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PRIME MINISTER

COPY NO 8

# ELECTRICITY CONTRACTS, PRICING AND PROCEEDS

Following the decisions on nuclear power and coal contracts, negotiations between the Area Boards and generators electricity contracts are now nearing completion. If we are to meet the timetable for vesting the new structure of the industry, these contracts must be agreed by the middle of January. In particular, the arrangements for Nuclear Electric need to be notified to the EC Commission during the first week of January if we are to meet the timetable for state aids clearance.

- 2. I attach a paper that seeks agreement to proposals for contract pricing, including the initial level of nuclear revenue, and to a number of related proposals, such as the arrangements for trading with Scotland and France It sets out the likely effects of these proposals on customer prices and proceeds. While the conclusions are robust, the precise numbers given should be treated with some caution. Contract prices will be set against forecasts of the price in the new market we are Exhaustive modelling of future market prices is still creating. The attached figures are the current best estimates. in hand. Final figures will need to be agreed in January. There will be changes but the overall effects and problems will remain largely as set out in the attached paper.
- As my predecessor explained in his paper of 14 June, perhaps the biggest problem in constructing a suitable contract package is to prevent unacceptable price increases to large

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users of electricity. Unless special measures are taken, they face nominal increases of some 10-30%. Such increases would be unacceptable and the paper seeks authority for the industry to adopt a transitional approach which should mitigate the problems. However, it is clear that it will be impossible to keep price increases for these and other customers to acceptable levels if the nuclear levy is not kept to a minimum. The paper explains why further reducing the other components of the price does not offer a satisfactory solution. I therefore hope that the Chancellor will agree that Nuclear Electric's initial revenue should be set at £2 billion in 1990/91 prices, producing a levy of 11%.

- 4. It has not proved easy to deal with the problems of the coal industry, the nuclear industry and large customers within a competitive framework. Nor do I underestimate the difficulties of floating an industry with no track record and a completely new means of operation. However, I believe the proposals set out in the attached paper will produce acceptable prices for customers, defensible levels of proceeds and an early transition to a fully competitive market. Together they form a package and it will be difficult to amend one part without amending the rest. If colleagues are content, I will inform the industry that they may complete negotiations on the basis of these proposals.
- 5. I am copying this to John Major, Nicholas Ridley, Malcolm Rifkind, Sir Robin Butler and Professor Brian Griffiths. Because of its sensitivity, I must ask colleagues not to give this paper wide circulation.

Jem

# ELECTRICITY CONTRACTS, PRICES AND PROCEEDS

#### INTRODUCTION

In June, my predecessor circulated a paper on the initial contracts between the successors to the Area Boards and the CEGB. Since then, negotiations have taken place in the industry, and have led to a series of decisions: the decision to adopt a simpler method of trading electricity in August, allowing for the development of a spot market; the decision in September to adopt temporary monopolies for the Area Boards; the decision in November to retain nuclear power in the public sector; and the agreements between the generating companies and British Coal announced this month. With these issues resolved, negotiations on the electricity contracts are now nearing completion. Agreement on these contracts and the rate of nuclear levy will need to be reached by the middle of January if vesting is to be achieved by the end of March.

# CONTRACT PRICES

- 2. Developments since June have led to a number of changes in the contract pricing proposals. A comparison is given in summary form at Annex A. The key changes are:
  - (a) conventional generation: the average price for conventional generation is slightly lower at about 2.75p/kWh. Further analysis has led to changes in the balance between the energy and capacity components of the price and in the size of the fixed coal charge required to underpin the coal contracts. These changes have some effect on the relative levels of prices to different customer classes;

- (b) wires: the paper in June proposed that charges for use of the distribution and transmission systems should be set so as to produce revenue covering costs and a 5.5% real return on the CCA book value of assets. The paper noted that this base price might need to be adjusted in the light of further analysis of costs, financing requirements, and demand growth. The Area Boards and NGC have argued for a return of 7.5 to 8% and the Treasury has supported a higher return to offset the cost to proceeds of the generators' commitment to FGD. Further analysis suggests that a figure giving a 6.5% return would be more appropriate, though I may need to reduce this to 6%, either to improve prices or generator profits, or because 6.5% may not be sustainable; and
- opening figure for nuclear revenue of £2.5 billion, though my predecessor expressed the hope that this figure could be reduced in negotiation. My paper to colleagues of 27 November suggested a range of £1.9 to £2.5 billion, giving a levy of some 10 to 15%. I proposed that a final decision should be taken in the context of the overall contract package and its effect on prices and proceeds.

# CUSTOMER PRICES

3. My predecessor's paper explained the difficulties of avoiding large real increases in price for the most intensive electricity consumers. Without any amendment, the proposals summarised above would produce the price changes shown in Annex A, even assuming nuclear revenue near the low end of the range and an 11% levy. While the price increases for domestic customers would be acceptable and the majority of commercial and industrial customers would benefit from real reductions, large users would face increases of almost 10% real or 15% nominal. The dozen or so very largest users, such as BGC, ICI and BOC would face increases up to 30% nominal. A breakdown of the price

for typical large users, and a comparison with the present prices, is given at Annex B. Such increases are clearly unacceptable.

- 4. My officials will naturally be pressing the Area Boards and NGC on scope for further reducing the charges for the transmission and distribution of electricity. However, these prices have to be set on the basis of published, non-discriminatory principles and tariffs and the scope for reductions may be limited. The only other options for producing acceptable prices for the very largest users are therefore:
  - (a) keeping the nuclear levy at acceptable levels: with a levy at 15%, prices for the largest users would rise by an additional 6% or so. The levy itself would then account for about half the increase for the largest users. This is one of the strong arguments for keeping nuclear revenue at the low end of the range proposed in my paper of 27 November, which produced a levy of 10%; and
  - (b) having a tranche of lower priced generating contracts: effectively this requires a tranche of contracts priced below our expectations of the average pool or spot price of electricity. One justification of this would be that there is anyway considerable uncertainty in estimates of the pool price. Another is that customers would genuinely be able to benefit from such prices if they were willing to interrupt their supplies at times of peak demand, when the pool or spot price will be Another is that customers may have advantageous fuel processing arrangements. If the industry is to adopt this approach, it will clearly have to be transitional so that the market can in future determine the price. Such contracts could in theory be offered by National Power, PowerGen or Nuclear Electric (under the arrangements described below).

- 5. Given the scale of the price increases involved, I believe we will have to adopt the first of these options and the industry will have to adopt the latter. I believe the aim should be to provide:
  - (a) a three-year transition to the point where the market determines the price rather than our expectations;
  - (b) a cap on price increases during that transition as near to RPI+5 as possible; and
  - (c) a neutral effect on proceeds and public expenditure.

The effect of any arrangement to reduce prices to these customers is likely to be a small increase in the price to other customers. Large customers over 10 MW account for about 13% of supply. To reduce their prices by 0.1p/kWh would involve raising the price on the remainder of contracts by 0.015p/kWh, which is not significant. To reduce all price increases for large users to 5% real or 10% nominal would require a reduction of about 0.1 to 0.2p/kWh, raising other prices by 0.03p/kWh or less than 1%. The front running option proposed by the industry is to have a tranche of lower priced coal within the proposed coal agreements, reflecting the lower costs of some supply, such as open cast production, which would be indexed upwards reflected by the generators and Area Boards in prices to the largest customers. Load management contracts would also justify lower prices. A combination of the two may be sufficient. We will need to ensure that any arrangements are consistent with relevant UK and EC legislation.

### THE NUCLEAR LEVY

6. In my paper of 27 November, I proposed a range of nuclear revenue for 1990/91 of £1.9-2.5 billion, giving a levy of some 10-15%. I explained that there was insufficient information on the overall effects on prices of the contract package to decide on the right figure. This information is now available. Before making any special arrangements for the largest users, the effect

of different nuclear revenue and levy rates on average prices is likely to be of the order of (nominal price increases):

	£1.9b revenue	£2.2b revenue	£2.5b revenue
Customer class	10% levy	12% levy	15% levy
Domestic	6-7%	8-10%	11-13%
Commercial	7-12%	10-14%	12-18%
Industrial	-10-0%	-8 +2%	-6 +5%
Large industrial	10-30%	12-33%	15-36%
Average for all customers	4-6%	6-8%	9-11%

- 7. Higher levy rates mean greater price increases for all users, and aggravate the problems with larger users. They also have other effects. By increasing prices to potentially mobile customers, they reduce forecasts of demand growth and increase per unit fixed costs for the industry. They increase the incentives for customers to avoid the levy, whether by avoidance schemes or by own-generation. All these effects are unwelcome from the point of view of flotation. But the price constraint is in my view the most serious. We should be aiming to keep the average price increase for all customers as close to the rate of inflation as possible.
- 8. The only way to prevent higher levy rates feeding through into higher prices is to find offsetting reductions in other parts of the price:
  - (a) transmission and distribution: at first sight, a reduction in the return earned by NGC and the Area Boards from 6.5% on CCA net assets to 5.5% would allow a corresponding increase of about £150mpa in nuclear revenue without affecting prices. But this is only true on average. Very large users pay very little for transmission and distribution. A reduction of one percentage point in the return on transmission and

distribution would have no noticeable effect on their prices, and so they would still feel most of the effect of the one and a half percentage point increase in the levy. In any case, a reduction of this size in the return on the transmission and distribution businesses would reduce proceeds by around £1 billion and would require a less tough X in the price control formula on these businesses, allowing prices and the rate of return to rise in real terms to cover growing capital expenditure;

- (b) conventional generation: to offset a £100 million increase in nuclear revenue, equal to a bit less than a percentage point increase in the levy, would require a corresponding reduction in the combined pre-tax profits of National Power and PowerGen. These are provisionally forecast at the low level of roughly £600-650 million in 1990/91. To eliminate the price effect of a 5% increase in the levy from 10 to 15% would require the complete elimination of these profits. Obviously the generators would not be floatable on this basis.
- 9. Against this background, I believe the success of the privatisation depends on our setting nuclear revenue and hence the levy at the lowest level consistent with positive cash flow for Nuclear Electric. I therefore propose to tell Nuclear Electric that they should work on the basis of £2 billion for 1990/91, giving a levy of 11%. I appreciate the Chancellor's reservations, set out in his letter of 8 December. But I do not believe the price increases and distortions produced by a 15% levy are sustainable. I have, however, reviewed the arrangements by which nuclear electricity is sold and believe there are amendments which can be made which offer Nuclear Electric the chance to improve their revenue if their plant performs well.

#### NUCLEAR CONTRACTS

- 10. Under the new "pooling" or spot market arrangements agreed in August, generators sell all their electricity into the "pool" at the "pool price" and all suppliers buy their electricity at the pool price. Customers, especially large ones, suppliers for this purpose and buy at the pool or spot price. Because the pool price will be volatile, both generators suppliers will have a strong incentive to sign contracts that convert these pool price transactions into fixed price trades. Otherwise, generators' income and suppliers' prices will be volatile. The most common form of these fixed price contracts will be one in which the generator agrees to pay the supplier the difference between the pool price and a fixed price, whenever the fixed price is lower than the pool price, in return for a fixed The effect of this is that the supplier pays a fixed price or the pool price for units supplied, whichever is the lower, and a fixed fee for the benefit of this insurance or hedge against high pool prices. This is shown in a diagram at Annex C.
- The arrangements for selling nuclear electricity described in my paper of 27 November made no provision for such hedges or fixed price contracts to be offered against nuclear output. Although Nuclear Electric would sell to the Area Boards under fixed high priced contracts, the levy arrangements would then pay the Boards the difference between this high price and the pool The overall effect would be to compel the Area Boards to buy all nuclear output at a volatile pool price without any means of converting these purchases into fixed price purchases. Because customers will almost certainly want fixed prices, the Area Boards would be placed in the intolerable position of purchasing spot and selling fixed with no means of hedging the risks involved. Since Nuclear Electric would be receiving a fixed price, it would have no incentive to offer the Area Boards, or anyone else, the necessary hedge against the pool price. It is clearly not sensible to insist by statute that electricity supplied shall be sold at a volatile spot price, and amendments to the proposed regime are clearly required.

- 12. The following proposals meet the requirements of the Electricity Act:
  - (a) Nuclear Electric sells its output to the Area Boards on eight-year contracts at a high nuclear price, comprising the pool price and a fixed addition for each unit supplied up to a pre-defined level of output. Because its revenues now depend on the pool price, like any other generator, it will want to offer fixed price contracts of the kind described in paragraph 12. These will hedge itself and suppliers against the pool price;
  - (b) the nuclear levy remains unchanged from my earlier proposals. It is the difference between the price paid by the Area Boards to Nuclear Electric and the pool price. The effect is that the Area Boards pay the pool price for all nuclear output, as for the rest of their requirements; but
  - (c) Nuclear Electric offers a further set of fixed price contracts, through a subsidiary supply business, to hedge itself and the Area Boards, or any other suppliers or customers, against the volatility of the pool price.

The net result is that Nuclear Electric sells like any other generator in the market, except that it is subsidised through the levy. This is shown in a diagram at Annex C.

13. Because Nuclear Electric is a state-owned company, it may have less incentive to obtain the best price in the fixed price contracts it offers. I therefore propose that it should be placed under a licence obligation to sell at the maximum price attainable and to report its selling prices to the Director General of Electricity Supply. This should help to reassure the market that Nuclear Electric is not "dumping" low priced contracts.

14. These arrangements achieve our objective of allowing nuclear output to be subsidised through the levy and sold to all comers at the market price. However, to simplify matters, I propose that all the initial contractual hedges offered by Nuclear Electric should be with the Area Boards and should be priced on exactly the same principles as those offered by National Power and PowerGen. To provide an early transition into a freely negotiated and competitive sale of contracts by Nuclear Electric, these initial contracts would be short-term and would last no longer than four years. When these contracts expired, Nuclear Electric would be free to offer contracts to any supplier, generator or customer for the highest price it could obtain. It would become a third generator in the market.

#### CONTRACT LENGTH

- 15. The initial contract package between the Area Boards and generators will comprise the following elements:
  - (a) three-year contracts with National Power and PowerGen covering 70% of output, to underpin the contracts agreed between the generators and British Coal;
  - (b) the short-term contracts with Nuclear Electric described above, covering 20% of output;
  - (c) one and two-year contracts with National Power and PowerGen, with options for either side to terminate after 3 months, covering 10% of output;
  - (d) contracts of up to five years or so, starting at the end of the third year, probably covering some 50% of output. These would fix the payment for capacity, with energy being paid for at system marginal price, subject to an upper cap to protect the Area Boards and a lower limit to protect the generators. These caps and the contractual volumes would be subject to review at two or three-year intervals; in the event of disagreement,

each side would have the right to reduce the contractual volume by a stated amount each year.

There would also be the eight-year contracts between Nuclear Electric and the Area Boards reflecting the true costs of nuclear power.

- 16. Overall, this contract package give National Power and PowerGen at least eight years' contractual cover, as envisaged when we took decisions in September on contract length and temporary monopolies for the Area Boards. At the same time, it leaves room for early entry by competitive generators.
- 17. The purpose of the contracts with options to terminate at three months is to allow Area Boards and generators to begin immediate competition to supply the larger customers. There is unlikely to be time between January and March for customers to choose between Area Boards and generators. The three-month options give the Area Boards and generators the ability to adjust their contract portfolios at an early stage.

#### **PROCEEDS**

18. All the comments about proceeds made in my predecessor's paper still apply. None of the electricity companies will have established track records. There will be very little track record of the new pooling or spot market arrangements, or of the new contractual relationships between Area Boards, generators and the National Grid Company. Against this background, any estimate of proceeds must be very tentative and cannot be confirmed at this stage by our financial advisers. The Department's modelling forecasts the financial results for the electricity companies shown in Annex D. On the assumptions set out in that Annex about dividend cover and dividend yield, proceeds may be estimated on a purely mechanical basis to be:

Area Boards : £8 - 9 billion

NGC : £1 - 1.5 billion

National Power: £2 - 3 billion

PowerGen : £1.5 - 2 billion

TOTAL : £11-15 billion

19. These figures are not greatly changed from those given in my predecessor's paper. The figures for the generators are low and below their historic cost asset value. It may be possible to improve these numbers slightly if reductions in the charges for transmission and distribution are achieved. But any further increase could only be achieved by reductions in nuclear revenue, lower proceeds from other parts of the industry or by higher prices to customers. In any case, it has to be recognised that inherent conflict between the introduction of there is an essential feature of competition, an our electricity privatisation arrangements, and the maximisation of proceeds of sale. Nevertheless, within this constraint, we have sought to maximise proceeds both by providing franchise protection for the supply of business of the Area Boards' successors and by ensuring that a substantial rate of return can be earned on the wires business of both the grid and the Area Boards' successors. franchise market also protects the generators against the weakening of their competitive position which would otherwise flow from the three-year agreement with British Coal.

### OTHER KEY FEATURES

- 20. There are a number of other key features of the initial contractual and regulatory regime where our original proposals have had to be modified in the light of the developing contract package:
  - (a) France: there are two overriding principles we have adopted in our treatment of imports from France. The first is that the French should be treated like any other generator or customer in the market; they should

buy and sell electricity on the same rules. The second is that the French should not be paid more than the market price for their electricity: it would not be consistent with the current protocol that the French should qualify for the high price paid to Nuclear Electric, especially since this could cost British electricity consumers up to £500 million a year extra. The principles should be that they buy and sell actual output at the pool price; that they may sign fixed price contracts up to the capacity of the link to hedge against the pool price if they wish; that they should pay a charge for use of the British part of the link; that their sales may qualify as non-fossil units, exempt from the levy, if they sign suitable contracts; but that they will not qualify for the non-fossil obligation and the higher nuclear price. It will be left to the Area Boards, generators and customers to decide whether to contract with EdF, but only after Initial discussions with the French vesting. Government have indicated that they will accept these proposals and a joint working party has been established to work up the details of an agreement with EdF;

- (b) Scotland: it will be important in our dealings with the French to demonstrate that we are not discriminating against them. I therefore believe it is essential that we adopt the same approach to imports from Scotland as we intend to adopt with the French;
- (c) price control: the overall control on prices charged by the Area Boards takes the form of an RPI-X+Y control. The RPI-X control bites on the Boards' own costs. The Y factor controls the extent to which they can pass through the price of buying electricity from generators. The original proposal was that the Y factor should be a "yardstick" based on the average purchase cost of electricity for the twelve Boards. The aim was to give an incentive to Boards to beat the

average, though there was always the risk that it would encourage all Boards to match the average. principal reason for amending this approach is that the current version of the "yardstick" is not consistent with the new pooling or spot market arrangements and so does not work. However, it has proved difficult to produce a revised yardstick that gives the right incentives. So I do not propose to pursue yardstick price control any further. It is complex to define and administer; it is very close to full pass through of generating costs; it does not necessarily give the right incentives; and the DGES favours its abolition. In any case, there is evidence that the new electricity market will be more competitive than we thought when the yardstick was proposed. I believe it would be more effective to replace it with a combination of two controls: an overall RPI-X+Y control on average prices, in which Y is the actual purchase cost of electricity for each Board; and a subsidiary RPI or RPI-X cap on the price charged to domestic customers for three years. This would be simpler and should give more comfort to domestic consumers. The option of simply adopting an RPI-X cap for domestic customers is not a starter: my financial advisers are firmly of the view that the industry would not be floatable without the overall RPI-X+Y control, which allows pass through of actual purchase costs;

(d) distribution price control: lower than expected volume growth of electricity sales, coupled with growing maintenance and capital expenditure necessary because of the industry's aged asset base, may mean that we need to concede that prices for transmission and distribution may need to rise slightly faster than inflation. This is because upward pressures on costs exceed cost savings achievable through tough efficiency targets. I will be able to make proposals on this in due course when I have completed my review of costs and scope for efficiency savings. I believe, however, that

rising prices on transmission and distribution should be capable of being kept within an overall RPI ceiling on the final price to domestic customers for three years;

(e) right to tariff: the Area Boards argue that it impossible to reconcile their obligations to supply customers on tariffs with a competitive market. argue that customers, especially large customers, will take supply from other suppliers when the pool or spot price is low and demand regulated tariffs from Area Boards at very short notice when the pool price is They see the obligation to offer long-term high. tariffs to customers who may shift their custom at very short notice as creating intolerable risks. They would like me to use my powers under the Electricity Act to remove the right to a tariff from customers taking more than 1 MW, rather than the 10 MW fixed by the Act. I do not find their arguments totally convincing, and have told them that they have other remedies. could, for instance, offer lower priced tariffs for exclusive supply, or for supply with defined notice periods and exit clauses. They can also seek to insist on contract supply under the terms of the Electricity Act. If the Area Boards continue to find difficulty, I may have to reconsider their proposal.

#### CONCLUSION

- 21. I seek colleagues' agreement to:
  - (a) the contract pricing proposals summarised in Annex A;
  - (b) the arrangements for large industrial customers proposed in paragraph 4, with the aim of keeping price increases as near as possible to RPI+5;
  - (c) Nuclear Electric's initial revenue for 1990/91 being set at £2 billion, giving a levy of 11%;
  - (d) the arrangements for nuclear contracts set out at paragraphs 14, 15 and 16;
  - (e) the proposals for contract length at paragraph 17;
  - (f) the recommendations in paragraph 21 on trading with France and Scotland, the revised price controls and the right to tariff supply.
- 22. Final decisions on contract prices are needed no later than 12 January if the timetable for vesting on 31 March 1990 is to be met. There is no room for slippage. This timetable allows two weeks for the industry to prepare final tariff and contract price proposals, two weeks to make final adjustments, and six weeks rather than the usual twelve to publish and negotiate tariffs and contract prices to customers. The industry is working on the basis of the proposals set out in this paper.

ANNEX A

#### CONTRACT PRICING

Conventional Generation	June Paper	Proposed				
- SMP - Net Capacity Charge - Coal Charge - Unit Price	1.6 to 1.7p/kWh £40/kW £12.50/kW 2.9p/kWh	2 p/kwh £15/KW £20/KW 2.75p/kwh				
Wires						
- Return on CCA assets	5.5% real	6.5% real				
Nuclear						
- Revenue - Price - Levy	£2.5 billion 6.25p/unit 15%	£2.0 billion 5 p/unit 11%				
Customer Price Increases						
- Domestic - Commercial - Industrial - Large Industrial - Overall average	+5-6% nominal +5-6% nominal 10-30% nominal 10-30% nominal	+6-8% nominal +8-13% nominal -10-0% nominal +10-30% nominal +5-7% nominal				
Proceeds						
- Area Boards and NGC - Gencos	£7.5-9 billion £3.5-5 billion	£9-11 billion £2.5-4 billion				
- TOTAL	£11-14 billion	£11-15 billion				

ANNEX B

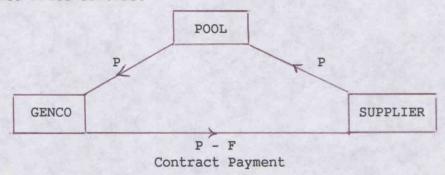
# INDUSTRIAL CUSTOMERS

Large User (>10 MW)	Proposed		Current	Increase
- Pool Price - Transmission - Distribution - Nuclear Levy (11%)	2.17 0.25 0.30 0.30			
	3.02		2.81	71/2% real
Very Large User (eg, ICI, BSC, BOC)	Proposed		Current	Increase
- Pool Price - Transmission - Distribution - Nuclear Levy (11%)	2.11 0.25 0.10 0.27			
		range	2.1-2.5	5-25%real
average	2.73	average		11% real

ANNEX C

# CONTRACTS

#### Standard Fixed Price Contract

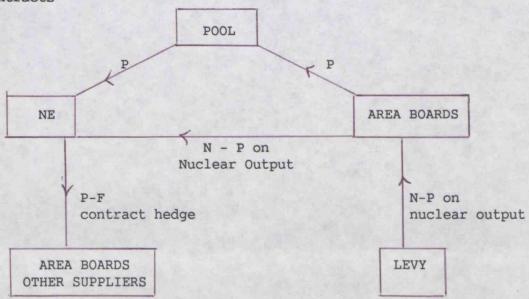


P = Pool Price F = Fixed Price

Generator receives P-(P-F) = F, a fixed price

Supplier pays P-(P-F) = F, a fixed price

#### Nuclear Contracts



P = Pool Price

F = Fixed Price

N = Nuclear Price = P+D where D = fixed price/unit

If no contract hedges are offered by Nuclear Electricity (NE):

- NE receives P+(N-P) = N or P+D, a variable price
- Area Boards pay P+(N-P)-(N-P) = P, a variable price

If NE offers fixed price contract hedges:

- NE receives N-(P-F) = (P+D)-(P-F) = D+F, a fixed price
- Area Boards pay P-(P-F) = F, a fixed price

ANNEX D

# FINANCIAL RESULTS AND PROCEEDS

Area	Boards	1990/1	1991/2	1992/3	
	Aggregate Post-Tax Profit	970	1040	1100	
Nati	onal Power	1990/1	1991/2	1992/3	
-	Post-Tax Profit	225	300	490	
Powe	erGen	1990/1	1991/2	1992/3	
	Post-Tax Profit	150	210	320	
NGC		1990/1	1991/2	1992/3	
-	Post-Tax Profit	140	160	170	
Valuation Assumptions					
-	Dividend Cover		2.5		
-	Dividend Yield for Boards		7-9%		
-	Dividend Yield for Generators		6-9%		
-	- Other assumptions as in June Paper				