

PRIME MINISTER

POWER STATION FUEL STOCKS AND ENDURANCE

At your meeting on 19 June we decided to aim for much higher coal stocks at power stations (CEGB and SSEB); to review urgently what this would entail; and to prepare a plan of action. We discussed as an aim 20-22 weeks of endurance in the autumn of 1982.

2. The CEGB responded promptly to my request to review the options for extending endurance by the winter of 1982, with the objective of 20 weeks' endurance of unrestricted demand in mind. They have worked discreetly; only a very small number of their headquarters officials have been involved in what must necessarily be at this stage a broad assessment. More detailed work would involve consulting more widely with power stations, with suppliers and so on, with the risk of publicity.
3. Officials of Departments represented on MISC 57 (the Official Committee which has just reported to us on endurance in autumn 1981) have been consulted and their views taken into account.

CEGB ASSESSMENT

4. This first CEGB study points to the following conclusions:
 - i) It might be practicable to increase coal stocking capacity within CEGB power stations to 28 mt and to transfer enough coal to fill that capacity by November 1982, although this will not be easy. This would enable coal stocks to reach 10 mt above the normally expected level, extending endurance to 12 - 13 weeks. A decision to go ahead would have to be taken immediately so that work could begin in September. If a decision were to be delayed until October it could affect the build up - but it is difficult to say by how much without detailed consultation. (Possibly endurance could be reduced



by up to 1-1½ weeks).

- ii) It would also be possible to arrange for some additional oil stocking capacity and for greatly increased deliveries of oil in the autumn and winter of 1982 (4½ mt) thus extending endurance by a further 6 weeks. Action on this would be required in the spring of 1982.
- iii) The increased use of gas in dual-fired stations might add a further 1 week to endurance if the gas can be made available by cutting off firm contract customers. (This would require Government sanction at the time and would damage the companies affected).
- iv) Stocks of ancillary materials would also need to be raised to the level required for 20 weeks' endurance. This would be possible with the exception of CO2 for nuclear stations; replenishment would have to be maintained in this case. A decision is required now.*

COSTS

- 5. These conclusions are provisional since there has been no consultation yet within the CEGB at regional and power station level, with British Rail (who would transport most of the additional coal), with oil companies and with others involved in increasing endurance in this way. Within these limitations however, it is clear that the cost of this major exercise would be high. Preliminary estimates suggest that the cost of purchasing and delivering coal by rail to the power stations could amount to £400 - £450 million for 10 mt. Much of this would not add to the PSBR but simply transfer EFL from the NCB and BR to the CEGB. A further £750 - £800 million is estimated for oil, gas, other materials, capital works, additional equipment, handling and so on, and would require payment by the CEGB to private sector bodies, oil companies, contractors and suppliers of all kinds. Gas diverted from industrial firms to the CEGB would be a loss to the PSBR. Some part of these costs might be recoverable, eg if in the event the oil is not required but the penalty is likely to be considerable.

* Power stations are also highly vulnerable to interruptions in mains water supply: no action is possible except in the very long term.

6. Any further steps in this exercise will be visible. More detailed planning will involve a number of CEGB staff at power stations who will have to be drawn in at a very early stage. In order to provide the additional coal, the staff involved in the NCB and British Rail will have to move from the current 5 day working week to a $6\frac{1}{2}$ day working week. This overtime will be noted immediately and the NUM, the rail unions and the power station unions will realise what is being proposed. Furthermore, the CEGB take the view that they must consult their unions before implementation. Moreover, councillors on local planning committees in the districts where power stations are located (most are in mining areas) may well be alerted to the changed use of some power station land; contractors will be tendering for the construction of new coal and ancillary stocking capacity and hauliers for taking some coal by road, while oil companies will later become involved in arrangements for shipping more oil and others for storing it.

7. We have already decided to avoid actions which would make it more difficult to achieve a reasonable and peaceful pay settlement in the coal industry this autumn. We could attempt to explain the proposals to shift a very large tonnage of additional coal as a response to the NCB's difficulties over mounting stocks. We could argue that it was in the public interest and in the interest of the coal industry to transfer stock to the power stations where it will ultimately be used, but I doubt whether that is credible. It would be much harder to explain the steps required to ensure additional oil and higher ancillary stocks to match increased fuel. The whole thrust of fuel policy has been to reduce oilburn to the minimum and we have an international commitment to do so. Increasing oil stocks by exceptional means and arranging for a large additional supply will offer a clear signal indeed to the unions: it might even be interpreted as a threat to the coal industry's future and the NUM might refuse to work overtime to provide the additional coal if they suspected its part in a wider design. They will undoubtedly regard measures to build up ancillary stocks as provocative.

8. I believe we now know enough about what is involved in extending endurance to enable us to decide whether to proceed and, if so, how to resolve the difficult issues: choice of means (coal only or coal and oil); financing; phasing in relation to the coming pay negotiation; and of coping with fuel stocks after 1982. More



refined estimates are unlikely to add much to the present assessment and to obtain them we would have to sanction wider consultation with inevitable publicity. Timing is important; delay will not leave enough time to plan for and implement fully the proposed increase in coal stocks or ancillaries.

9. We must seriously consider now whether it would be preferable to postpone the next stage of planning, involving wider consultation, until after this year's NUM pay settlement and take both coal and oil together at that time with the consequence that some tonnage of coal stock may be lost, while the extension of stocks for some ancillary materials will not be achieved; replenishment during a period of disruption is the only remaining course. There are also questions for later years; if we build up stocks in 1982 should they be kept at a high level in subsequent years?

OPTIONS

10. The options are:

- a) to conclude that the risks to achieving a reasonable pay settlement this autumn are too great and that we should take no further action.
- b) to decide, in principle, that the prize of 20 weeks' endurance justifies the risks and to set the industry to implement the proposals despite the inevitable publicity (coal and ancillaries now; oil next spring).
- c) to postpone a decision and any implementation of these measures until the outcome of this year's pay claim is clear, although this would probably mean less than 20 weeks' endurance in autumn 1982.

11. The Secretary of State for Scotland's minute of yesterday contains a similar analysis for the SSEB.



12. I am copying to the Chancellor of the Exchequer, the Home Secretary, the Chancellor of the Duchy, the Secretaries of State for Scotland, Industry, Employment, Defence and Transport and to Mr Ibbs and Sir Robert Armstrong.

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Secretary of State for Energy

31 July 1981



SECRET

THE LONGER TERM: CEGB POWER STATION STOCKS AND ENDURANCE

(Note by the Department of Energy)

The CEGB have reported on how they might meet an endurance target of 20 weeks by 1 November 1982. The Board have not consulted their regions; their broad estimates are based on the knowledge of a handful of HQ officials. Detailed work at regional and power station level would involve a large number of Board officials in the exercise and it will probably be necessary to extend consultations to British Rail, hauliers, oil companies other suppliers of goods and services as well as to local authorities at the next stage. The assessment below is based on the assumption that there would be no disruption in any of the supply systems before 1 November 1982.

Existing Capacity to Stock Coal

2. Existing capacity to stock coal at power stations in England and Wales is of the order of 24 mt as a maximum - equivalent to roughly 10 - 11 weeks of winter endurance. This is clearly well below the endurance in mind for the longer term.

Extending Capacity to Stock Coal

3. There is no practicable course for meeting a coal stocking capacity of 43 m tons, the equivalent of 20 weeks endurance, by 1 November 1982. Purchasing land, obtaining planning permission and developing sites could take up to 3 or 4 years from decision. It is very doubtful whether more than 28 mt of stocking capacity can be constructed within power stations in the time available; it would depend on the extent to which local planning authorities would be prepared to approve the use of existing power station land such as recreation grounds for new purposes; and the speed with which it would be possible to establish new stock areas with the drainage, standing, coal handling equipment and so on. An increase in coal stockyard capacity to about 28 mt would, the CEGB consider, be most likely of achievement. However, it is important to bear in mind that a large number of major power stations are located in mining areas and that an intention to expand stocking capacity would be communicated immediately to ~~the~~ councillors on planning committees, to local contractors and so on at each of the power stations involved. It is also inevitable that the power station unions themselves would be aware of the Board's measures.

Supplying Coal to fill this Capacity

4. It ought to be possible with overtime working at weekends at mines, ~~on~~ railways and at power stations to deliver most of the additional coal (10 mt) to fill stocking capacity of



28 mt. It might even be possible to deliver more but an assessment depends on wider consultation. This report therefore assumes 28 mt of capacity.

Coal Imports

5. The scope for increasing coal imports in 1982/83 is limited. The CEBG are contracted for some coal on a long term basis. Additional quantities for longer term delivery are unlikely to be available this autumn.

Extending Coal Endurance with Oil

6. A coal stock of 28 m tons at 1 November 1982 would provide around 13 weeks of endurance, below the objective sought. However, the CEBG have suggested that there are other measures that would supplement coal stocks and bring endurance up to the required 20 weeks of emergency running without restricting demand ie for 20 weeks after coal supplies are disrupted.

7. There is considerable flexibility in the generating system. Surplus oil fired capacity can be utilised in place of coal at a cost and much of that capacity is supplied by pipeline from refineries. The CEBG propose to build up their oil stocks before 1 November 1982 to the maximum possible by using their existing storage tanks, possibly by hiring additional tankage and also by hiring some tanker vessels to store oil at harbours (most oil fired stations are on the coast). They would expect to make arrangements to build up stocks to some 1.5 mt of oil which could be used during an emergency and to draw on fresh supplies (largely by pipeline from refineries) for a further 4½ mt of heavy fuel oil during the emergency. In total this is the equivalent of about 10½ mt of coal which would provide another 6 weeks of endurance. The phasing of this supply is obviously an important factor; in so far as stocks are built up and held before 1 November 1982 there would be no problem. However, if oil companies are committed to provide a particular tonnage of oil in a period it would be necessary to ensure that if the need arose later (or perhaps earlier) the oil would still be forthcoming. However, the CEBG believe that if they negotiate some 6 months in advance with a variable commitment as to delivery they can rely on flexibility.

8. There are complications to this oil scenario which involve the way in which the oil companies run refineries and the recent change in the balance of capacity to make the lighter products including gasoline, and the proportion of heavy fuel oil has been falling rapidly. Any reversal of this trend could involve the oil companies in additional costs and it may be necessary for the CEBG to pay over the odds for heavy fuel oil in order to obtain the required tonnage. But at the same time there is a glut of heavy fuel oil in Europe and it is possible that the oil companies would prefer to import some heavy fuel oil at prevailing prices and feed it through their pipelines to CEBG stations. In order to secure adequate supplies for any period after 1 November 1982 negotiations with the oil companies would probably have to commence in the spring on confidential basis.



Other measures for Extending Endurance

9. The CEGB have examined the possibility of increasing gas burn. Burning gas in power stations is likely to involve withdrawing supplies contracted for on a firm basis from some industrial firms, who would suffer. The Government would have to give directions under the Energy Act Order in Council to enable the BGC to waive their contractual commitments. However, it could be done, but the amount of gas that might be available during a 20 week period could well be less than the CEGB envisages. They assume the equivalent of 2 mtce of gas in 20 weeks, or one week's endurance.
10. There are other possibilities for extending endurance but their effect is minimal - burning more oil for flame control in coal stations taking more electricity from Scotland - and they would be costly.
11. These figures are consistent with those put forward in the recent report from MISC 57 on endurance in the autumn of 1981. With a longer period in which to plan for and implement measures to extend endurance, proportionately more can be achieved.

Total Fuel Endurance

12. These are broad estimates and must be treated as such. If all these measures are taken together it is possible to envisage aiming in practical terms for endurance of about 20 weeks. No assumption has been made about restricting electricity demand during that period, but if for example it were to be restricted by 10% or 15% it would be possible to extend endurance to over 20 weeks possibly 22 - 24 weeks.

Ancillaries

13. It is important that the stocks of ancillary materials which are essential to the operation of power stations should be increased to match prospective fuel stocks and supplies during an endurance period. In their assessment the CEGB have allowed for the increase of working capital and for capital expenditure upon extending storage capacity for all these materials with the exception of CO2 for nuclear stations for which arrangements could not be made and which would have to be replenished by the manufacturers. It is assumed that the movement of irradiated fuel flasks will continue. It must be noted that power stations are highly vulnerable to failure of mains water supply and there is little that can be done to improve the position in the medium term.

Costs

14. There are considerable costs attaching to the build up of fuel stocks and supplies and of ancillaries in the way described. One advantage of the CEGB's suggested course of using both coal and oil to extend endurance is that if oil stocks and committed oil supplies are not in the event required the CEGB can seek



to sell the oil after the threat of an emergency has passed thus off-setting to some extent the risks entailed in building up very large supplies and stocks. Furthermore the cost of gas would not be committed until supply was made available.

15. The cost to the CEEB of extending endurance to around the 20 week mark is considerable. The estimates are very provisional but can be broken down into two main components; the cost of the coal and of rail transport some of which is effectively a transfer within the PSBR and the costs that the CEEB will incur in construction and capital works, the purchase of oil, gas and ancillary materials, the purchase of oil tankage and the hire of tankers and road transport, the purchase of equipment additional handling power at power stations and so on. Excluding interest charges a broad estimate of these costs at current values is £400 - £450 million for additional coal, handling at mine and transport while the second component, largely involving additional payments to private sector suppliers could amount to £750 - £800 million of which oil could account for £500 million, gas about £100 million (if used it would reduce revenue from the private sector) capital works about £60 million and the remainder for ancillaries and other materials, supplies and equipment. It is possible that the oil companies would require an incentive to provide large additional tonnages of heavy fuel oil from UK refineries and the cost of the operation to extend endurance to 20 weeks could well be higher. The total may be reduced if the oil is not consumed, although a heavy charge will probably then be required. The CEEB would look to the Government to pay for what they regard as strategic stockbuild and point out that the interest burden and the effect of higher net assets on the Board's financial target will have to be taken into account and their EFL adjusted.
16. Costs for the Scottish Boards are in addition to these figures.