and duties, he was entitled and perhaps obliged to reach. The submission said that it would be perverse and wrong in law to conclude that the CC was nevertheless obliged to reach such a different result because each licence modification reference related to an individual licence and therefore only matters relating to, for example, the generation of electricity in pursuance of that particular licence were relevant to its deliberations.

9.132. The submission argued that there was nothing in the Electricity Act and no other rule of law that required the CC to disregard the consideration set out in paragraph 9.129 when it considered the public interest implications of including, or not including, the MALC in the licence of each of the referred generators. If the CC disregarded the implications of its decisions for other generators, its conclusions would rest on a false or incomplete basis.

9.133. Furthermore, section 12(7) of the Electricity Act required the CC in its deliberations about the public interest to have regard to the matters as respects which duties were imposed on the DGES by section 3 of the Act. The submission argued that, in the context of the Act and the responsibility it conferred on the CC for surveillance of the DGES's exercise of his powers and duties in relation to the inclusion of conditions in licences, section 12(7) required the CC to approach the protection of the interests of consumers of electricity in the same way as the DGES was to approach it. This was also the way dictated by good regulatory practice.

Hypothetical remedy

9.134. Commenting on the proposal outlined in our Remedies Statement (see Appendix 2.1, Annex A), the DGES said that, having considered all the arguments advanced during the inquiry, he remained convinced that a licence condition to prevent market abuse was necessary, both for the Pool-based trading arrangements and for NETA. He continued to be strongly of the view that such a licence condition would be more effective if expressed as a general prohibition on behaviour that amounted to exploitation of market power and caused substantial harm to competition and/or consumers, rather than as a prohibition targeted at specified conduct that had been identified as likely to have certain effects.

Principles and reasons underlying the MALC

9.135. The reason that the MALC focused on the effects, rather than the form, of conduct was that the consequences of any given behaviour could depend heavily on particular market circumstances. Any given adverse effect on consumers and/or competition could arise from one of a number of different types of conduct, depending on the circumstances. By the same token, conduct that might be abusive in one set of circumstances might not be damaging in others. These general points had been confirmed by experience of price determination in the Pool and in overseas electricity markets that used different trading arrangements.

9.136. The DGES said that, although the MALC did not precisely specify prohibited behaviours, it would create significant uncertainty for generators only to the extent that they could not assess the consequences of their actions. A number of factors suggested that this should not be a major problem:

- (a) Competent managements should already, as a matter of course, be assessing the consequences of their conduct for market prices, in order to assess the likely effects on profits.
- (b) It was desirable, and advisable in the interests of shareholders, for generators to evaluate the consequences of their actions for consumers and competition, so as to ensure compliance with the Competition Act.
- (c) The repetitive nature of pricing in wholesale electricity provided ample scope for learning and the ability quickly to correct mistakes. In any event, the MALC was not targeted at isolated incidents that had very limited effects, such as might arise from mistakes in bidding, but at recurrent conduct that had appreciable effects.
- (d) Past experience from the Pool and from other electricity markets indicated that generators possessed considerable expertise in assessing how their bidding and availability strategies were likely to affect market prices.
- (e) Ofgem's experience with the operation of the MALC since its introduction into the licences of other generators had indicated that at least some of them had developed considerable expertise in assessing the consequences of their decisions relating to capacity withdrawal. The DGES did not consider, therefore, that the MALC had created significant additional uncertainty.

9.137. The DGES considered that an approach that relied on the prohibition only of defined types of conduct that produced harmful effects was likely to prove less conducive, or even detrimental, to the interests of consumers and/or competition. The greatest problem was that if there were a number of types of behaviour that gave rise to similar adverse effects, then prohibition of some types of behaviour would lead to others being substituted for them. The DGES said that this had been well demonstrated in the history of the Pool. To be effective, therefore, behavioural prohibition needed to be comprehensive. This was virtually impossible to achieve.

9.138. It was not the DGES's view that the two approaches to the problem (effects-based and behaviour-based) were mutually exclusive alternatives. He considered, however, that a general prohibition based on effects was required to complement the more specific measures contained in market rules, under both the Pool and NETA, which in any case were not measures that he could mandate.

The MALC and NETA

9.139. The DGES was very concerned that the proposals in the Remedies Statement were directed at the Pool-based trading arrangements and that we had put forward no specific proposal in relation to NETA. He firmly believed that a licence condition to prevent close-to-real-time market abuse would be essential after NETA was implemented. The ultimate success of NETA would depend largely on the innovations that it was expected to stimulate. He believed that the most significant factor that could potentially restrict their progress was the abusive exercise of market power close to real time, or the

treatment of such abuse. Close-to-real-time pricing, especially the NETA imbalance cash-out prices, would underpin prior trading in financial products and would play a key role in determining incentives for load management on the demand side.

9.140. Under NETA, the Balancing Mechanism would enable the system operator to accept offers of electricity (generation increases and demand reductions) and bids (generation reductions and demand increases) at very short notice. This short-term nature of the market provided some of the opportunities for gaming, for example by a participant submitting misleading information to the system operator in order to create a 'virtual' constraint that could be relieved only by accepting bids and/or offers from the participant concerned. The DGES said that temporal market power might also be seen under NETA. Close to real time, there would be only a few participants that would be able to meet the system operator's requirements for changes to generation or demand. Moreover, the acceptance of Balancing Mechanism actions would not change the imbalance position of market participants, so there could be incentives to over- or underdeliver on Balancing Mechanism actions in order to move into energy balance. Another form of potential market power under NETA was the withholding of capacity in the forward markets by participants with substantial market shares in order to force up prices in the Balancing Mechanism.

9.141. The DGES said that if it was accepted that the MALC was required under NETA, then it would be inappropriate, given the costs involved, to remove it from existing licences and go through the process of introducing a replacement condition, only to reverse the process when NETA was introduced. The alternative of leaving the MALC in the licences of generators which had already accepted it and introducing a different condition for AES and British Energy would involve unnecessary duplication and cost and could open the DGES to reasonable accusations of discriminatory treatment, and hence to legal challenge.

The CC's proposed licence condition

9.142. The DGES noted that our proposed licence condition (see Appendix 2.1, Annex B) targeted conduct that had an adverse effect on wholesale prices. To that extent, it was similar to the MALC in focusing on effects. Moreover, while it differed from the MALC in concentrating on adverse effects on prices, rather than harm to consumers and/or competition, the difference might be more apparent than real, since 'adverse' could encompass prices that harmed consumers and/or competition. Unlike the MALC, it would not encompass predatory pricing although the drafting could be changed to accommodate this.

9.143. In one sense, the reference to prices rather than to consumers/competition would widen the scope of the condition compared with the MALC, and the threshold for breaching the condition would be lowered with the removal of the requirement on the DGES to demonstrate abuse of market power.

9.144. The DGES commented that the limitation of our proposal to pre-specified behaviours (generically labelled 'manipulation') gave rise to major problems and that it should be concerned instead with the effects of conduct in terms of harm to consumers and/or competition. Some of the problems he fore-saw are outlined below:

- (a) Two different types of conduct could give rise to equivalent adverse effects on prices (and on competition and/or consumers), yet one would be prohibited and the other not. This was a practical likelihood, not just a theoretical possibility. The DGES said that it was difficult to see how this could be consistent with his statutory duties. The difficulty could theoretically be removed by making the list of manipulations sufficiently comprehensive to rule it out, but in that case there would be no practical distinction between manipulation and market power (ability to bring about an increase in prices). It would also be difficult and resource intensive to try to construct a comprehensive list.
- (b) Since in practice the list of prohibited behaviours was unlikely to be comprehensive, the DGES believed that its effect would be to induce generators to adopt behaviours and strategies that had similar effects to those prohibited but which were not listed.

9.145. More generally, the DGES failed to see any advantage in seeking to distinguish between manipulation and market power in the way we had suggested. In his submissions to us he had used the term ‘manipulation’ to refer to actions taken to move prices away from levels that might be consistent with competitive behaviour, which was equivalent to short-term exploitation of market power. Since the concept of abuse of substantial market power was introduced with the MALC, and past conduct had not been assessed by reference to the MALC, the DGES did not want to give the impression that all past examples of such behaviour would have constituted abuse had the MALC been in operation at the time.

9.146. Although our proposed licence condition would be of limited effectiveness, the DGES believed that implementation costs would be significant. The issue of consistency between AES and British Energy on the one hand and the generators which had accepted the MALC on the other would have to be addressed, with the likely consequence being a series of proposed licence modifications via the usual process and with no certainty that the other generators would accept the proposed condition. Extensive work would also be required to draw up the list of behaviours to be included. Part of the rationale for our proposal was that the expected short remaining life of the Pool might make rule change inappropriate. However, in the DGES’s view, it would not be good regulatory practice to short-circuit the usual analysis, evaluation and discussion that went into rule modification, particularly on such major issues. The practical arguments against rule changes in the Pool also applied, therefore, to our proposed licence modification. Production of guidelines for our proposed condition would also take considerable time and resources and would require consultation with generators and other interested parties. Finally, our proposal raised the question of a review mechanism that might possibly have a different composition from the Advisory Body set up for the MALC. It was doubtful that a new body could be set up and appropriate members found within the relevant timescale.

9.147. With regard to the specific conduct referred to in our proposal, the first example, limiting generation or capacity availability without good cause, was similar to the exemplary abuse in the MALC. The DGES’s only concern was that, if only limited forms of conduct were prohibited, generators would be able to switch to alternative forms with similar effects. In our Remedies Statement, however, we referred to restrictions that increased LOLP and hence capacity payments. The DGES said that such a limitation would be inappropriate. Capacity payments were only one component of Pool price, which was what mattered to consumers. Capacity payments had in the past been negatively correlated with SMP. The evidence and reasoning on this correlation suggested that generators used capacity payments and SMP bid levels as substitutable means of raising prices. A revised bidding strategy could, therefore, be used as an alternative to capacity withdrawal, with a similar effect on Pool prices, but would not be prohibited. Similarly, capacity withdrawal could be used not to raise capacity payments directly but as a means of inducing softer bidding strategies in the market generally. Yet this too would not be prohibited when it did not increase capacity payments.

9.148. Commenting on the example relating to the use of inflexibility markers, the DGES said that in February 1999 OFFER had highlighted the removal of those markers as a possible means of alleviating the manipulation of Pool prices. OFFER’s analysis had shown that a number of generators were using inflexibility markers across a range of plant, resulting in a reduction in the proportion of price-setting plant and hence reducing competition. The DGES commented that, as OFFER had recognized, if inflexibility markers were removed then generators would still have other technical parameters available through which they could achieve their required level of running. Respondents to OFFER’s consultations had confirmed that inflexibility markers could be gamed and should be used only for technical reasons, but it was generally acknowledged that it would be difficult to distinguish between commercial and technical reasons for using them in any particular case. The DGES said that under NETA it would be necessary to retain a number of dynamic characteristics of bids into the Balancing Mechanism. He was concerned that those parameters might also be subject to manipulation.

9.149. With regard to the example of complex bidding structures, the DGES said that a generator’s bid into the Pool comprised a large number of elements including five different price parameters. In February 1999 OFFER had highlighted that large price spikes that did not reflect underlying fundamentals had been due mainly to relatively complex bidding structures. After consultation, OFFER had concluded, however, that the weight of evidence indicated that the merit of introducing a single bid structure into the Pool was outweighed by the potential disadvantages. These disadvantages included the possibility that overnight prices would increase and raise the average level of SMP. There was also concern about the potential for greater price volatility, especially if some generators sought to limit the risk associated with the lack of no-load and start-up payments by increasing bid prices and using plant

parameters to ensure that they ran to recover costs. The DGES drew our attention to the problems of distinguishing complex bidding structures from the daily process of bidding into the Pool.

9.150. The DGES pointed out that Ofgem's consultation document on Pool prices in July 1999 had highlighted National Power and Powergen's ability to increase SMP through increasing their average bids. This had not resulted from the complexity of the bid structure but by the ability of those companies to exert market power. The DGES suggested that this demonstrated that a condition that focused on complex bidding might be of limited value and could be harmful.

9.151. The DGES said that our proposed licence condition defined a new concept: manipulation that had an adverse effect on wholesale electricity prices. We had defined adverse effects as 'prices significantly higher than would reflect the prevailing supply, demand and cost conditions' and had then suggested that further interpretation would be given in the guidelines. The DGES commented that the statement appeared to come close to prohibiting excessive prices or, in the context of our proposed condition, specified conduct that led to excessive prices. He said that he had initially considered including excessive pricing as an exemplary abuse under the MALC but had not taken it further because of the concerns of licence-holders and third parties about the implications of such a step. The MALC was not a price control. It was concerned with the abuse of substantial market power where there were effects on customers and/or competition, not with price levels in themselves. The DGES commented that the alternative interpretation of the term used in our proposed condition was 'prices significantly higher than would reflect prevailing supply, demand and cost in a competitive market'. If that was the correct interpretation then it would be preferable for reasons of regulatory certainty to express it in that way.

Undertakings

9.152. The DGES noted the offer of behavioural undertakings by AES and British Energy (see paragraphs 10.99 and 10.100, and 11.101 to 11.104) as an alternative to the MALC or the alternative licence condition we had proposed. He did not, however, consider that an undertaking or assurance without a sanction for non-compliance was an adequate alternative remedy. Even if such assurances could be legally binding, the DGES would have concerns about the assurances offered. He noted, for instance, that they were conduct-based rather than effects-based, and he believed that it was not possible to produce a definitive and comprehensive list that would capture all the possible forms of conduct that could constitute market abuse. The DGES also noted that the assurances related solely to capacity withdrawal, which was only one of the ways in which a generator might abuse a position of substantial market power. Finally, he noted that the assurances would last only for the remaining lifetime of the Pool, whereas the scope for potential abuse in relation to capacity withdrawal would remain after the introduction of NETA.