PREM 19/204

Part 4

m7

Confidential Filing

Energy Policy

Discussion on World Oil Situation. Meetings of the International Energy Authority (IEA). Nuclear Power Policy. North Sea Oil and Gas Depletion Policy.

ENERGY

Part 1: May 79

Part 4: Feb. 80

Referred to	Date	Referred to	Date	Referred to	Date	Referred to	Date
~~10.3.80~~							
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PART 4. ends:-

Energy to NJS dft 7.5.80.

PART 5 begins:-

S/S Energy to PM + att dft 9.5.80.

TO BE RETAINED AS TOP ENCLOSURE

Cabinet / Cabinet Committee Documents

Reference	Date
E (80) 14	20.2.80
E (80) 9th Meeting, Minute 1	11.3.80
E (80) 30	20.3.80
E (80) 11th Meeting, Minute 3	24.3.80
E (80) 12th Meeting, Minutes	3.4.80

The documents listed above, which were enclosed on this file, have been removed and destroyed. Such documents are the responsibility of the Cabinet Office. When released they are available in the appropriate **CAB** (CABINET OFFICE) CLASSES

Signed O Wayland Date 25 March 2010

PREM Records Team

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ
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N Sanders Esq
Private Secretary to the
Prime Minister
10 Downing Street

7 May 1980

Dear Nick,

Thank you for your letter of 8 April about Walt Patterson's Guardian article of April 7th. I attach a Note and Annexes commenting on the article; it has taken a few days to carry out the work on which the assessment is based.

Yours ever,

Denis

Denis Walker
Private Secretary

Prime Minister

You won't want to read all of this. In brief, the Magnox programme has turned out to be a good investment even at the lower than designed output. But this would not have been the case if oil and coal prices hadn't escalated after 1973/74 [illegible].

COMMENTS ON WALT PATTERSON'S GUARDIAN ARTICLE OF 7 APRIL

Walt Patterson's article in the Guardian of 7 April - "Britain Cooking the Nuclear Books", claims that the often quoted success of the Magnox programme is a myth; and that the programme has proved a costly and misguided policy saved only by the effects of inflation. He says that if technical problems currently affecting some of the Magnox stations were to force early closure, even inflation will not have saved the programme.

Background

2. The two main reasons advanced in favour of a Magnox programme in the 1950s and 1960s were expectations of competitive costs by comparison with coal and oil stations and the need to hedge against uncertain fossil fuel supplies. Electricity demand forecasts made at the time implied rapidly rising fuel requirements and, particularly after Suez, there was a desire to avoid the risks of undue dependence on oil imports and pressure on the balance of payments. (See Annex A for successive statements).

Accounting Costs

3. In the event Magnox costs (including interest during construction) in terms of money of the day remained above those of fossil fired stations until 1973/74 when escalating oil and coal prices raised fossil fired costs well above the Magnox level. Taking the whole period from commissioning the first Magnox station in 1962 up to 1978/79 it can be shown that the CEGB's 8 Magnox stations had saved £100 - £150m in money of the day terms compared with coal fired electricity produced from other new plant that might have been constructed instead, costed on the basis of actual experience with coal stations comparable in size and age to each of the Magnoxes. (Calculations made by the CEGB on this basis are described in greater detail in Annex B). This estimate of savings is conservative because some of this other plant would almost certainly have been fired by oil rather than coal and its generating costs after 1973 would have been higher still.

4. Leaving this point aside, and assuming that the Magnox stations continue to operate reasonably during the remainder of their 20 years design life, additional savings from 1978/1979 onwards, compared with the alternative coal fired stations, could be of the order of £300m (1978/79 prices discounted at 5%, the currently required rate of return). But if coal prices are assumed to continue rising gradually in real terms as both the Department of Energy and the CEGB expect, the additional savings could turn out even higher - a 1% p.a real increase in coal prices increases by £75m the total savings realised from having Magnox.

5. If the Magnox stations were to continue operating beyond 20 years (the CEGB have said that they believe this is not improbable, despite current problems at Dungeness and Bradwell) even larger savings would be achieved; for example a 25 year life as opposed to 20 years could double the savings to come. Patterson however suggests the possibility that all Magnox stations could be closed down early. If all were to cease providing electricity from next year onwards the cost of the Magnox programme would be equivalent to the coal fired alternative when the resources used are assessed at their contemporary costs.

Revalued Costs

6. Because of inflation, calculations based on historic cost accounting as above inevitably overstate the true profitability of capital intensive projects. Basing the comparison instead on costs revalued in present-day terms understates the benefits to capital intensive projects unless borrowing and other financial liabilities are also revalued. Furthermore, revaluing after the event ignores the benefits of the Magnox programme in spreading risks (political, economic and technical) and moderating the effect of rising fossil costs on electricity supplies to consumers, factors which must have been taken into account by the decision takers of the time.

7. Revaluing to present-day costs without a gearing adjustment would show a small advantage to coal. On a similar basis if coal prices are

assumed to increase by 2% per annum in real terms over the remaining years of Magnox life, costs would come out at about the same for both Magnox and coal; with a gearing adjustment there would be a positive benefit from Magnox.

8. Whilst there can be no conclusive answer because both of the two approaches discussed have their limitations, on both approaches the reactors appear to have been a good investment for the Board.

De-Rating

9. De-rating the Magnox stations does not affect the cost comparisons, which are based on the total capital costs incurred spread over actual outputs. (Current compared with design ratings are shown at Annex C). Patterson suggests that de-rating from design capability has led to a misleading view of Magnox performance - "cooking the books". It is true that statistics of performance comparing plant output with capability to generate are affected by de-rating which appears to improve performance. On the other hand it is common practice for performance to be calculated in this way and the European Commission Statistics, to which Patterson refers, are requested on this basis and supplied by Member Countries uniformly by relation to de-rated rather than to design capacity.

Plutonium Credit

10. In the same vein Patterson claims that the original forecast of Magnox costs was misleading as it included a substantial credit for plutonium sales. Whilst this is true for the early projections of Magnox costs (see Annex A) the practice was discarded and subsequent decisions on an extended Magnox programme were based on cost estimates that included a negligible credit only; the point is not therefore valid.

Conclusion

11. Patterson has been selective in the evidence he presents. Throughout he imples that costs are the only factor that should have

influenced policy and that it should have been clear by the 1960s that Magnox was more costly and technically poorer in performance than those concerned had hoped. He omits to say that by that time most of the orders for the programme had already been placed. Given the knowledge available at the time of decision Magnox offered potential benefits in terms of system flexibility and a hedge against inflation and other risks from which consumers have benfitted in the event. He has in fact ignored one of the mainsprings of the policy - the need to diversify fuel supply, to reduce dependence on imports and to protect the balance of payments, all important policy objectives at the time.

12. The Magnox programme has certainly not been "a fiasco". The developments of the 1970s could not have been foreseen in the 1950s; the Magnox programme can be shown to have produced savings assessed in terms of historic accounting costs or in terms of present-day costs. By criticising the basis of past nuclear programmes Patterson is of course casting doubt upon future programmes. What he does not say is that in an uncertain world, and the last 20 years have underlined the risks and uncertainties, diversity and the exploitation of nuclear power against limited fossil fuel resources is a policy option that should not have been and cannot be ignored.

ANNEX A

POLICY STATEMENTS:

ESTIMATES MADE OF NUCLEAR AND FOSSIL FUEL GENERATION COSTS

1. 1955 White Paper

The cost of electricity from the first commercial nuclear stations was estimated to be about 0.6d (old pence) a unit. [This assumed a significant "plutonium credit" for the sale of plutonium for civil purposes which CEGB estimated in evidence to the Select Committee on Nationalised Industries in 1962/3 as being 0.3d a unit while AEA estimated it in their evidence as 0.17d a unit]. The cost of generating from a modern coal fired station was also estimated at about 0.6d a unit. The White Paper proposed building 1.5 - 2GW of Magnox stations by 1965.

2. 1957 White Paper

Following Suez the Government announced that because of the fuel situation (the increased cost of imported fuel, mainly oil) and further technical progress, the Magnox programme should be increased to 5-6 GW to be completed by 1966. (By this time the plutonium credit had been significantly revised downwards to 0.05p per unit.)

3. 1960 White Paper

Announced that, since 1957 coal had become plentiful, oil supply prospects had improved and the need on fuel supply grounds for an immediate and sharp acceleration in the rate of ordering nuclear capacity had passed. A revised programme for 5 GW of capacity to be completed by the later date of 1968 was proposed. Although the cost of electricity from the first nuclear stations would probably be higher than estimated in 1955 later stations were expected to follow the downward trend foreseen in 1957; but conventional station costs were also falling. For stations designed in 1960 conventional power costs were estimated to be some 25% below nuclear costs but the Government were advised that nuclear generation for base load purposes was likely to become cheaper than conventional generation by about 1970. On the then estimates of demand the long term availability of fossil fuels was also uncertain.

4. 1962/63 Report of the Select Committee on Nationalised Industries

Examined (Paragraphs 371 et seq)the original White Paper cost assumptions in the light of evidence presented at this date by the CEGB. Points made included:

(i) plutonium credit for nuclear power reduced to 0.05d a unit by 1957.

(ii) rates of interest - had risen affecting nuclear more than coal stations.

(iii) conventional generation - improvements in efficiency had reduced costs.

The CEGB memorandum to the SCNI estimated that costs for all stations could be expected to fall but that nuclear costs would fall more rapidly than conventional.

	Nuclear	Conventional
	d/per unit	
Plant commissioned in 1962	1.00	.55
" " " 1965/6	.65*	.49

* Based on larger reactors.

At that time the Ministry of Power considered that nuclear and conventional stations might have similar costs by 1968, the AEA thought the later Magnox stations could be either competitive or nearly competitive by 1970 and CEGB a little later than 1970.

5. 1964 White Paper. (The 2nd Nuclear Power Programme)

Acknowledged that greater emphasis on the importance of returns on investment combined with the reduction in credits for plutonium would delay the date at which nuclear power would be competitive with conventional power.

6. 1972/3 Select Committee on Science and Technology

In its initial memorandum the Department of Trade and Industry said that the Magnox "although operating reliably and at lower running costs, are less economic than the best conventional stations when capital costs are included at constant money values,.....". At the request of the Committee the Department submitted a further memorandum (Appendix 4 of Minutes of Evidence) on comparative costs of generation. This gave two alternative methods of comparison between Magnox and fossil fired stations:

(i) Accounting cost comparison
The total cost of a unit of electricity sent out from Magnox stations (excluding Wylva) calculated in conformity with the Board's standard accounting conventions, ie using historic costs, the borrowing rate prevalent when the stations were built and actual use of the stations, was 0.43 p/kwh compared with 0.41 p/kwh for modern coal fired stations and 0.39 p/kwh for oil fired stations.

(ii) Adjusted cost comparison
This showed how the accounting costs would have appeared on a standardised basis done by revaluing all costs at 1972 money values, by using annuities for capital charges in place of straight line depreciation, and by assuming a common load factor of 75 per cent. (The memorandum stressed that because of the difficulties in revaluing outdated assets the figures should be treated with some reserve). The results were given with alternative interest rates for illustration. The ranges for the Magnox stations reflect the technological development during the programme with the lower costs reflecting the costs of the later stations. The published results were:

	8% interest	10% interest
Magnox	0.56-0.94	0.64-1.07
Coal	0.37-0.62	0.39-0.65
Oil	0.40-0.43	0.42-0.46

Patterson was no doubt quoting the second method, without the qualifications, in referring to Magnox electricity costing twice as much as fossil electricity according to the Department of Trade and Industry.

7. Comparative generation costs since 1971

In answer to Parliamentary Questions the following costs for the generation of electricity from Magnox stations compared with modern fossil stations have been published. These costs are on a historic basis with capital charges based on straight line depreciation up to 1977/78 (annuitised costs in 1978/79). Interest charges are at the average rate payable in the year of account applied to the written down capital expenditure (annuitised costs in 1978/9); actual fuel costs incurred (including nuclear reprocessing costs) and other operating costs including provision for decommissioning costs are also included. The coverage of stations in the calculations (mainly those commissioned in the previous 12 years) has changed from year to year and there have been other relatively minor changes in accounting conventions throughout the period.

p/kwh

	Magnox	Coal	Oil
71/2	0.43	0.43	0.39
72/3	0.48	0.49	0.40
73/4	0.52	0.53	0.55
74/5	0.48	0.74	0.88
75/6	0.67	0.97	1.09
76/7	0.69	1.07	1.27
77/8	0.76	1.23	1.42
78/9	1.02	1.29	1.31

(Note - only a nominal plutonium credit is included in these calculations).

ANNEX B

CEGB COMPARISON OF THE COST OF GENERATING FROM MAGNOX COAL FIRED STATIONS

The CEGB has calculated the actual capital costs incurred in building each Magnox station annuitised over 20 years at the rate of interest applying at the time of expenditure and the actual operating costs incurred, and has compared them with the total capital and operating costs that would have been incurred had the Board taken the electricity from coal fired stations of comparable size and age costed on the basis of actual experience with contemporary coal fired stations. It should be noted that the load factors for Magnox and coal fired stations may in the event have differed (coal fired stations would normally move down the merit order and away from base load while the Magnox stations have remained on base load output). However, the CEGB consider that this effect is offset by differences in the lives assumed for the stations upon which the calculations are based (30 years for coal and 20 years for Magnox, giving approximately the same total output for each). Had the Board been making a choice during the late 1950s and early 1960s when oil fired costs were lower they may have in fact chosen to build oil fired stations. If they had, the subsequent rise in oil prices would have resulted in an even larger calculated benefit attributable to the Magnox programme. Broadly speaking, the comparison with coal is less favourable to Magnox stations.

The calculations show that compared with coal fired stations the estimated benefit over the period from the start-up of each Magnox station up to 1978/79 is estimated to lie within the range £100 - £150m for the 8 Magnox stations that were built. The range allows for changes in accounting conventions over the period, for example the provisions that should be made for reprocessing and de-commissioning. It is true, as Patterson implies, that the effects of the significant increase in fossil fired prices from 1973 have brought about the advantage to Magnox. Up to that point there was probably no gain and perhaps some loss from the programme; but it would be more than offset by the subsequent gain once fossil fuel prices began to escalate. The programme

was introduced partly because of uncertainty about increases in fuel prices and about fuel availability. Assuming that the stations continue to operate at a reasonable if slightly declining level for the remainder of their 20 year amortisation life and that there is no real increase in fossil fuel or nuclear fuel costs, the additional benefit from the Magnox stations from 1978/79 onwards is estimated at some £300m (1979 money discounted at 5% per annum). However if coal prices were to rise in real terms from 1978/79 to the end of the 20 year lives by say 1% p.a. the additional total benefit would be about £75 million. Additional benefit could also be attributed if the stations were to operate for more than 20 years, eg at 25 years the benefit might double.

No credit has been assigned to plutonium arising from the Magnox programme in this assessment.

ANNEX C

CEGB MAGNOX POWER STATIONS

Station	Date Ordered	Date on Load	Design Output MWSO	Output as at 31 March 1979 MWSO
Berkeley	1957	1962	276	276
Bradwell	1957	1962	300	250
Hinkley Pt A	1957	1965	500	430
Trawsfynydd	1959	1965	500	390
Dungeness A	1960	1965	550	410
Sizewell A	1961	1966	580	420
Oldbury	1962	1967	600	416
Wylfa	1963	1971	1,180	840
TOTAL			4,486	3,432

WALTER PATTERSON

Britain cooking the nuclear books

Guardian 7.4.80

THE difficulty of forecasting the future is amply documented. Britain's civil nuclear planners, however, seem to have equal difficulty forecasting the past. They are, to be sure, ruefully willing to concede that Britain's second nuclear programme, the Advanced Gas-cooled Reactors, were not all that could have been desired; the flagship of the AGR programme, Dungeness B, has after all been under construction since 1965 and is still unfinished.

But almost every official utterance on current civil nuclear policy makes ritual reference to the outstanding success of Britain's first nuclear programme, the Magnox reactors. Indeed, in my book Nuclear Power (Penguin, 1976). I took the industry's word for it in 1974 and called the Magnox reactors an "excellent investment." Before this myth is enshrined as holy writ, and used to sanctify another charge toward the nuclear precipice, it would be salutary to recall the true history of the Magnox programme.

The Magnox stations had as their precursor the Calder Hall station, opened by the Queen in 1956 with enormous fanfare as "the world's first nuclear power station." It was not at the time widely publicised that the primary purpose of Calder Hall was — and is — to produce weapons-plutonium, with electricity as a by-product. The civil Magnox programme had its beginnings in 1955, with the publication of a White Paper called a Programme of Nuclear Power. The White Paper was prepared by the Government and its advisors from the newly-fledged UK Atomic Energy Authority. The then Central Electricity Authority took no part in preparation of the White Paper and was given only one month to comment on its proposals before publication. The White Paper called for 2,000 megawatts of nuclear capacity to be built in the ensuing decade.

After the Suez debacle of October, 1956, it was decided to go for a greatly expanded nuclear power programme — 5,000 to 6,000 megawatts in operation by the end of 1956. However, by 1960 it was clear that the supply of low-priced coal and oil had drastically undermined the original estimates of the economic competitiveness of Magnox electricity. In June, 1960, the programme was cut back and its timetable extended.

In 1962-63 the Select Committee on Nationalised Industries, in a mammoth analysis of electricity supply, took evidence from many senior figures. Sir Christopher now Lord Hinton, chairman of the Central Electricity Generating Board and one of the architects of the British nuclear establishment, agreed with the committee that the cost of the Magnox programme to the CEGB had been pretty considerable. "If I could completely disregard history I would have a considerably smaller programme than I have today."

Official documents of the time are coy about what became of the plutonium produced in the civil Magnox stations, and about how much so-called "plutonium credit" was paid to the CEGB by the AEA. The plutonium credit postulated at the time of the first White Paper was a substantial fraction of the cost of a unit of Magnox electricity, an essential factor in making it look competitive with fossil-fuelled electricity. The credit was reckoned on the basis that the plutonium would be a valuable civil fuel; 25 years later plutonium stocks still require costly storage and are as far as ever from commercial utilisation.

The last Magnox station was Wylfa, on Anglesey. The Wylfa reactors were almost twice the size of the largest previous Magnox reactors. Wylfa was scheduled to come on stream in 1969. It did not even start up until 1971; and its boilers then developed so many leaks that it was shut down for most of the next five years for repairs. Its maximum output is now 840 megawatts, only some two-thirds of its original design output of 1,180 megawatts. The shortfall of power at Wylfa is equivalent to another nuclear station, larger than Berkeley, Bradwell or Hunterston A, paid for but never delivered.

Wylfa was not the only station to show this disparity between original design output and eventual "declared net capability," as the industry euphemism puts it. In September, 1968, corrosion was discovered inside the reactors at the Bradwell Magnox station — investigations revealed similar corrosion at all the other stations as well. To keep it from shortening the lifespan of the Magnox reactors, all but the smallest and earliest, at Berkeley, were "de-rated" — required to operate at a lower output. The fact of this de-rating is well known in the industry; what seems less well known is its magnitude. The four last and largest Magnox stations are all limited to a maximum output which is less than three-quarters of their original design output. Electricity users thus got three reactors for the price of four.

By 1970 problems with the Magnox stations had been overtaken by problems with the AGRs, including the bankruptcy of Atomic Power Constructions Limited at Dungeness B. However, to claim that compared to the AGRs the Magnox reactors were a success is like saying that, compared to Waterloo, Napoleon's retreat from Moscow was a success. When the electricity authorities submit nuclear performance figures to the European Commission, they compare the annual output of each Magnox station with its maximum de-rated capacity, not with its original design output. This means that a station like Oldbury may be credited with a performance some 20 percentage points better than it can reasonably claim. Such cooking of the nuclear books does not enhance the industry's credibility.

As recently as 1972 the Department of Trade and Industry, in evidence to the Select Committee on Science and Technology, stated that a unit of nuclear — that is, Magnox — electricity cost roughly twice as much as a unit of fossil-fuelled electricity. These figures expressly excluded Wylfa, whose occasional trickle of output up to that time must have been among the most costly in the land. Only the runaway inflation of the mid-1970s, including the dramatic increase in the cost of fossil fuel, gave British electricity users an opportunity to recover some of the money we had been paying over the odds for Magnox electricity for more than a decade.

It is ironic that, just as we have begun to recover some of our excessive outlays on the Magnox stations, they are showing signs of senility. The cracks at Dungeness A and other Magnox stations may indicate that they are nearing the end of their useful lifespan. If so, even the inflation of the mid-1970s will not have saved the Magnox programme from being yet another British nuclear fiasco. From 1955 onwards, whenever doubts were raised about the economic status of the nuclear programme, the nuclear planners always chanted their litany: "Even if it's not economic now, we must press on, because one day it will be." The echo is becoming painfully hollow.

Walter Patterson is international editor of the Bulletin of the Atomic Scientists, and energy consultant to Friends of the Earth.

Guardian 7 April 80

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& for tomorrow's cuttings

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9 Apr 80

Energy

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SECRETARY OF STATE FOR ENERGY

NBPM

30/4

International Energy Targets

1. Thank you for sending me a copy of your minute of 14 April to the Prime Minister, to which I was unable to reply before the informal meeting of the Governing Board on 23 April.

2. The outcome of that meeting suggests that a gap between the Americans and other members of the IEA remains. I agree that we should continue our efforts to bridge it; and I also agree generally with the ideas you propose.

3. On the details, I see no difficulty with what you propose for 1981 although we must be careful not to give the impression that we are going back on our Strasbourg and Tokyo undertakings. On 1985, I agree that there is little sense in adjusting medium term goals at the May meeting and I hope that the Americans will be prepared to settle for a firm commitment to a review somewhat later.

4. When we come to consider 1990, I hope that the work suggested by the Prime Minister to establish the facts and objectives of taking an early public stance on the shape of the oil market in ten years time can be put in hand quickly. There are clearly difficulties in trying to look so far ahead. But ten years is the sort of time scale that will be required to make significant changes in the energy economies of the major consumers; and the IEA countries will have to think in such terms if they are effectively to reduce their dependence on imported oil. I hope that we shall be prepared to agree to whatever guideline figures may be helpful in monitoring progress towards this objective, while leaving the choice of the means to individual governments. Similar considerations apply to the guidelines in the draft EC resolution on 1990 objectives.

5. We shall probably have to return to these issues nearer the time of the IEA Ministerial meeting on 22 May (and in the

/ case

case of 1990 before the EC Energy Council on 13 May). I very much agree that we should seek to resolve the short-term issues then in order to leave the Venice Summit free to concentrate on broader issues of policy.

6. I am copying this minute to the Prime Minister, Sir Geoffrey Howe and Sir Robert Armstrong.

(CARRINGTON)

Foreign and Commonwealth Office

30 April 1980


30 APR 1980

SIR DAVID STEEL

TELEPHONE
01-920 7062

(SWITCHBOARD 01-920 8000)

BP

BRITANNIC HOUSE,
MOOR LANE,
LONDON, EC2Y 9BU

29th April, 1980.

Dear Prime Minister

Thank you very much for lunch on Saturday. It is good of you to find the time to discuss oil problems, although on this occasion we had to concentrate on Iran. It is certainly very helpful to us and I hope to you also.

I was sorry that "The Observer" got wind of the occasion as it certainly did no good to our relations with the Iranian representatives. I much enjoyed the excellent lunch and do hope these occasions can be repeated if ever you have time.

With best wishes - and again my thanks -

Yours sincerely,

David Steel

The Rt. Hon. Margaret Thatcher, MP,
Prime Minister,
10 Downing Street,
London, S.W.1.

Extract from the Observer Business section Sunday 27 April 1980

Britain gets caught in the escalating politics of oil

THIS weekend the Prime Minister, Mrs Margaret Thatcher, is lunching with Energy Secretary David Howell, and the heads of Britain's three leading oil companies — Sir David Steel of BP, Peter Baxendell of Shell and Ronnie Utiger and Alastair Morton of the British National Oil Corporation.

The occasion was originally meant to be one of a series of briefing lunches with businessmen in key areas, concentrating on the sensitive question of Britain's oil and the EEC.

The times no longer allow it. Oil is a political question and politics move fast. Although the oil industry is confident enough that it can manage without Iranian oil over the summer, as demand falls and stocks continue to rise to record levels, the thought of more widespread problems in the Gulf sends shivers down everyone's spine.

Suggestions that all shipments might be blocked from the Gulf were enough on Friday to send product prices on the Rotterdam market soaring by $30 to $50 a tonne (10 to 20 per cent) in a single day, and worse could follow at the beginning of this week.

While Japan has refused to take Iranian oil at the higher prices demanded by the Tehran Government, it nevertheless appears to have agreed to pay a surprising $7-a-barrel premium on new supplies from Kuwait and a rumoured $6-a-barrel premium on Iraqi oil. Even without a supply crisis, and with oil flowing out of the industry's ears, there are fears of a sudden spurt in prices.

The most immediate problem for the Prime Minister's guests is the negotiations still being conducted by Shell and BP for Iranian oil.

BP and Shell, which together take around 270,000 barrels a day of Iranian oil, ceased loading in Iran more than a week ago, after refusing to pay the additional $2.50 per barrel premium.

A senior official of the National Iranian Oil Company, Mr Azimi, is still in London negotiating with the two companies and there is a feeling that the Iranians might be willing to reduce their price demands.

Mrs Thatcher, on the other hand, may well consider that, following the Japanese example, it would be quite wrong for British companies to be seen buying oil from Iran at this time.

Should the two companies lose all their Iranian oil, some of it could be made up by BNOC oil from the North Sea. BP is already negotiating a further 120,000 to 150,000 barrels a day from BNOC to make up for losses.

But BNOC is far from happy about rescheduling its other contracts to help BP, and it fears that oil made available to the international companies, whether formally restricted to use within the UK or not, will simply allow the companies to export more to Europe.

Herein lies the most sensitive energy point of all those that the Prime Minister has to face. Both France and Germany have been pressing hard for Britain to use its North Sea oil to the greater benefit of the EEC, both by increasing supplies and the pace of development and by lowering prices. The Foreign Office has urged Mrs Thatcher to listen and to use oil as a bargaining card in EEC negotiations.

The Prime Minister is not unsympathetic to this idea but is becoming increasingly conscious of the dangers of sacrificing, or being seen to sacrifice, British interests in oil for the sake of other European countries.

The Energy Department especially has been urging her to tell the EEC in no uncertain terms that it is simply not possible to raise North Sea production to help out our partners. Production, at 1.65 million barrels a day, is already near peak. Half of the oil is exported, 60 per cent to the EEC (Germany now depends on the UK North Sea for 15 per cent of its oil supplies).

Shell and BP might well argue that a further 50-80,000 barrels a day could be made available if restrictions on the flaring, or burning off, of gas were removed. But this is opposed by both BNOC and the Department on the grounds of gas conservation.

It is precisely this kind of dispute that makes the Prime Minister's room for manoeuvre so limited. Formally, in a crisis, Britain should share its oil with all its western partners under the Internatonal Energy Agency agreement.

But governments, as last year's crisis showed, are desperately reluctant to throw the automatic sharing switch unless there is a major world shortfall in supplies, which there is not at present.

Mrs Thatcher's reply to Europe must be that she can give little help in the short run but can promise medium-term measures such as increasing the size of the licence round to speed development.

Yet even this raises difficulties. The Energy Department is considering a statement controlling the depletion of reserves. BNOC is becoming more useful as a discreet means of controlling oil flows, as in the BP talks, just at a time when Mrs Thatcher wants to sell it off to the public and reduce its power for other reasons.

And if strained relations between BNOC and the Government were not enough to make the lunch an uncomfortable affair, BP and Shell have made it quite clear that they, for their part, are not happy about discussing delicate issues like Iranian supplies and flaring in front of BNOC.

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Energy

10 DOWNING STREET

From the Private Secretary

27 April 1980

Oil

As you know, the Prime Minister entertained at lunch yesterday your Secretary of State, Sir Jack Rampton, Sir David Steel and Mr. Patrick Gillam of BP, Mr. Peter Baxendell of Shell and Mr. Utiger and Mr. Morton of BNOC.

There was a general discussion of the world supply and demand situation, the prospects for prices, and our position vis-a-vis our European partners. But the conversation centred mainly on the line which BP and Shell should take in their current negotiations with the National Iranian Oil Corporation.

Both Sir David Steel and Mr. Baxendell made it clear that neither of their companies would go firm on the terms offered by NIOC for April liftings without clearance first from HMG. They explained how the effective price on offer was not "sharply different" from the price of their March liftings, and therefore that completion of the deals would not be inconsistent with the line which had been agreed between EEC Foreign Ministers. However, the NIOC negotiator was insisting that the deals be recorded at their face value; and while the markets would understand what the true price was, this would make it more difficult to explain to the Americans and it would enable the Revolutionary Council in Iran to claim that it had "won". Both companies were keen to complete the deals because of the lack of alternative sources of supply and so as to maintain relations with the NIOC; and doing so would help to moderate the current upward pressure on world prices. But they would not go ahead if the Government were opposed. Both companies, at the request of your Secretary of State, had persuaded the NIOC to hold off for another day; but it was uncertain how long they would be able to go on doing this.

The Prime Minister said she accepted the commercial arguments in favour of going ahead. But the overriding consideration for the moment had to be whether or not it would cause difficulty for the Americans. Britain's position would only be defensible if the Japanese were also to purchase on similar terms. But it was not clear yet whether they were prepared to do so. For the time being, the two companies should continue to stall.

/ Sir David Steel

CONFIDENTIAL

KR8

Sir David Steel and Mr. Baxendell said they would act accordingly and later in the evening it was reported that NIOC had agreed to postpone a decision on the liftings until at least the following week.

After the lunch, there was some discussion as to whether it would be desirable for your Secretary of State to have a meeting early next week with his American and Japanese opposite numbers with a view to reaching an agreed position. The Prime Minister and the Foreign and Commonwealth Secretary spoke about this on the telephone later in the evening and they decided that it would not be worthwhile. Although it might be desirable for a senior Energy official to discuss the matter with the Americans early in the week, discussion at a political level should await Lord Carrington's visit to Washington next weekend. The Prime Minister and Lord Carrington also agreed that Shell and BP should be asked to hold off completing any deal with the NIOC until then for it now seemed unlikely that the Japanese would be prepared to buy at the new Iranian Government selling price; and following the failure of their rescue attempt, the Americans would be even more sensitive to any apparent concession to the Iranians by our own oil companies.

I am sending copies of this letter to the Private Secretaries to members of OD Committee and to David Wright (Cabinet Office).

T. P. LANKESTER

W.J. Burroughs, Esq.,
Department of Energy.

ADVANCE COPY

CONFIDENTIAL FRAME ENERGY
DESKBY 261300Z
FM TOKYO 261250Z APR 80
TO IMMEDIATE FCO
TELEGRAM NUMBER 264 OF 26 APRIL
INFO WASHINGTON, THE HAGUE.

NO.10 DS.
Prime Minister has seen

YOUR TELNO 72 TO THE HAGUE AND TELCON THOMAS/D'ANCONA:

IRAN OIL NEGOTIATIONS

COUNSELLOR (ECONOMIC) SPOKE AS INSTRUCTED TO YOSHIDA, DIRECTOR OF THE WEST EUROPE/MIDDLE EAST DIVISION OF MITI, AND IN ABSENCE OF WATANABE TO KOMACHI, FIRST RESOURCES DIVISION OF THE GAIMUSHO. BOTH WITHHELD REACTIONS UNTIL THEY HAD CONSULTED FURTHER WITHIN THEIR MINISTRIES. KOMACHI HOWEVER REMARKED THAT THE JAPANESE GOVERNMENT WERE APPREHENSIVE THAT ACCEPTANCE OF ANY INCREASE IN IRANIAN GOVERNMENT SELLING PRICE WOULD TRIGGER OFF PRICE INCREASES BY NORTH AFRICAN OIL PRODUCERS.

2. BOTH THE GAIMUSHO AND MITI SUBSEQUENTLY SOUGHT CLARIFICATION OF DETAILS OF PROPOSED ARRANGEMENT BETWEEN SHELL AND NIOC WHICH EXPLAINED TO THEM AS SET OUT IN PARAGRAPH 2 OF YOUR TELEGRAM UNDER REFERENCE THEY COULD NOT FULLY UNDERSTAND. THEY WERE PARTICULARLY CONCERNED TO DISCOVER HOW THE DISCOUNT WOULD OPERATE AND WHAT THE AVERAGE PRICE OF ALL THREE LIFTINGS DURING APRIL WOULD BE. FOLLOWING TELEPHONE DISCUSSIONS WITH D'ANCONA, DEPARTMENT OF ENERGY, THOMAS FURTHER EXPLAINED THAT DISCOUNT WOULD BE A REBATE OF TWO DOLLARS PREMIUM ON THE SECOND LIFTING OF 100,000 TONNES WHICH IRANIANS WOULD DEEM AS OIL FORMING PART OF A PROCESSING DEAL. HE ALSO EXPLAIMDNBAWVTVIABDIFFICULTIES OF GIVING ANY PRECISE FIGURE FOR THE AVERAGE PRICE OF THE THREE LIFTINGS WITHOUT KNOWING THE DETAILED COMPOSITION OF THE THREE LOADS AND WITHOUT MAKING A JUDGEMENT AS TO THE EVENTUAL SELLING PRICE OF THE OIL FOR PROCESSING. HE SAID THE BEST PROVISIONAL ESTIMATE WE COULD PROVIDE WAS DOLLARS 35.50 A BARREL AND OUTLINED HOW THIS WAS CALCULATED AS EXPLAINED TO HIM BY D'ANCONA.

3. DESPITE THESE EXPLANATIONS, MITI AND THE GAIMUSHO HAVE NOW SOUGHT FURTHER CLARIFICATION OF THE FOLLOWING THREE ASPECTS BEFORE GIVING US JAPANESE GOVERNMENT'S VIEW:

(A) WHAT IS OUR JUDGMENT OF THE LIKELY PRICE LEVEL THAT MAY BE NEGOTIABLE WITH THE IRANIANS FOR MAY AND JUNE? WHAT IS OUR EXPECTATION OF THE PRICE LEVEL FROM JULY ONWARDS?

/ (B)

(B) CAN WE CLARIFY WHETHER THE METHOD EMPLOYED FOR GIVING THE DISCOUNT INCREASES THE GOVERNMENT SELLING PRICE? (THIS REFLECTS NERVOUSNESS REGARDING EFFECT ON NORTH AFRICAN OIL PRODUCERS).

(C) WHAT IS THE AVERAGE PRICE OVER THE THREE LIFTINGS FOR ORDINARY CRUDE OIL SETTING ASIDE THE OTHER ELEMENTS IN THE LIFTINGS SUCH AS PROCESSED DEAL OIL? (YOSHIDA OF MITI COMMENTED IT WOULD CAUSE SURPRISE INSIDE HIS MINISTRY WERE IT TO BE AS HIGH AS DOLLARS 35.50).

4. IT WOULD BE HELPFUL TO KNOW WHEN SHELL WOULD PLAN TO LIFT THE OIL IF APPROVAL IS GRANTED.

5. FCO PLEASE ADVANCE TO JONES, KELLY AND D'ANCONA, DEPARTMENT OF ENERGY, AND FALL, ESSD.

WILFORD

PRIME MINISTER

SHELL OIL DEAL WITH IRAN

It was decided yesterday in OD not to stand in the way of Shell provided we could agree our position with the Dutch and the Japanese - and provided the real price of $32.50 could be properly explained to the Americans.

I understand that Shell met the Iranian oil people today and managed to persuade them to postpone the deadline on the offer. Meanwhile, Mr. Howell has sent telegrams to our Embassies in The Hague and Tokyo asking them to concert overnight, if possible, with the Dutch and the Japanese Governments. He will then presumably explain the position to the US Energy Secretary.

No doubt Mr. Howell and Mr. Baxendell will bring you up-to-date at the lunch tomorrow.

TL

MB

25 April 1980

Copied to Iran sit^n.

(2)

Prime Minister

PRIME MINISTER

OIL SUPPLIES AND PRICES

My Private Secretary wrote to yours on 18 April about my discussions with the Chairmen of Shell and BP about oil supplies from Iran. You will be seeing both Peter Baxendell and David Steel on 26 April; you might find it useful to have before then a brief account of how we view the short term outlook, particularly for oil prices.

What happened in 1979?

Oil prices doubled between end-1978 and end-1979. They are now 125% above the average 1978 level.

But there was no absolute supply shortage. There appears to have been an excess of supply over consumption of 1 million barrels/day (2% of Free World supplies). The difference was taken into stocks.

The key factors behind the oil price rise were:-

(a) no-one knew for certain that there would be enough oil in total to go round;

(b) an expectation of higher prices developed, encouraging companies to buy for future use;

(c) there were important structural changes in the oil market. OPEC countries deliberately diverted oil away from the majors, who handled only 42% of internationally traded oil at the end of last year, compared with 75% in 1973. OPEC sold instead to governments, national oil companies and independents. There has been a shift, almost certainly permanent, towards shorter contract terms and more restrictive provisions. Uncertainty about where future supplies would come from made companies more willing to pay high prices for marginal supplies. Companies with more than enough oil tended to hang on to it.

Shell and BP have been particularly affected by (c). BP - once the largest crude seller in the world - now has to rely on expensive and/or unreliable short term supplies for 19% of its basic requirements. For Shell the figure is 9%.

Outlook for 1980/81

There are two important positive features:-

(a) our projections for 1980 and 1981 show a small surplus (0.4 million barrels/day) of supply over demand for OPEC oil. The assessment of the IEA is essentially similar; Shell's projections in fact show a larger surplus than our own (because they are more pessimistic about economic growth);

(b) stocks in the industrialised countries are at record levels. The mild winter and the decline in economic growth have produced an abnormally low stock draw-down in the first quarter of the year. Companies will not be willing to add to stocks indefinitely.

But there are some important negative factors too:-

(a) there are uncertainties over supply levels. The West remains highly vulnerable to sudden political events in the producer countries. Iran is the obvious example. There is some scope for Saudi Arabia, and to a small extent Iraq, to make up a supply shortfall from other countries, but we certainly cannot be confident that they would be willing to use it;

(b) there may be cuts in OPEC production for reasons other than political events. Many OPEC countries are running large balance of payments surpluses. They believe that these surpluses are wasting assets (because of inflation in the West, and currency fluctuations) and that it may be better to leave the oil in the ground. Kuwait has already cut production for this reason. Other producers (Libya, Algeria) want to spin out their limited oil reserves as long as possible. We have tried to allow for factors of this sort in our projections, but assessing how OPEC attitudes will evolve is an uncertain business;

(c) the structural changes in the oil market discussed at 4(c) above are still significant sources of uncertainty for companies. BP and Shell for instance have recently suffered a considerable reduction in their contract volumes from Kuwait, and are having to pay a large premium for oil additional to their new basic contracts;

(d) the present structure of prices is unstable. The prices charged by different producers for their crudes do not reflect their relative values. Saudi prices are well below those of other OPEC countries. The Saudi government would like to move towards a re-unified OPEC price structure. Its last attempt to do this by increasing its prices (in January) sparked off a round of price increases by others. Future efforts to re-unify the price structure, whether successful or not, could increase the general level of prices;

(e) an imbalance between products is already developing in the market - demand for light products being stronger than for the heavier products. This may give opportunities for further price increases by the African producers of light, low-sulphur crudes (which will in turn of course have implications for North Sea prices).

Conclusions

The market is at present uneasily balanced. We certainly cannot expect a fall in OPEC prices. Indeed many OPEC countries are determined to avoid an erosion of real oil prices (as happened between 1973 and 1978), and will want nominal price increases at least to match inflation and currency changes. If there are no political accidents, there is a fair chance - no more than that - that oil prices could be relatively stable in real terms over the next year or so. The further one looks ahead, however, the less confident one can be that it will be possible to avoid further rounds of price increases. Political events could change the picture very quickly. Even a relatively small disruption of oil supplies (in volume terms)

following upheavals in the Middle East could seriously shake market confidence, and lead rapidly to further damaging rounds of price increases.

Secretary of State for Energy
25 April 1980

Energy

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ
01 211 6402

PL 2412

Rt Hon George Younger MP
Secretary of State for Scotland
Scottish Office
Whitehall
London SW1A 2AU

24 April 1980

Dear George

REORGANISATION OF THE NUCLEAR INDUSTRY

You wrote to me on 19 March about the need to make progress with reorganisation of the nuclear industry. I agree with you that this is of major importance for the success of our nuclear power policy.

The key step at this stage is the appointment of a new Chairman for the National Nuclear Corporation in succession to Lord Aldington. I shall be announcing today that Mr Dennis Rooney, an executive Vice-Chairman of BICC Ltd, has agreed to take on this appointment. He will not formally be able to do so until 1 July, but he is becoming a director of NNC immediately and will be devoting as much time as possible to NNC affairs in the interim period.

Implementation of the other changes in organisation which I announced in December will be a priority for Mr Rooney. I understand that the company already has in hand the necessary work for introducing a single-tier structure though there are some tax questions yet to be resolved.

I am copying this letter to the recipients of yours.

Yours ever

David

D A R HOWELL

Original to C/R

c.c. D/N
SO
CO
IG

Energy

10 DOWNING STREET

THE PRIME MINISTER

23 April, 1980.

Dear Mr. Robertson,

Thank you for your letter of 13 March about nuclear power policy.

David Howell has now announced that the two orders for the AGR stations at Heysham and Torness are now to go ahead. The Generating Boards made clear their wish to proceed with the stations, not least because they believe there is a strong economic case for them on cost saving grounds, and after reviewing the proposal, the Government have decided that this would be right. In view of the heavy costs of these and other capital projects, the Government have also urged the CEGB, SSEB and the other Boards to identify economies wherever possible.

David Howell made clear our policy on nuclear power, including the PWR, in his statement of 18 December. I am sure it would be wrong not to attempt, in the UK, the PWR technology that has been widely adopted in the rest of the world. Nevertheless, the proposal to build a PWR here remains subject to full safety clearances by the NII and to a public inquiry. There are no plans to build a PWR at Torness.

/ I believe

A1

I believe that this latest announcement, together with the December statement, will provide the right framework for the steady development of a strong nuclear industry in Britain.

Yours sincerely,

(SGD) MT

John Home Robertson, Esq., M.P.

Original in C/R

c.c. D/N

10 DOWNING STREET

THE PRIME MINISTER

23 April, 1980.

Dear Councillor Hall,

Thank you for your letter of 1 April about the Government's policy on nuclear power.

By now you will have seen David Howell's announcement that the two AGRs at Heysham and Torness are to go ahead. The generating boards made clear their wish to proceed with the stations, not least because they believe there is a strong economic case for them on cost saving grounds, and after reviewing the proposal, the Government have decided that this would be right.

As David Howell said in the House of Commons on 14 April, the Government have also urged the CEGB, SSEB, and the other boards to identify economies wherever possible.

On your point about the choice of reactor system, it is our strategy to keep this choice open for future orders. We have many years' experience in gas-cooled technology, as you know, but we believe we must also develop the PWR option in Britain, and give ourselves access to a system which has been widely adopted in the rest of the world. There are more than 150 water cooled reactors operating world wide, of which more than 90 are PWRs.

In their generic safety study of the PWR, of which a substantial summary has been published, the NII concluded that there was no fundamental reason for regarding safety as an obstacle to the selection of a PWR for commercial generation in Britain. The NII's

/ assessment

assessment of the Kemeny Report on the Three Mile Island nuclear accident, published in December, said that the underlying causes were, in their view, organisational rather than due to any inherent weakness in the concept or design of the PWR system. Nevertheless, we have made it clear that the construction of a PWR in the UK remains subject to full safety clearance by the Nuclear Installations Inspectorate, and to a public inquiry. So I do feel that we are giving very careful consideration to the safety issue.

I very much agree with you that as much information as possible on nuclear safety should be made available to the public, particularly those who live close to a reactor site, and this is the Government's policy, and that of all the organisations concerned. I am glad that you feel the Government have gone a long way in releasing information and more will continue to be published. For example, I understand that the Generating Boards intend to publish this year a substantial document on AGR safety. This will cover administrative and procedural aspects of safety as well as safety analysis and principle, and emergency plans; it will also include a general description of the designs of Heysham and Torness. I think it should go some way to meet the requirement that you have in mind.

Yours sincerely,

(SGD) MT

Councillor Norman Hall.

Treasury Chambers, Parliament Street, SW1P 3AG
01-233 3000

PRIME MINISTER

INTERNATIONAL ENERGY TARGETS

I have seen a copy of David Howell's minute to you of 14th April in which he seeks approval for our approach to the forthcoming IEA discussions on international energy targets.

2. I am generally content with his proposals, but you ought to be aware that we believe that the Department of Energy's view about the medium term (1985) prospects for the world oil market is on the optimistic side. The Department's forecast assumes availability of OPEC oil in 1985 of 32 mmbd (compared with 31 mmbd last year and a current figure of 29 mmbd or even less). Forecasts for OPEC production for 1985 are enormously speculative, but Treasury forecasts would put the central figure for production at some 30 mmbd giving a world demand/supply position ranging from a deficit of 1m to a surplus of 1 mmbd compared to the Department's forecast of a surplus ranging between 1-3 mmbd. I do not suggest that we should therefore argue for tougher targets; this could concentrate attention on the North Sea and increase pressure to raise production there to help others. But the supply picture sketched out in the note attached to David Howell's minute is perhaps rather more worrying in the medium term than is indicated there.

3. I am content that the suggested targets for the UK for 1981 and 1985 would not constrain the UK economy in ways contrary to Government policy or restrict our freedom of

/manoeuvre

manoeuvre in the budgetary, fiscal and monetary fields. I agree with David that the uncertainties for a period as far ahead as 1990 argue against adopting precise targets but trying to concentrate discussions on the long term need to restructure the world energy economy for the 1990s.

4. I am sending a copy of this minute to Peter Carrington, David Howell and to Sir Robert Armstrong.

(G.H.)
22 April, 1980

cc: DTrud
D/W.

VB

10 DOWNING STREET

THE PRIME MINISTER

21 April 1980

Dear Mr. McDonald,

Thank you for your letter of 20 March about the AGR power stations for Heysham and Torness. I know the great importance you attach to these orders for your company and I fully understand your wanting to write personally.

I hope you will have been fully reassured by the statements made by the Secretary of State for Energy in the House on 14 April. As you will have seen, the Government have decided that it would be right to proceed with the construction of the AGRs at Heysham and Torness; and work is in hand on all the measures announced on 18 December, which provide the framework for the development of the nuclear programme.

I know that a period of uncertainty is never welcome in industry, but I am sure you will appreciate the reasons why we had to re-examine the need for the AGRs at Heysham and Torness in the light of the new estimates of growth in demand.

Yours sincerely,

Margaret Thatcher

D. McDonald, Esq., C.B.E.

Prime Minister
18.4.80.
Energy

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ

Tel: 211 6402

CONFIDENTIAL

M Alexander Esq
Private Secretary to the Prime Minister
No 10 Downing Street

18 April 1980

Dear Michael,

Gen Iran Situation Pt 6

IRAN - OIL SUPPLIES AND PRICES

As requested by OD Committee, my Secretary of State spoke today to the Chairmen of BP and Shell. This was against the background that BP in their negotiations with Iran last weekend had made no progress. The Japanese reported yesterday similar results, and that Iran had given them an ultimatum that if they did not accept the new prices, oil would cease to be loaded from April 21. Shell are now to see the National Iranian Oil Company in London on April 21. On present form we must expect the same result and the effective application of an embargo on supplies to BP, Shell and Japanese companies at any time from April 21.

Both the Chairmen agreed that at the moment on purely commercial grounds there could be no case for accepting the new Iranian proposals. They accepted the need to stand firm and to keep in close touch with HMG. My Secretary of State said that on the political front there was a possibility that we might find it desirable to take part in a concerted move to refuse import licences for Iranian oil. The Chairmen accepted that this was a possible and logical development. They did, however, go out of their way to say that events in Iran now looked likely to affect the oil situation more generally. There was a prospect that spot market prices would harden further and that other OPEC producers such as Nigeria might increase prices by a further $2.00 a barrel or so. If such circumstances developed, then it would be more difficult to say that the proposed Iranian prices were unacceptable on commercial grounds.

If Iranian exports cease the Japanese may well ask for a "selective trigger" under the IEA emergency arrangements. This would require them to reduce consumption by either 7% or 10% below its average level in the last period of 12 months for which statistics are available and would entitle them to help from other member states. Firm forecasts of what the UK would have to divert to Japan are not possible in advance of the event, but diversion might be at an annual rate of about 1½ million tonnes (compared with UK consumption of 90 million tonnes).

/This.....

CONFIDENTIAL

This is a fast moving situation and I shall keep closely in touch with both companies. The line agreed at OD is holding for the time being.

I am sending copies of this letter to Paul Lever (FCO), Martin Hall (Chancellor of the Exchequer) and to David Wright (Sir Robert Armstrong's Office).

Yours ever,

Bill

W J BURROUGHS
Private Secretary

cc Energy. July 79
7th Round Licensing

2

PRIME MINISTER

To see. If there are comments from colleagues, we will report them to you.

ngs
18/4

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ
01 211 6402

T P Lankester Esq
Private Secretary to the Prime Minister
10 Downing Street
London SW1

17 April 1980

Dear Tim,

DEPLETION POLICY STATEMENT

I am writing to clarify the position on my Secretary of State's Statement on Depletion Policy, which was discussed at E on 3 April.

[minutes abA]

As my Secretary of State explained in his letter of 27 March to the Foreign Secretary, he intends as a first step to meet with representatives of the UK Offshore Operators Association which is the representative body of companies producing oil on the UK Continental Shelf. This meeting will be set up soon after the meeting of the European Council on 26/27 April. Mr Howell has had in mind to give UKOOA some 3 to 4 weeks to respond, after which he would be in a position to make the Statement on Depletion Policy - probably in the first half of June. Although my Secretary of State expects to make the Statement on Depletion Policy somewhat later than might be inferred from the Minutes of E(80)12th meeting he will want to make his statement on the Seventh Licensing Round as soon as possible after the European Council meeting. There is, of course, no need for the two statements to be made at the same time. [B]

I am sending copies of this letter to the Private Secretaries of Members of E, Sir Robert Armstrong and Mr Ibbs.

Yours sincerely

Bill

W J BURROUGHS
Private Secretary

Energy.

DEPARTMENT OF INDUSTRY
ASHDOWN HOUSE
123 VICTORIA STREET
LONDON SW1E 6RB
TELEPHONE DIRECT LINE 01-212 3301
SWITCHBOARD 01-212 7676

GL
type for PM
PL
MS

PS/ Secretary of State for Industry

17 April 1980

Tim Lankester Esq
Private Secretary to the Prime Minister
10 Downing Street
London SW1

Dear Tim,

AGRs

Thank you for your letter of 27 March asking for a draft reply, when the AGR Review was complete, to Mr Duncan McDonald's letter of 20 March to the Prime Minister. Now that the Secretary of State for Energy has told the House of the decision to proceed with the orders, the way is clear for a reply to be sent, and I enclose a draft.

I am sending a copy of this letter and enclosure to Bill Burroughs (Energy).

Yours ever,
Pete
PETER STREDDER
Private Secretary

DRAFT LETTER FOR THE PRIME MINISTER TO SEND TO

D McDonald Esq CBE
Chairman and Chief Executive
Northern Engineering Industries
Ltd
NEI House
Regent Centre
Newcastle upon Tyne
NE3 3SB

Thank you for your letter of 20 March 1980 about the AGR power stations for Heysham and Torness. I know the great importance you attach to these orders for your company and I fully understand your wanting to write personally.

I hope you will have been fully reassured by the statements made by the Secretary of State for Energy in the House on 14 April. As you will have seen, the Government have decided that it would be right to proceed with the construction of the AGRs at Heysham and Torness; and work is in hand on all the measures announced on December 18, which provide the framework for the development of the nuclear programme.

I know that a period of uncertainty is never welcome in industry, but I am sure you will appreciate the reasons why we had to reexamine the need for the AGRs at Heysham and Torness in the light of the new estimates of growth in demand.

Department of Industry
Ashdown House
123 Victoria Street
LONDON SW1

KJ
17.4.80

CONFIDENTIAL

Energy

File

10 DOWNING STREET

From the Private Secretary

17 April 1980

Dear Bill,

International Energy Targets

The Prime Minister has seen the Secretary of State for Energy's minute to her of 14 April on this subject. She is broadly content, subject to the views of the other recipients of Mr. Howell's minute, with the line proposed. However she has expressed some scepticism about the proposals to establish forecasts of oil consumption and production as far ahead as 1990. She would prefer that the decision on what, if anything, is to be said about 1990 should be reserved to the May meeting of the IEA Governing Board and that the intervening period should be used to establish more clearly both the facts and the objectives that would be served by the IEA countries taking an early public stand on the shape of the oil market in ten years time.

I am sending copies of this letter to George Walden (Foreign and Commonwealth Office), John Wiggins (HM Treasury) and David Wright (Cabinet Office).

Yours sincerely

Michael Alexander

Bill Burroughs, Esq.,
Department of Energy.

CONFIDENTIAL

COVERING CONFIDENTIAL

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ
01 211 6402

N Sanders Esq
Private Secretary to the
Prime Minister
10 Downing Street
LONDON SW1

16 April 1980

Dear Nick, Amended.

My Secretary of State minuted the Prime Minister on 14 April 1980 about International Energy Targets.

I am afraid that there was a sentence omitted from page 6 of the main annex to this minute; and I am therefore enclosing a revised page 6 so that you can insert this into your original copy.

I am sorry for this oversight.

I am copying this to Paul Lever (FCO), Martin Hall (Chancellor of the Exchequer) and to David Wright (Sir Robert Armstrong's Office).

Yours ever,

Denis

Denis Walker
Private Secretary

divided by the percentage change in GDP which for the years 1978-85 is expected to average 0.7 and partly because, on its own, it says nothing about oil consumption and must, therefore, be read in conjunction with the "oil as a percentage of TPE" indication.

Department of Energy
15th April 1980

2 PPs

CONFIDENTIAL

(1)

P.0243

MR LANKESTER

Agreed

cc: Mr Ibbs
Mr Franklin
Mr Moore
Mr Wright

MF

Prime Minister.

If you agree with Dr Le Cheminant's comments (summarised at para 3 below) I will incorporate them in a Private Secretary letter.

16/4

INTERNATIONAL ENERGY TARGETS

You asked for comments on the Secretary of State for Energy's minute of 14 April to the Prime Minister about international energy targets. In it he seeks agreement to the line to be followed at the meeting of the IEA Governing Board on 23 April (when the Board will meet at official level) and subsequently at the Ministerial level meeting on 22 May, in response to American pressure for revised and extended oil import targets by IEA member countries. The essence of Mr Howell's recommendations are:-

(a) 1980 We should resist pressure for any change in the already-established targets for this year.

(b) 1981 We should agree in principle to the establishment of national targets for net oil imports in 1981.

(c) 1985 We should resist pressure to change the agreed 1985 figures now but should be willing in principle to review them at or after the end of this year.

(d) 1990 We should "agree on a very small number of key forecasts (preferably in the form of ranges) for the IEA group of countries as a whole and also for the Community as a whole ... possible indicators are oil imports, relationship of energy to GNP, and oil as a percentage of energy use."

2. Mr Howell's proposals for the years up to 1985 are, I would have thought, acceptable. They perpetuate the nonsense, to which the Prime Minister drew attention last year, of concentrating attention on net imports rather than on consumption. But the international community is so far down this road that there is little point in re-opening the issue now. The proposals for 1990

are however more doubtful. The plain fact is that any forecasts of oil consumption and production as far ahead as 1990 are bound to be subject to wide margins or error. It follows that the choice of particular numbers for public use is much more an act of political judgement that of the statisticians' art. Mr Howell may well be right that, at the end of the day, the Americans will get their way and that we have no real choice but to go along with them. But before committing ourselves we ought to consider asking our partners to face the central question of defining the object of the operation. Are we trying to frighten OPEC? Are we trying to frighten Congress? Are we trying to forecast what countries will actually do in terms of hard policy measur es? Or are we trying to push them into making policy decisions which they might not otherwise have taken? Only when we know what we are trying to do can we decide whether new targets, and if so which targets, will best advance our cause. Mr Howell's approach is not inconsistent with this approach but my instinct would be to sharpen it up by expressly reserving a decision on what, if anything, can be said about 1990 until the Ministerial IEA meeting. The interval should be used to bring as much clarity as we can into the preparatory work so as to provide a solid basis for a considered judgement by Ministers in May.

3. It follows that my recommendation would be that the Prime Minister should accept Mr Howell's proposals, subject to:-

(a) The views of other colleagues (especially those of the Foreign Secretary on tactical handling though this does not need to be said in an early reply to Mr Howell);

(b) the reservation to Ministers at the May meeting of the IEA Governing Board of a decision on what, if anything, is said about 1990;

(c) continued efforts between now and the Ministerial meeting both to clarify the facts and to establish the objectives to be served by IEA countries taking an early public stand on the shape of the oil market in 1990.

P Le CHEMINANT

16 April 1980

CONFIDENTIAL

A

PRIME MINISTER

International Energy Targets

This issue is getting hot in the preparations for the IEA Ministerial meeting on 22nd May and for the Venice Summit.

At the IEA Ministerial on 10 December all IEA countries committed themselves to limits for their oil imports for 1980 and goals for 1985. The figures for the UK were net imports of 12 million tonnes and - 5 million tonnes respectively. IEA Ministers agreed to meet again in the first quarter of 1980 (deferred to 22 May) to consider adjustment of the 1980 limits to the extent which proved necessary on the basis of oil supply and demand developments. The Americans now seem to have acquiesced in the majority view that the 1980 ceilings should not be adjusted (unless the market gets much tighter). They are however pressing hard for national ceilings on net oil imports in 1981, a reduction in the agreed goals for 1985 and some sort of international energy targets for 1990.

Our objective at the IEA Ministerial meeting and the Venice Summit is to achieve a common reaffirmation of the hazards of the West's dependence on oil imports in 1990 on the scale suggested by current trends, so as to create the climate within each oil consuming country for effective action to reduce that dependence but without forcing upon governments the whole responsibility for that action. International oil targets as currently promoted by the USA are in danger of becoming a proxy for action. The system is however now too well established to be abandoned altogether. The Americans at the highest level are heavily committed to targets both in public and in contacts with other governments. Recent developments in Iran, emphasising the fragility of Western oil supplies, are likely to

make the Americans even more sensitive. And international targets have a part to play, but not in the form of rigid ceilings which could serve both to set a precise standard for OPEC production cuts and force us into government-run oil allocation arrangements in a supply situation less serious than that which would trigger the IEA emergency arrangements.

We should if possible resolve this issue at the IEA Ministerial leaving the Venice Summit free to concentrate on broader issues of policy. Events in the Middle East may of course bring about a completely new situation in the next few weeks. But for the moment I suggest that we should work for a compromise on the following lines (see annex for more detailed assessments):-

(a) 1981

There are at present no national targets for net oil imports in 1981. But the Community are committed by the Strasbourg meeting of the European Council to keep their total net imports within 472 million tonnes and the Community countries represented at Tokyo agreed to break this figure down on a national basis.

We should therefore agree in principle to national targets for net oil imports provided they take the form of instruments for monitoring progress towards longer term objectives but not of ceilings which cannot be exceeded. It may be desirable to leave the actual fixing of figures until later in the year. But a straight projection from our target for 1980 to that for 1985 would give us a figure of 8 million tonnes net imports. We should be able to live easily within that and could if necessary drop to a target nearer net self sufficiency.

(b) 1985

Immediately we can argue that it would be absurd to adjust medium term goals in May less than six months after they were set. We cannot accept a more rigorous goal than the -5 million

tonnes agreed in December without limiting our freedom of action on depletion policy to an extent inconsistent with the decisions of E Committee on 11th March (E(80)9th meeting Item 1). But it is difficult to argue that these goals should not be reviewed from time to time in the light of changes in both supply and demand. We should therefore indicate a readiness in principle to review the goals preferably in 1981 but if necessary at the end of this year. By then the US attitude may be very different. If it is not we would face a difficult negotiation in which we would have to argue on merits that any major increase in UK net exports would involve a wasteful use of resources of value to the IEA as a whole.

(c) 1990

We should try to confine international discussion to agreement on the long term need to restructure the world energy economy for the 1990s. This would preclude international commitment as to the means, but we might agree on a very small number of key forecasts (preferably in the form of ranges) for the IEA group of countries as a whole and also for the Community as a whole which would provide a measure of the effectiveness of the various actions being taken within each Member State, according to its circumstances, in order to transform the situation. Possible indicators are oil imports, relationship of energy to GNP, and oil as a percentage of energy use. I should prefer to avoid an oil consumption forecast as such because it would rob us of an element of flexibility at the time as between possible heavy handed measures further to reduce consumption and the alternative of stimulating additional production.

A compromise on these lines would not harm UK interests. It would be a small price to pay to avoid a major and unnecessary dispute with the Americans in the IEA. It would be likely to get wide support. At present only the Germans and Swiss are holding out against any use of

figures and I doubt if the Germans will stand out when it comes to the crunch. The compromise would give the Americans a way out of their present extreme position if they choose to take it. They may not: but we lose nothing by trying.

I should therefore be grateful to have your agreement and that of our colleagues most concerned to our working towards a compromise on the lines set out in the paragraph above in the further preparations at official level which will start with a meeting of the IEA Governing Board on 23rd April. I shall of course consult you nearer the time and in the light of developments on the line to be taken at the IEA Ministerial itself both on targets and on policy issues likely to arise.

I am sending copies of this minute to the Foreign and Commonwealth Secretary, the Chancellor of the Exchequer and Sir Robert Armstrong.

JH.

SECRETARY OF STATE FOR ENERGY

14 APRIL 1980

ANNEX

INTERNATIONAL ENERGY TARGETS

1. This note examines the implication for the UK of specific target levels for 1981, 1985, and 1990.

EXISTING TARGETS FOR 1980-85

2. (i) European Council, Strasbourg, June 1979: resolved to maintain Community net oil imports between 1980 and 1985 at an annual level not higher than that for 1978 (ie. 472 m tonnes).

(ii) Economic Summit, Tokyo, June 1979: participants agreed national oil import ceilings for 1985. France, Germany, Italy and the UK expressed their will to take as goals for a ceiling on oil imports in 1985, the 1978 figure (Italy in the context of the overall Community commitment). They undertook to recommend to their Community partners that each Member country's contribution should be specified the Community's annual goal for 1980 to 1985 of 472 m tonnes net oil imports.

(iii) Summit Energy Ministers, September 1979: in the run-up individual EEC net oil import targets for 1985 were agreed. The UK accepted - 5 m tonnes, and made clear that should UK net exports exceed 5 m tonnes, this would be entirely a matter for the UK and would not affect other Member States' targets.

(iv) EEC Energy Council, December 1979: agreed national net oil import targets for 1980, the UK accepting 12 m tonnes.

(v) IEA Ministerial, December 1979: agreed national net oil import limits for 1980 and goals for 1985 for all members, within the IEA's group target of 24.5 mbpd (1980) and its goal of 26.2 mbpd (1985). The national targets for each country are indicated in ANNEX A attached. The UK's targets were confirmed as 12 m tonnes (1980) and - 5 m tonnes (1985).

INTERNATIONAL OIL OUTLOOK

3. Any assessment of the outlook is subject to major uncertainties. It is too early to reassess how valid present targets will be in relation to expected supply and demand, and moreover the international supply outlook may change in the next few months. Our best estimate, however, is that, since acceptable levels of economic growth may take some time to re-establish, the supply/demand position in 1985 is likely to be broadly in balance. The downside risks, however may be the greater. The difficulties of arriving at firm estimates are, of course, much greater for 1990.

4. Apart from the unforeseeable political risks (eg renewed unrest in Iran) there are major uncertainties on both the supply and demand sides of the equation. Production levels in many OPEC countries will be influenced by governments' assessments of optimum depletion rates, foreign exchange requirements, and possibly also by "extraneous" factors, such as the climate of political relations with the West. We do not expect OPEC production to rise significantly above its present level in the next decade. The demand for OPEC oil is a residual, after other sources /and of oil have been deducted from total oil demand, thus sensitive to quite small changes in the key variables - particularly economic growth rates, effects of price changes on consumption, relative prices of alternatives and the scope for substitution.

5. The following table summarizes our current provisional view of prospects between now and 1990 (see also Annex B).

OIL DEMAND AND SUPPLY mmbd

		1981	1985	1990
A.	DEMAND			
	IEA	36.2	38-39	39-42
	Rest of Non-Communist World	14.5	15.3-16.3	16.4-20.4

B. SUPPLY (exc OPEC oil)

	1981	1985	1990
IEA	15.3	15.8	15.8
Rest of Non-Communist World	36.1	40.5	41.6
: of which OPEC	28.7	32.0	32.0
Surplus/(Deficit) of OPEC oil	0.7	1.0-3.0	2.0-(5.0)

6. Our assessment assumes that the real oil price rises at 2% pa from 1980to 1990, and that the OECD economic growth rate lies within the range 2-3% pa. Given our assumption of future OPEC production (32 mmbd) there could be excess capacity in 1985 and possibly in 1990. However, our assessment depends critically on the OPEC production assumption chosen: the Americans believe OPEC production could be much less (in the range of 21-30 mmbd in 1990). Clearly a much lower production figure for OPEC could turn a projected surplus into a deficit. The IEA Secretariat also takes a pessimistic view: a deficit of 3.9 mmbd in 1985, and of 8.7 mmbd in 1990. (Their results are the product of higher economic growth assumption than our own, together with a higher projection of non-IEA oil consumption, and less replacement of oil by other energy forms).

1981

7. The latestforecasts of the UK position for 1981 are:-

Oil production 85 - 105 million tonnes
Oil consumption 85 - 95 million tonnes

The oil production range takes account of some downside risk, and use of depletion control. The upper end of the consumption range assumes a trend growth of GDP of 2% pa from 1978 onwards. The lower end is consistent with the post-Budget forecast published in the PSBR, followed

by zero growth till the end of 1981.

8. These forecasts give a range for net imports from + 10 to - 20 million tonnes. In considering a target however it would be imprudent after allowing for downside risks and (some) depletion measures to count on production of more than 90 million tonnes. If targets are to be used mainly as a means of monitoring progress against medium and long term objectives the consumption estimates used should take account of long term trends as well as short term prospects. This suggests a figure at the top end of the range shown. Thus a reasonable target for 1981 would be net imports of 5 million tonnes (compared with a target of 12 million tonnes and a likely outturn of 7 - 9 million tonnes in 1980). But we could, under pressure, move closer to a figure of net self-sufficiency provided that it was clearly understood by our partners that there would then be no room for improvement in the immediately succeeding years. However the more rigidly the target is defined the less we can move.

1985

9. As para 5 above shows our view of the international outlook for 1985 is that supply and demand is likely to be roughly in balance. We are committed to a goal of net exports of 5 million tonnes. As the following table shows any revised goal which implied higher net exports would limit our freedom of action to implement depletion policy:-

	M tonnes
Oil production (assuming maximum depletion measures and no further slippage in development and production)	90 to 100
Oil consumption (assuming economic growth of approx 1-2½% for 1979-85)	90 to 100

1990

10. The latest IEA forecasts estimate oil consumption in 1990 at 42.8 mbpd compared with 37 mbpd in 1980. This involves net imports of 28 mbpd in 1990 compared with an expected 22 mbpd in 1980.

11. Targets also need to take into account the likely availability of OPEC oil. The present IEA view is that the OPEC oil available to OECD countries in 1990 will be as little as 19.3 mbpd. (In our view, the IEA projections for oil consumption by non-IEA OECD countries, non-OPEC LDCs and net Communist Imports are rather high).

12. Targets should be sufficiently rigirous to act as an incentive to Governments to implement the long-term policies on which we are all agreed. Against that requirement, and the general picture described in paras 3, 6, 10 and 11 above, group targets for 1990 might be:-

	mbpd
Consumption	28 to 40
Net Imports	22 to 25

13. The latest proposals from the IEA are for a target of 22-24 mbpd. We could, therefore, broadly accept this approach since it coincides fairly closely with our own judgement.

14. Two other approaches to targets are:-

a) Oil as a percentage of TPE

In 1980, for the IEA group as a whole, oil will provide 51% of TPE. The IEA percentage should decrease because of growing use of other energy forms and, for 1990, a reasonable group target might be about 45%. This should give no trouble to us since we are likely to/below 45% anyway, but we might come under pressure to do even better in order to help the IEA as a whole.

/be

b) Energy Elasticity

This is the percentage change in total primary energy use

divided by the percentage change in GDP which for the years 1978-85 is expected to average 0.7. But it is unsatisfactory as an indicator partly because, for the period in which 1990 falls, it is thought unlikely to drop much further below 0.7, and partly because, on its own, it says nothing about oil consumption and must, therefore, be read in conjunction with the "oil as a percentage of TPE" indication.

Department of Energy
15th April 1980

ANNEX A

All IEA countries firmly committed themselves to limit their oil imports in 1980, and to pursue goals for their oil imports in 1985.

COUNTRY

	1980		1985	
	MTOE	MBDOE	MTOE	MBDOE
Australia	13.5		17.0	
Austria	11.5		13.5	
Belgium	30.0		31.0	
Canada	7.4	0.15	29.4	0.6
Denmark	16.5		11.0	
Germany	143.0		141.0	
Greece	14.8		16.5	
Ireland	6.5		8.0	
Italy	103.5		124.0	
Japan	265.3	5.4	308.66	6.3
Luxembourg	1.5		2.0	
Netherlands	42.0		49.0	
New Zealand	4.2		4.4	
Norway	-15.5		-18.3	
Spain	51.0		52.9	
Sweden	29.9		29.0	
Switzerland	14.0		14.5	
Turkey	17.0		25.0	
United Kingdom	12.0		-5.0	
United States and Territories	437.2	8.9	436.0	8.9
IEA total	1,205.3	24.5	1,289.56	26.2
less bunkers		1.4		1.6
		23.1		24.6

Table 1

ENERGY DEMAND AND SUPPLY: mmbd

	1978	1981	1985	1990
Demand				
OECD	74	75	82-84	88-97
IEA	69	69	75-77	81-89
Non-OECD	17	19	21-22	25-30
TOTAL	92	94	103-106	113-127
Supply (exc OPEC oil)				
OECD	47	52	57-59	63-68
IEA	45	49	54-55	59-64
Non-OECD	13	15	16-17	20-24
TOTAL	61	66	73-76	83-92
Demand for OPEC oil	31	28	30	30-35
Willing OPEC production	30.3	28.7	32.0	32.0

TABLE 2

IEA DEMAND ON OPEC OIL

IEA FIGURES	1985	1990	OURS	1985	1990
IEA OIL PRODUCTION	14.8	14.8		15.8	15.8
IEA OIL CONSUMPTION	41.1	42.8		38-39	39-42
Net Oil Imports	26.3	28.0		22.2-23.2	23.2-26.2

Note: Totals do not sum because of rounding.

CONFIDENTIAL

Energy

10 DOWNING STREET

From the Private Secretary

14 April 1980

B/F 15.4.80

Dear Bill

Review of the AGRs

The Prime Minister has seen Denis Walker's letter to me of 11 April. She is content that your Secretary of State should announce the AGR decision in oral Questions today, but has added that there must be some reference to other economies, since it was only on that basis that the Cabinet decision about the AGR programme was reached.

I am copying this letter to the Private Secretaries to the members of E Committee and to Godfrey Robson (Scottish Office), David Wright (Cabinet Office) and Robin Ibbs (CPRS).

Yours ever

Nick Sanders

Bill Burroughs, Esq.,
Department of Energy.

CONFIDENTIAL

10 March, a statement on fast reactor policy will be made in due course.

Mr. Cadbury: Is my hon. Friend aware that there is still widespread public misconception about the fast-breeder reactor? Will he ensure that greater efforts are made to explain to the public that the fast breeder reactor does not breed fast and that, far from increasing stocks of plutonium, it will help to reduce stocks.

Mr. Lamont: My hon. Friend is correct. That is one of the advantages of the fast reactor. It would use the plutonium that is enevitably generated in a country with a thermal programme. Another advantage is that the fast reactor could help to overcome whatever constraints may arise on uranium supplies. The Government are considering those issues carefully. We must consider whether a commercial demonstration fast reactor should be built, and whether there should be international collaboration.

Mr. Gwilym Roberts: Does the hon. Gentleman accept that since it will be necessary to use coal more and more for oil-related and chemical purposes in the next few decades, the fast reactor may, ultimately, have a role to play?

As we are dealing with a 15 to 20 year time scale, is it not time to open the debate on the matter?

Mr. Lamont: I am pleased to hear the hon. Gentleman say that. That is one of the reasons why the Government have placed an emphasis on nuclear power, as a replacement for coal. It will play an increasing role in meeting industrial needs and as a chemical feedstock.

Nuclear Power Programme

12. **Mr. Hooley** asked the Secretary of State for Energy what action he is proposing to take on the Government's nuclear power programme prior to the receipt of the report of the Central Policy Review Staff on the nuclear power stations at Heysham and Torness.

13. **Mr. Palmer** asked the Secretary of State for Energy what steps he is now taking to make possible the announced expansion of the nuclear power programme, in view of the difficult financial position of the Central Electricity Generating Board and the cash limits imposed by Government policy.

18. **Mr. Rost** asked the Secretary of State for Energy what progress has been achieved in the implementation of the programme of nuclear power construction since his statement of December 1979.

19. **Mr. John Evans** asked the Secretary of State for Energy if he is still committed to the building of the advanced gas-cooled reactors he announced in his statement of 18 December 1979.

Mr. David Howell: As the House knows, the Government have reviewed the proposal to construct new advanced gas-cooled reactor power stations at Heysham and Torness. The generating boards made clear their wish to proceed with the stations, and the Government have decided that this would be right.

The cost of these stations was fully reflected in the public expenditure White Paper—Cmnd. 7841. But in view of the heavy costs of these and other capital projects the Government have urged the CEGB, the SSEB and the other boards to identify economies wherever possible.

Work is in hand on all the measures announced in my statement of 18 December, which provides a framework for the development of the nuclear programme.

Mr. Hooley: Since it has taken 16 years to produce $1\frac{1}{2}$ gigawatts of generating capacity in the present AGR programme, is it not ridiculous to suppose that the Government's new programme is in any way practicable? In the light of the fall in demand for electricity, will not the Government be lumbering the country not simply with one white elephant, but with a whole herd of white elephants?

Mr. Howell: The hon. Gentleman is wrong. It is generally recognised that while we are not planning a crash programme—a massive programme of nuclear generation capacity increase—we are proposing a steady programme over the coming years which will build up our electricity generation from nuclear sources to a reasonable percentage. Even then, as my hon. Friend the Under-Secretary said in reply to an earlier question, the amount of electricity generated from nuclear power which Britain will have by the year 2000 on the plans which I announced before Christmas, will be less than that

which will be available to the French and the Germans in 1985. Since nuclear-generated electricity, on all present experience costs less, the consumer will be the loser if we do not build nuclear.

Several Hon. Members *rose*——

Mr. Speaker: Order. I propose to call first those hon. Members whose questions are being answered.

Mr. Palmer: Does the Secretary of State agree that in practical terms there is a clash between the expansion of the nuclear power programme and the cash limits that the Government are imposing on the electricity supply industry? Is it not a fact that the Cabinet hoped to get out of the dilemma by getting the Central Policy Review Staff to make a decision in favour of postponement until the pressurised water reactor was ready? Will the Secretary of State deny those rumours, if they are rumours?

Mr. Howell: They are rumours. There is no conflict between the cash limit restraints on the electricity industry and the decision to go ahead with the building of these stations. As I have already said, the Government decided that that would be right, and the cost of those stations is fully reflected in the public expenditure White Paper. It makes sense to go ahead with building nuclear power stations and the available technology at present is the advanced gas-cooled reactor. I have explained to the House that it is the Government's objective that we move towards seeking to build a pressurised water reactor in due course. In the meantime we have the opportunity to build nuclear; that is what the boards are to do and they will keep within their cash limits in doing so.

Mr. Rost: Taking into account the huge escalation in costs and the delayed time scale, as well as the unsatisfactory performance of the existing AGR programme, how will the Government monitor the new construction programmes so that they keep within even the unacceptably high costs, and the proposed time scale of six years per station?

Mr. Howell: It has been widely recognised that there is a need to strengthen the nuclear construction capacity. For that reason I announced before Christmas the Government's plans to reorganise the NNC, and to strengthen it to meet the demands which will fall upon it from building nuclear power stations in the coming years. My hon. Friend is correct in saying that the performance has not been good in the past. It is essential that the industry is reorganised, that confidence is given by a steady programme, and that the different roles of the customer and the supplier are clearly defined. Within that broad set of arrangements we can go forward with more economic and efficient building, with tighter control on costs.

Mr. John Evans: Will the Secretary of State concede that doubt and indecision at Government level in general, and within the Department of Energy in particular, have bedevilled the nuclear industry over the years? Does his announcement mean that the industry can now get on with the job without any further interference from the Prime Minister?

Mr. Howell: My announcement today confirms what the Government also made clear before Chirstmas. We are setitng out a basic programme around which the industry can organise with confidence. No one in the industry expects any such programmes, stretching ahead over many years, to be completely free from uncertainties and questions as time goes on. The pace must be influenced by resource availability and demand. The fundamental point is that we now have the basic programme to give the industry confidence.

Mr. Costain: Will the Secretary of State take an early opportunity to visit Dungeness B? Will he further explain that the long building programme was due to the experimental work that was carried out? Is he aware that there is an extremely good team working at Dungeness B, whose experience should be used for future stations?

Mr. Howell: I am grateful to my hon. Friend for his invitation. Despite the unwelcome delays, there is a prospect that these stations will produce electricity highly competitively and economically. That is an indication of the strong economic benefit from nuclear electricity—which is cheaper. Even where there are considerable delays and difficulties, the cheaper quality of that electricity is maintained.

Mr. Mike Thomas: How can the right hon. Gentleman expect the nuclear industry and the power plant industry to work when an order is placed one month, and before the month is out the "Think Tank" reviews it, the Prime Minister protests about it, the Treasury argues about it, and his right hon. Friends leak stories to the press about it? How can any industry be organised—Conservative Members are supposed to know about such matters—on that basis? Further, how can the industry operate on the basis of steady ordering when everyone knows that an order scheduled for completion in 1982 will not be completed before 1984-85?

Mr. Howell: The Labour Party and the previous Labour Government know all about uncertainty and change of direction on nuclear power and nuclear ordering. If the hon. Gentleman had a little grace and courtesy he would recognise that there has been a great improvement and that we now have the basis for a steady ordering programme, and for the revival of the British nuclear industry. He should congratulate my right hon. and hon. Friends on that, and he should think back to the poorer performance of his party.

Mr. Skeet: Surely the Secretary of State is aware that the existing AGRs are difficult to complete, and are extremely expensive. Would it not be wiser to cut the Gordian knot and go straight to the PWR now, which is much cheaper than the AGR?

Mr. Howell: As my hon. Friend will know, Hinckley B compares favourably with fossil fuel stations, taking all the factors into account. My hon. Friend talks of cutting Gordian knots. The reality is that we have the capacity, technology and opportunity to build AGR stations. I have stated the objective that we should seek to build a PWR, but safety considerations are paramount and there must first be a full and thorough inquiry, which takes time. In the meantime, the CEGB and SSEB should continue building nuclear so that we are not left so far behind our continental competitors in cheap nuclear electricity.

Dr. Owen: Will the right hon. Gentleman accept that I welcome his decision, without which the industry would not have the steady ordering programme that is vital if it is to be viable throughout the next decade and beyond? Has the right hon. Gentleman yet decided on the choice for the important appointment of chairman, over which the delay has been too long?

Any power programme must reflect demand. Can the right hon. Gentleman give us an idea about future energy demand, particularly for electricity? Is a fall in demand anticipated, which would result in the building programme being cut back? For example, does the right hon. Gentleman still hold to the belief that he can sustain a building programme of one nuclear station a year, as announced in December?

Mr. Howell: I am grateful for the right hon. Gentleman's welcome for what I have said. I intend to make a statement about the chairmanship and the new chairman of the NNC shortly. Recent electricity supply industry estimates of demand have been revised downwards to a growth rate of just under 1 per cent. My announcement of nuclear power building before Christmas was based on at least the possibility of an overall energy demand growth of 1 per cent. and an electricity demand growth of less than 1 per cent. On demand grounds alone my announcement before Christmas is still valid. In addition, there is an economic case for building nuclear power stations. The increasing evidence is that electricity from nuclear power is considerably cheaper than from oil or coal-fired stations, even on present prices, let alone with possible price trends in a dangerous world. Reading the newspapers one is daily aware of the growing threats to oil and gas supplies. There is an urgent need for us to diversify our energy resources, and it makes sense to build nuclear.

Mr. Speaker: Order. Questions are becoming lengthy and answers longer still.

Electricity Supplies (Disconnections)

14. **Mr. Greville Janner** asked the Secretary of State for Energy when next he expects to meet the chairman of the Electricity Council.

Mr. Norman Lamont: I meet the chairman from time to time.

Mr. Janner: When the Minister next meets the chairman, will he try to put an end to the scandal of tenants having their electricity supplies cut off when they have paid the appropriate amount to their landlord, in whose name the account stands, but the landlord defaults in paying over what is necessary to clear the account?

Mr. Lamont: I shall discuss that matter when I next meet the chairman. As the hon. and learned Gentleman will know, the code of practice is also being studied by the PSI, and I have emphasised that we wish to have that matter completed as quickly as possible. Such issues are of great importance.

Gas-gathering System

15. **Mr. Douglas** asked the Secretary of State for Energy if he will make a fuller statement on the gas-gathering system for the United Kingdom sector of the North Sea.

Mr. Gray: The British Gas Corporation and Mobil North Sea Limited have now sent my right hon. Friend a copy of the report submitted by the study team. My right hon. Friend will make a fuller statement when the report has been considered.

Mr. Douglas: Will the Minister accept that that reply is again disappointing? Does the hon. Gentleman agree that in answer to a previous question the Secretary of State indicated that this was an area where we could, within our own resouces, make significant advnces? Is he delaying the statement so that there can be a depletion policy statement at the same time?

Mr. Gray: There is no question of delaying a statement. This is an important matter, which involves highly technical engineering skills. It would be wrong for the Government to come forward with any decisions without giving the matter the fullest consideration.

Mr. John H. Osborn: What conversations has my hon. Friend had with his opposite numbers in Norway? The IPU conference in Norway has just taken place. Will my hon. Friend accept that exploration in the next few years will occur north of the 62nd parallel? What likelihood is there of a line directly to Emden, cutting out the North Sea?

Mr. Gray: The Norwegian Government were given the opportunity to participate in the survey that has just been completed. We regret that they did not take that opportunity. We are still prepared to discuss these matters with the Norwegian Government. If they indicate that they would like to be a partner in any future line, their proposals will be carefully considered.

Gas Supply (New Industrial Units)

16. **Mr. Chapman** asked the Secretary of State for Energy if he is satisfied with the policy of British Gas in respect of conditions relating to the supplying of gas to new industrial units.

Mr. Norman Lamont: The British Gas Corporation is facing considerable difficulties because of the unprecedented demand for gas. I am satisfied that its longer-term plans should improve the situation.

Mr. Chapman: I appreciate my hon. Friend's reply, but will he keep the matter under review? Most reasonable people would say that the conditions laid down by British Gas are far too inhibiting and ought to be re-examined, and a greater priority given. Does my hon. Friend agree?

Mr. Lamont: We discuss these matters with individual firms and with trade associations representing industries which are particularly adversely affected. My hon. Friend has to recognise that, because of the increase in oil prices of 100 per cent. in 12 months, the demand for gas has absolutely run away. There are more people wanting to have gas than there is gas available, and it is extremely difficult to bring the two together. That is why we have had to make unpopular decisions on pricing. I agree with my hon. Friend that we must keep this under review, especially in regard to the industrial consequences.

HOUSE OF COMMONS

Recycled Paper

29. **Mr. Dalyell** asked the Chancellor of the Duchy of Lancaster what consideration he is giving, in the light of the Services Committee's deliberations, to the

Sir R. Armstrong

If you are content with this, I will have a word with Mr Lankester.

11/4.

CONFIDENTIAL

P.0237

MR WRIGHT

REVIEW OF AGRs

You asked for advice on the proposed answer to Parliamentary questions about Heysham and Torness which Mr Howell has suggested in his Private Secretary's letter of 11 April. They are for use on Monday.

2. The main answer is (rightly) short and consistent with the Government's decisions.

3. The notes for Supplementaries appear to be acceptable as far as they go subject to the following points:-

(a) The answer to the question (at the top of Page 3) "What is the financial position of the electricity supply industry?" repeats Mr Howell's earlier announcement about the increase in the EFL for the electricity supply industry in England and Wales in 1979-80. There is no need to repeat this information unless it is specifically sought. In that event it should be made clear that the £300 m increase is for 1979-80 (which the draft does not do). Attention is in any case more likely to concentrate on 1980-81. It is for consideration whether Mr Howell should make it clear that the figure of £187 m is a limit (he would no doubt prefer to fudge this).

(b) The form of Mr Arthur Palmer's question suggests that the industry's finances in 1980-81 will be probed. There is at present no Supplementary on electricity prices. It would in any case be difficult for Mr Howell to say very much until after the E discussion on Wednesday where prices will be a central issue. But for Monday he will need a form of words - perhaps: "It is for the industry in the first instance to consider how best to remain within its EFL".

(c) Opponents of nuclear power may make rather more of the reduced load forecasts than is allowed for in the present notes for Supplementaries. A question on the lines of: "Do we need to order any nuclear power stations for the next x years?" is at least possible. Given the present disparity between forecast capacity and demand the case for early orders rests essentially on cost saving (and, unspoken, a greater degree of freedom from the NUM). Again, Mr Howell may want to work out his reply in advance.

4. Otherwise no comments.

P Le CHEMINANT

11 April 1980

I agree with Mr Le Cheminant.

RHA

11. iv. 80

CONFIDENTIAL

Copy with PM's comments (+ Cab Off U.K.)

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ

01 211 6402

cc. D. Duguid V MS

CONFIDENTIAL

N Sanders Esq
Private Secretary to the
Prime Minister
No 10 Downing Street
LONDON SW1

11 April 1980

Dear Nick,

REVIEW OF THE AGRS

Tim Lankester's letter of 8 April circulated the note of the meeting of Ministers of 3 April under the Prime Minister's Chairmanship. The note recorded Ministers' decision that on balance they were prepared to accept that the Heysham II and Torness AGR stations should be built as planned, and that my Secretary of State should reserve a statement about this until it could be made to the House of Commons after the Easter recess.

My Secretary of State has to answer oral questions on Monday 14 April, and there are questions down about the nuclear programme, including one specifically about AGRs. He thinks that it would be opportune to announce the Government's decision in answer to these questions. The questions are as follows:

> Mr Frank Hooley (Sheffield Heeley): To ask the Secretary of State for Energy, what action he is proposing to take on the Government's nuclear power programme prior to the receipt of the report of the Central Policy Review Staff on the nuclear power stations at Heysham and Torness.
>
> Mr Arthur Palmer (Bristol North East); To ask the Secretary of State for Energy, what steps he is now taking to make possible the announced expansion of the nuclear power programme, in view of the difficult financial position of the Central Electricity Generating Board and the cash-limits imposed by Government policy.
>
> Mr Peter Rost (South East Derbyshire): To ask the Secretary of State for Energy, what progress has been achieved in the implementation of the programme of nuclear power construction since his statement of December 1979.
>
> Mr John Evans (Newton): To ask the Secretary of State for Energy, if he is still committed to the building of the advanced gas-cooled reactors he announced in his statement of 18 December 1979.

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(2)

He proposes the following answer:

> "With permission, Mr Speaker, I will answer this question and Nos ..... together.
>
> As the House knows, the Government has reviewed the proposal to construct new advanced gas-cooled reactor power stations at Heysham and Torness. The Generating Boards reaffirmed their strong wish to proceed with the stations; the Government has decided that this would be right.
>
> We are going ahead with the measures announced in my statement of 18 December which provides a framework for the development of the nuclear programme".

Submitted as a separate briefing folder. / Copy now attached

Your letter of 9 April asks for briefing on this subject for the Prime Minister's use when she gives a television interview on 14 April. I attach the notes for supplementaries which the Department has prepared for my Secretary of State, also a background note. If the Prime Minister is content with the proposed answer, she may care to draw on it and on the notes for supplementaries. I also attach notes on nuclear power policy more generally, in case they should be of use.

We hope also to be able to announce on Monday 14 April the appointment of Mr Denis Rooney to the Board of the NNC and subsequently to the Chairmanship.

I am sending copies of this letter to the Private Secretaries to Members of E Committee, the Secretary of State for Scotland, Sir Robert Armstrong and Mr Ibbs.

Yours ever,

Denis

Denis Walker
Private Secretary

CONFIDENTIAL

cc Mr Le Cheminant
Mr Moore
Mr Hoskyns

cc Press Office

CABINET OFFICE
A 999
11 APR 1980
FILING INSTRUCTIONS
FILE No.

SECRETARY OF STATE
THAMES HOUSE SOUTH
MILLBANK

01 211 6402

Prime Minister

The Cabinet Office (Flag A) have some comments on the supplementaries which I think we should feed in. Otherwise, content?

CONFIDENTIAL

N Sanders Esq
Private Secretary to the
Prime Minister
No 10 Downing Street
LONDON SW1

11 April 1980

There must be some reference to other economies. It was only on that basis that Cabinet agreed. Has D.H. seen A.W.'s letter?

Dear Nick,

REVIEW OF THE AGRS

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Yours ever,

Denis

Denis Walker
Private Secretary

SUPPLEMENTARIES

Q WHY ARE WE GOING AHEAD WITH THESE AGRS?

A The review which the Government undertook considered all aspects of the matter. My Rt Hon Friend the Prime Minister referred to the industrial aspects in a recent Answer. Our strategy is to keep open the choice of reactor for future orders.

In these matters, one must have regard to the wishes of the customer; both Generating Boards made it clear that they wanted to proceed with the stations, not least because they believe there is a strong economic case for them on cost saving grounds.

Q WHAT WILL THE TWO STATIONS COST?

A The Generating Boards' latest estimates of capital cost at March 1980 prices, including initial fuel but excluding interest during construction, are £2450m (£1250m for Heysham and £1200m for Torness).

Q HOW CAN WE BE SURE THAT THE DISASTER OF THE LAST AGR PROGRAMME WILL NOT BE REPEATED?

A The design of the new stations is based on that of Hinkley Point B and Hunterston B, the two AGRs which are completed

and working. The Generating Boards have learned from the problems encountered with building what amounted to three different prototypes, and starting on site when design work was insufficiently advanced. Construction and manufacture for Heysham II and Torness is being preceded by a design phase to ensure that when it does begin it can proceed quickly on the basis of firm design.

Q WHAT ARE THE ELECTRICITY SUPPLY INDUSTRY'S CURRENT DEMAND ESTIMATES AND HOW DO THEY COMPARE WITH PREVIOUS ESTIMATES?

A The Electricity Council currently estimate that simultaneous maximum demand in England and Wales in 1986/87 under average cold spell conditions will be 48.5 GW, a reduction of 3.5 GW compared with previous estimates. This represents an annual growth rate of 0.9%, from 1979/80 compared with the rate of 1.7% previously forecast.

Q WHAT IMPLICATIONS DO THE REDUCED DEMAND FORECASTS HAVE FOR FUTURE POWER STATION ORDERS?

A The implications of the revised load forecasts are being carefully examined. We believe that nuclear power will have an important role to play in our long term energy strategy.

Q WHAT IS THE FINANCIAL POSITION OF THE ELECTRICITY SUPPLY INDUSTRY?

A As I recently announced, the External Financing Limit for the supply industry in England and Wales has been increased by £300m (from (-)£68m to (+)£232m), primarily because of the successful build up of fuel stocks which, in the increasingly uncertain world energy situation, the Government welcomes. The increase has not added to the public expenditure planning total. The industry's External Financing Limit for 1980-81 is £187m. This is consistent with the decision to go ahead with Heysham II.

1979/80

Q HOW IS THE PWR AFFECTED?

A It remains the Government's wish that subject to the necessary consents and safety clearances, the next new nuclear power station order should be for a PWR station.

Q WHEN WILL A NEW CHAIRMAN OF THE NATIONAL NUCLEAR CORPORATION BE ANNOUNCED?

A I am not yet in a position to make an announcement. It is very important to get the right person for this role. I hope to make an announcement shortly.

Q WHEN WILL THE CEGB ISSUE A LETTER OF INTENT TO THE NNC ON THE PWR?

A I expect this letter to be issued shortly.

Q WHAT WILL BE THE COST OF THE NUCLEAR PROGRAMME ANNOUNCED ON 18 DECEMBER 1979?

A The capital cost of the next one or two stations to be built is provisionally estimated by the CEGB to be some £1,000 per Kilowatt. It is too soon to make specific estimates for subsequent stations.

Q WHAT WILL BE THE COST OF ELECTRICITY NUCLEAR POWER?

A Current CEGB estimates indicate that generation costs for the next thermal nuclear stations will be lower than those for fossil fuelled plant ordered at the same time.

Q. WHAT ROLE DO YOU SEE FOR NUCLEAR POWER IN UK ENERGY POLICY ?

A. Our oil and gas supplies from the North Sea will eventually decline. Coal and energy conservation both have long term potential. But we believe that nuclear power must also have an important role to play as one element in a balanced energy policy for meeting the UK's long term energy requirements.

The prospect of at least one new order p.a. in the decade from 1982 that was announced in December is not a crash programme. Indeed, if orders are no greater than this we will still have less nuclear capacity in the year 2000 than France or Japan plan to have in 1985.

Q. IS THE PWR SYSTEM SAFE ENOUGH FOR THE UK, PARTICULARLY AFTER HARRISBURG?

A. In their generic safety study, of which a substantial summary has been published, the Nuclear Installations Inspectorate concluded that there was no fundamental reason for regarding safety as an obstacle to the selection of a Pressurised Water Reactor (PWR) for commercial generation in Britain.

The Inspectorate have also published their assessment of the Kemeny report on the Three Mile Island nuclear accident in the U.S.. They came to the firm conclusion that the underlying causes were organisational rather than due to inherent weakness in the concept or design of the PWR.

The Government have said that the building of a PWR in the UK will be subject to a public inquiry and to full UK safety clearances. The principal safety documentation supporting the licensing of the PWR will be prepared with a view to being made public at the inquiry.

Q. WHAT FORM WILL THE PWR INQUIRY TAKE ?

A. The Government have made it clear that we intend the inquiry to be full and thorough.

Q. WHAT IS THE POSITION ON THE FAST REACTOR ?

A. Fast reactor policy is being considered by the Government in the light of the advice of the Atomic Energy Authority and others concerned. These are complex matters and cannot be rushed. A statement will be made in due course.

Q. WHAT IS THE POSITION ON THE ORGANISATION OF THE NUCLEAR INDUSTRY ?

A. The measures that are in hand, following the Secretary of State for Energy's statement of 18 December, now provide the basis for the steady development of a strong nuclear industry in the UK.

Q. DO THE NUCLEAR INSTALLATIONS INSPECTORATE HAVE THE RESOURCES TO COPE WITH THE PWR ?

A. It is true that the NII are below full strength, but they are arranging their work so as to ensure that the necessary resources for the PWR, as well as for the AGR programmes and for the safety of operating stations, are available. The Government will watch the situation and support the Health and Safety Executive in ensuring that adequate resources are available to the NII.

Q. WHAT ABOUT THE THREATENED MOVE OF THE NII TO BOOTLE ?

A. ~~The Government do not consider that it is essential to retain the Inspectorate in London. However,~~ The dispersal of Health and Safety Executive posts from London will be phased over some years in order to minimise staff problems. I understand that no nuclear inspector at present working in London will be required to move to Merseyside before 1985.

BACKGROUND

1 The capital costs of constructing the two AGRs at Heysham and Torness are estimated by the Generating Boards to be some £2500m at current prices. The stations are planned to be commissioned in 1986-88.

2 The Government review of these orders concluded that, although they were not strictly needed now on demand grounds, it was important to keep open the choice of reactor for future orders. In addition, both Boards want to proceed with the stations, not least because they believe there is a strong economic case for them on cost saving grounds.

3 Work on site is scheduled to begin within the next few months. The turbines are to be made by GEC (Torness) and NEI Parsons (Heysham). Boiler orders will be going to NEI Clarke Chapman, with work sub-contracted to Babcock. Many other companies throughout British industry will be involved, as Taylor Woodrow, MacAlpine, Whessoe, Howden and Strachan and Henshaw.

B/F 29.4.80.

JS

Energy

10 DOWNING STREET

From the Private Secretary

9 April 1980

We had a word on the telephone today about the recent article in the Guardian by Walter Paterson, contrasting the cost of nuclear power and electricity generated from other fuel sources. You undertook to let us have a note commenting on Walter Paterson's article.

May we please have something from you by Tuesday 15 April?

NJS

Denis Walker, Esq.,
Department of Energy.

2785

WALTER PATTERSON

Britain cooking the nuclear books

THE difficulty of forecasting the future is amply documented. Britain's civil nuclear planners, however, seem to have equal difficulty forecasting the past. They are, to be sure, ruefully willing to concede that Britain's second nuclear programme, the Advanced Gas-cooled Reactors, were not all that could have been desired; the flagship of the AGR programme, Dungeness B, has after all been under construction since 1965 and is still unfinished.

But almost every official utterance on current civil nuclear policy makes ritual reference to the outstanding success of Britain's *first* nuclear programme, the Magnox reactors. Indeed, in my book Nuclear Power (Penguin, 1976). I took the industry's word for it in 1974 and called the Magnox reactors an "excellent investment." Before this myth is enshrined as holy writ, and used to sanctify another charge toward the nuclear precipice, it would be salutary to recall the true history of the Magnox programme.

The Magnox stations had as their precursor the Calder Hall station, opened by the Queen in 1956 with enormous fanfare as "the world's first nuclear power station." It was not at the time widely publicised that the primary purpose of Calder Hall was — and is — to produce weapons-plutonium, with electricity as a by-product. The civil Magnox programme had its beginnings in 1955, with the publication of a White Paper called a Programme of Nuclear Power. The White Paper was prepared by the Government and its advisors from the newly-fledged UK Atomic Energy Authority. The then Central Electricity Authority took no part in preparation of the White Paper and was given only one month to comment on its proposals before publication. The White Paper called for 2.000 megawatts of nuclear capacity to be built in the ensuing decade.

After the Suez debacle of October, 1956, it was decided to go for a greatly expanded nuclear power programme — 5,000 to 6,000 megawatts in operation by the end of 1956. However, by 1960 it was clear that the supply of low-priced coal and oil had drastically undermined the original estimates of the economic competitiveness of Magnox electricity. In June, 1960, the programme was cut back and its timetable extended.

In 1962-63 the Select Committee on Nationalised Industries, in a mammoth analysis of electricity supply, took evidence from many senior figures. Sir Christopher now Lord Hinton, chairman of the Central Electricity Generating Board and one of the architects of the British nuclear establishment, agreed with the committee that the cost of the Magnox programme to the CEGB had been pretty considerable. "If I could completely disregard history I would have a considerably smaller programme than I have today."

Official documents of the time are coy about what became of the plutonium produced in the civil Magnox stations, and about how much so-called "plutonium credit" was paid to the CEGB by the AEA. The plutonium credit postulated at the time of the first White Paper was a substantial fraction of the cost of a unit of Magnox electricity, an essential factor in making it look competitive with fossil-fuelled electricity. The credit was reckoned on the basis that the plutonium would be a valuable civil fuel; 25 years later plutonium stocks still require costly storage and are as far as ever from commercial utilisation.

The last Magnox station was Wylfa, on Anglesey. The Wylfa reactors were almost twice the size of the largest previous Magnox reactors. Wylfa was scheduled to come on stream in 1969. It did not even start up until 1971; and its boilers then developed so many leaks that it was shut down for most of the next five years for repairs. Its maximum output is now 840 megawatts, only some two-thirds of its original design output of 1,180 megawatts. The shortfall of power at Wylfa is equivalent to another nuclear station, larger than Berkeley, Bradwell or Hunterston A, paid for but never delivered.

Wylfa was not the only station to show this disparity between original design output and eventual "declared net capability," as the industry euphemism puts it. In September, 1968, corrosion was discovered inside the reactors at the Bradwell Magnox station — investigations revealed similar corrosion at all the other stations as well. To keep it from shortening the lifespan of the Magnox reactors, all but the smallest and earliest, at Berkeley, were "de-rated" — required to operate at a lower output. The fact of this de-rating is well known in the industry; what seems less well known is its magnitude. The four last and largest Magnox stations are all limited to a maximum output which is less than three-quarters of their original design output. Electricity users thus got three reactors for the price of four.

By 1970 problems with the Magnox stations had been overtaken by problems with the AGRs, including the bankruptcy of Atomic Power Constructions Limited at Dungeness B. However, to claim that compared to the AGRs the Magnox reactors were a success is like saying that, compared to Waterloo, Napoleon's retreat from Moscow was a success. When the electricity authorities submit nuclear performance figures to the European Commission, they compare the annual output of each Magnox station with its maximum de-rated capacity, not with its original design output. This means that a station like Oldbury may be credited with a performance some 20 percentage points better than it can reasonably claim. Such cooking of the nuclear books does not enhance the industry's credibility.

As recently as 1972 the Department of Trade and Industry, in evidence to the Select Committee on Science and Technology, stated that a unit of nuclear — that is, Magnox — electricity cost roughly twice as much as a unit of fossil-fuelled electricity. These figures expressly excluded Wylfa, whose occasional trickle of output up to that time must have been among the most costly in the land. Only the runaway inflation of the mid-1970s, including the dramatic increase in the cost of fossil fuel, gave British electricity users an opportunity to recover some of the money we had been paying over the odds for Magnox electricity for more than a decade.

It is ironic that, just as we have begun to recover some of our excessive outlays on the Magnox stations, they are showing signs of senility. The cracks at Dungeness A and other Magnox stations may indicate that they are nearing the end of their useful lifespan. If so, even the inflation of the mid-1970s will not have saved the Magnox programme from being yet another British nuclear fiasco. From 1955 onwards, whenever doubts were raised about the economic status of the nuclear programme, the nuclear planners always chanted their litany: "Even if it's not economic now, we must press on, because one day it will be." The echo is becoming painfully hollow.

Walter Patterson is international editor of the Bulletin of the Atomic Scientists, and energy consultant to Friends of the Earth.

EXTRACT FROM "THE GUARDIAN" MONDAY APRIL 7 1980.

medical world, women fare even worse. Only 2 per cent of consultant surgeons are women, and only 3.3 per cent in general medicine. Where women do manage to become consultants they congregate in the less fashionable fields which through relative lack of applicants, have been more willing to open their doors to women — 12.1 per cent in radiology, 18.6 per cent in anaesthetics.

Most women doctors never make their way through the length and extremely strenuous training required to become a consultant. In the past it was slightly easier for women to become GPs, but as in other fields, more training is now demanded, making it a great deal more difficult.

It costs well over £40,000 to get a medical student through training, and yet now, regardless of their ability, a large number of the women are headed for jobs that often demand relatively few of the skills they have acquired. Women in medical schools are often, as a group, cleverer than the men. These exceptionally bright girls are

rules out women with children. Unless a woman is prepared to wait until she is well over 35 to have children, or decides not to have any, she cannot possibly manage years of working a 100 hour week, except with sacrifices to her children that most people would rightly regard as unacceptable.

The only solution to the plight of women doctors who wish to become consultants, or even GPs, is for the Royal Colleges and the DHSS to agree to allow women to take part-time training posts in hospitals. It would mean their training would take longer, and that present posts would often have to be divided between two people, but ambitious women doctors say they would be quite prepared to take a few more years and end up fully qualified, rather than spend a life-time in limited jobs without prospects.

At the moment there are very few part-time training posts, and the only fields where these are made available are again in the less popular specialties, which have been forced to relax

to have had a baby'

their rules for lack of applicants — radiology, geriatrics, anaesthetics and psychiatry, for instance. But even in these fields, part time posts are few and far between, and hotly competed for, by men as well as women.

In the smarter specialties the Royal Colleges declare roundly that part-time training is not suitable. Competition for training posts in surgery, for example, is so intense that the Royal College has no incentive of any kind to change its training policies to suit women. In any case the President of the Royal College of Surgeons, Sir Reginald Murley, says he doubts whether surgery is particularly suitable for women, and he says he gets few applications from women (which doesn't mean a great many women wouldn't choose surgery given half a chance).

It used to happen that more women turned to General Practice since the training for this was relatively simple and flexible. But the training for GPs has just been extended, some say simply to increase the status of the Royal College of General Practice. All GPs will have to do an extra three years, two of them in hospita, a stipulation which raises what will again turn out to be an insurmountable obstacle to many women doctors.

If a woman sets out on the path to becoming a consultant, or even a GP, but wishes to take off a year or two, it is almost impossible for her ever to get back into a training post. If she does she will be back to working 100 hours, but even if she accepts that condition, she will be applying in competition with people who have come straight from another job. Her recommendations from the consultant at her previous post will have gone cold, and she stands very little chance indeed of succeeding.

The medical world is notoriously conservative. Consultants who themselves often had to work even longer hours when they trained see no reason why any concessions should be made. Since the number of people graduating from medical school is rising, the top Royal Colleges will still have plenty of men to take the top positions, and it doesn't worry them that as many as 60 per cent of the graduates being turned out, regardless of their talent, will be doomed to second class or third class careers from the start.

Some of the women in top medical posts (most of them unmarried) are the toughest

probably change and the work would be incorporated into some post carrying more status or training potential. even if the jobs were not re-organised, the least able or least ambitious doctors ought to take them, instead of women who are often among the cleverest graduates.

The Medical Women's Federation, an ancient and worthy, if in the past a rather staid body, has in the past year sprung into action. Dr Anne Gruneberg, a consultant anaesthetist, and the federation's Honorary Secretary, is also one of only five women on the 90-strong General Medical Council. She has all the figures on discrimination at her fingertips. "The facts couldn't speak louder," she says. "At first women medical students think their problems are over, having got into medical school. But the senior ones are beginning to see what's ahead, and, since they have carried off the same prizes as the men, they are damned if they'll be consigned to second-grade jobs."

She pointed out that only 12 per cent of obstretric and

sents a Federation whose members have many different views on the matter. As a result, a break-away organisation, the Women Doctors Action Group, was founded as a lobbying organisation a year ago. In practice, their opinions are pretty much in line with Dr Gruneberg's, but they have a freer hand (so long as they don't worry about their own career chances) to sling mud, cast aspersions, and challenge the medical establishment openly.

This story is, of course, repeated time and again in so many careers and professions — but rarely in such a visible clearcut way. Women are fighting their way into careers, only to find themselves effectively excluded from everything that makes the career worth fighting to get into in the first place. Because most women need to take time off, or work part-time, for a period of perhaps only 5 years, the other 35 years of their working lives are ruined. It makes no sense, either in justice or in economics.

Gallic contempt by leaving before the show started.

So what was my hirondelle doing not only with an invitation, but with a seat. Granted, his boney elbows probably got him the seat; it must have been his willingness to push and shove, trample and be trampled which got him the ticket.

At many presentations bona fide accredited journalists are refused entry — or even invitations — while students, starlets and cosmetic company PRO's enjoyed the show. The depressing thing is that not one rejected and humiliated, bruised and battered fashion writer will refuse to go through it all next time. The fashion word still does come from Paris and, without seeing the actual clothes on real bodies, fashion writers do their jobs with a severe handicap. You would have thought the organisers of the pret a porter shows would have been secure enough to realise that, wouldn't you?

POSY is on holiday and will be back next week.

Energy

DSG

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10 DOWNING STREET

From the Private Secretary

8 April 1980

I enclose a copy of the note of the meeting which the Prime Minister held last Thursday to discuss the AGR programme.

I am sending copies of this letter and enclosure to the Private Secretaries to the other members of E Committee, Godfrey Robson (Scottish Office) and David Wright (Cabinet Office).

J. P. LANKESTER

Bill Burroughs, Esq.,
Department of Energy.

CONFIDENTIAL

CONFIDENTIAL

cc Master

NOTE OF A MEETING TO DISCUSS THE HEYSHAM II AND TORNESS ADVANCED GAS-COOLED REACTORS, HELD AT 10 DOWNING STREET ON 3 APRIL 1980

Present:

The Prime Minister
The Secretary of State for Industry
The Secretary of State for Energy
The Chief Secretary, Treasury
The Parliamentary Under-Secretary of State, Scottish Office (Mr. Fletcher)
Mr. J. R. Ibbs, Head of the Central Policy Review Staff

Secretaries:

Sir Robert Armstrong
Mr. P. Le Cheminant
Mr. G. D. Miles

* * * * * * * * *

The Prime Minister recalled that the possibility of cancelling or deferring one or both of the nuclear power stations under construction at Heysham II and Torness had arisen in the context of the problems faced by the electricity supply industry in meeting its External Financing Limits (EFLs). The Central Policy Review Staff had reported to E Committee on 24 March (E(80)11th meeting, item 3) their view that the two stations should be allowed to go ahead as planned. The Committee had however felt that further information was needed before a decision could be taken and had remitted the question to the present small group of Ministers under her chairmanship. As an aid to the discussion officials from the Departments most closely concerned had produced a factual report circulated to those present under cover of a minute from the Secretary of the Cabinet dated 2 April.

The Secretary of State for Energy said that although he shared misgivings about the capability of the electricity supply industry, the options open to Ministers on the Advanced Gas-Cooled Reactor

/(AGR)

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(AGR) programme were severely limited. The Secretary of State for Scotland had pointed to the particular difficulties of cancelling the Torness station on which considerable sums of money had already been committed. Cancellation of Heysham II would cost less although a decision to do this would increase rather than decrease expenditure by the Central Electricity Generating Board (CEGB) in 1980/81. The South of Scotland Electricity Board were known to be unhappy at the prospect of proceeding with the Torness station on its own which would inevitably increase costs which would otherwise have been spread across the two stations. On balance he thought that the CPRS advice should be accepted.

In discussion the following main points were made:-

(a) Cancellation or deferment of the two new AGR stations would represent a serious blow to the morale of the nuclear construction industry, especially since it would come so soon after the positive encouragement to that industry contained in the Government's statement of last December about its nuclear policy.

(b) Similarly a decision to cancel would be taken to mean that the Government had already made up its mind on the choice between AGRs and PWRs for the future nuclear programme, without waiting for the safety assessment on the PWRs promised in the December statement. Such an announcement would be likely to polarise the argument about reactor choice on Party political lines, lead to acrimonious public debate and might well, in the end, delay rather than advance a PWR programme. In any case, the earliest date at which an order could be given for a PWR station had already slipped into 1983, as a result of the delay by the CEGB in activating the Westinghouse licence agreement, and might slip further.

/ (c)

(c) Although the problems faced by the electricity supply industry in meeting its EFL had revealed serious deficiencies in the organisation of the industry, it had to be recognised that the excess costs arose in part from factors outside the industry's control. Moreover, problems with the EFL would not in themselves justify a substantial reversal of the Government's nuclear policy.

(d) It had to be recognised that allowing the stations to continue would represent a substantial financial commitment for the electricity industry which might reduce its ability to finance future stations including PWR's. Every effort should be made to economise on capital spending. It would be worth, for example, considering whether savings could be made as the magnox reactors came to the end of their life, by building new reactors at the same sites and thus enabling the existing generating and transmission facilities at these stations to serve for a further period.

The Prime Minister, summing up the discussion, said that the group had considerable misgivings about the CEGB's ability to control its costs and to manage the industry's affairs in an economical and efficient manner. Nevertheless, on balance, they were prepared to accept that the two stations should be built as planned. It would however be essential for the CEGB to find offsetting savings elsewhere to bring its EFL for 1980/81 under control. There was undoubtedly much waste in the system and the Board could not simply expect to meet its financial problems by loading extra costs on to its customers. The Secretary of State for Energy should reserve a statement about the decision to allow Heysham II and Torness to continue until it could be made to the House of Commons after the Easter recess.

8 April 1980

10 DOWNING STREET

Sir Robert Armstrong
No10 asked to circulate this to all members of E.
3/4
3/4

CONFIDENTIAL

Note of a meeting to discuss the Heysham II and Torness Advanced Gas-Cooled Reactors, held at 10 Downing Street on 3 April 1980.

Present:-

The Prime Minister
The Secretary of State for Industry
The Secretary of State for Energy
The Chief Secretary, Treasury
The Parliamentary Under Secretary of State, Scottish Office (Mr Fletcher)
Mr J R Ibbs, Head of the Central Policy Review Staff

Secretaries:-
Sir Robert Armstrong
Mr P Le Cheminant
Mr G D Miles

---

1. THE PRIME MINISTER recalled that the possibility of cancelling or deferring one or both of the nuclear power stations under construction at Heysham II and Torness had arisen in the context of the problems faced by the electricity supply industry in meeting its External Financing Limits (EFLs). The Central Policy Review Staff had reported to E Committee on 24 March (E(80) 11th meeting, item 3) their view that the two stations should be allowed to go ahead as planned. The Committee had however felt that further information was needed before a decision could be taken and had

remitted the question to the present small group of Ministers under her chairmanship. As an aid to the discussion officials from the Departments most closely concerned had produced a factual report circulated to those present under cover of a minute from the Secretary of the Cabinet dated 2 April.

2. THE SECRETARY OF STATE FOR ENERGY said that although he shared misgivings about the capability of the electricity supply industry, the options open to Ministers on the Advanced Gas-Cooled Reactor (AGR) programme were severely limited. The Secretary of State for Scotland had pointed to the particular difficulties of cancelling the Torness station on which considerable sums of money had already been committed. Cancellation of Heysham II would cost less although a decision to do this would increase rather than decrease expenditure by the Central Electricity Generating Board (CEGB) in 1980/81. The South of Scotland Electricity Board were known to be unhappy at the prospect of proceeding with the Torness station on its own which would inevitably increase costs which would otherwise have been spread across the two stations. On balance he thought that the CPRS advice should be accepted.

3. In discussion the following main points were made:-

(a) Cancellation or deferment of the two new AGR stations would represent a serious blow to the morale of the nuclear construction industry, especially since it would come so soon after the positive encouragement to that industry contained in the Government's statement of last December about its nuclear policy.

(b) Similarly a decision to cancel would be taken to mean that the Government had already made up its mind on the choice between AGRs and PWRs for the future nuclear programme, without waiting for the safety assessment on the PWRs promise d in the December statement. Such an announcement would be likely to polarise the argument about reactor choice on Party political lines, lead to acrimonious public debate and might well, in the end, delay rather than advance a PWR programme. In any case, the earliest date at which an order could be given for a PWR station had already slipped into 1983, as a result of the delay by the CEGB in activating the Westinghouse licence agreement,

and might slip further.

(c) Although the problems faced by the electricity supply industry in meeting its EFL had revealed serious deficiencies in the organisation of the industry, it had to be recognised that the excess costs arose in part from factors outside the industry's control. Moreover, problems with the EFL would not in themselves justify a substantial reversal of the Government's nuclear policy.

(d) If had to be recognised ~~however~~, that allowing the stations to continue would represent a substantial financial commitment to the electricity industry which might reduce ~~their~~ ability to finance future stations including PWR's. Every effort should be made to ~~reduce capital spending~~ economise on capital spending. ~~including forecasts~~. It would be worth, for example considering whether ~~the late of Magnox~~ savings could be made as the Magnox reactors came to the end of their life, by building new reactors ~~at~~ on the same sites and thus enabling the existing generating & transmission facilities at these stations to serve for a little period.

4. THE PRIME MINISTER, summing up the discussion, said that the group had considerable misgivings about the CEGB's ability to control its costs and to manage the industry's affairs in an economical and efficient manner. Nevertheless, on balance, they were prepared to accept that the two stations should be built t as planned. It would however be essential for the CEGB to find offsetting savings elsewhere to bring its EFL for 1980 /81 under control. There was undoubtedly much waste in the system and the Board could not simply expect to meet its financial problems by loading extra costs on to its customers. The Secretary of State

for Energy should reserve a statement about the decision to allow Heysham II and Torness to continue until it could be made to the House of Commons after the Easter recess.

SECRETARY OF STATE FOR SCOTLAND

SCOTTISH OFFICE
WHITEHALL, LONDON SW1A 2AU

RESTRICTED

PRIME MINISTER

AGRs AND THE GOVERNMENT'S NUCLEAR POLICY

I have seen David Howell's minute of 31 March on this subject and I am also strongly of the view that cancellation of the Torness and Heysham AGRs would seriously damage the confidence of the nuclear industry and our prospects for pursuing a significant nuclear programme, involving the PWR.

If we were to cancel Torness and Heysham, the industry could well lose all confidence in the future of the AGR system with the result that the option of building AGRs at some later date could be closed off entirely. As David Howell has indicated, we do not as yet know when it will be possible to establish that PWRs can be built in this country. In the meantime, demand for electricity will continue to grow, albeit relatively slowly, giving rise eventually to the need for more generating capacity to be introduced.

These considerations give rise to the particular problems for the Scottish system. The South of Scotland Electricity Board already has, and will continue for the next 20 years to have, sufficient coal-fired generating capacity to burn all the power station coal likely to be produced from the Scottish coalfield. Transport costs make the burning of significant quantities of coal from the pits in North-East of England a distinctly uneconomic proposition, and the provision of additional oil-fired capacity is clearly out of the question. The next station to be built in Scotland must, therefore, be nuclear.

We cannot be certain at this stage that a PWR could be completed in time to meet the need for new generating capacity in Scotland, and there could well be difficulties about the first of this new type of station being built in Scotland. It seems to me highly desirable, therefore, that we should be able to build at least one more AGR in Scotland and, as I have indicated, I do not think that we could be at all confident of our ability to do so if the Torness and Heysham AGRs were cancelled. Equally, I do not see it as a practical proposition to proceed with Torness, while cancelling Heysham, since the station would be perceived as the last of the AGRs and would, as a result, be very likely to be afflicted by cost over-run and delay of the type experienced at Dungeness B.

I am also very concerned about the boost which cancellation of the AGRs would give to the activities of the anti-nuclear lobby. This could only aggrevate the difficulties which we will face in obtaining public acceptance of a PWR programme.

For these reasons, and for those put forward by David Howell, I hope that we can take an early decision to allow the Boards to proceed with their plans for Torness and Heysham.

I am copying this minute to the Secretary of State for Energy, the Secretary of State for Industry, the Chancellor of the Exchequer and the Chief Secretary and to the Secretary of the Cabinet.

M.T.

2 APRIL 1980

Original filed Energy July 79 - 7th Round Licensing.

Energy

Ref A01886

PRIME MINISTER

7th ROUND OF LICENSING AND DEPLETION POLICY

(E(80) 31, E(80) 32 and a letter dated 27 March from the Secretary of State for Energy to the Foreign Secretary)

BACKGROUND

There are three issues -

a. The size of the 7th Round (E(80) 31);

b. Revenue from the 7th Round (E(80) 32);

c. The timing of an approach to the oil companies about depletion policy (Mr Howell's letter of 27 March to the Foreign Secretary.)

2. Size of the Round: E decided last year that the 7th Round should comprise 70 blocks (E(79) 13th meeting). Mr Howell wants to be free to offer more blocks than this. His preferred method - paragraph 8 of his paper - would be to invite applications for 70 specified blocks and to allow the oil companies to bid for further blocks of their own choosing in the northern North Sea - with something like 20 to 40 blocks being handled in this way. This second proposal would no doubt be very welcome to the oil companies, but can be criticised on the grounds that it enables them to "pick the eyes" out of the remaining territory and thus diminish the attractiveness of future licensing rounds. Against this Mr Howell will argue that it is the quickest way to get extra production in the 1990s when North Sea output may be falling sharply. Colleagues will have to decide whether to accept Mr Howell's advice (reinforced by a late minute from the Foreign Secretary supporting a larger round for 'European' reasons). It will be important to distinguish between a larger round as such and a round enlarged by the choice route. The former may be easier to accept than the latter.

3. "Auctioning licences": Mr Howell wants to issue licences on the old discretionary basis as being, in his judgment, the best way of meeting our other objectives such as favouring smaller British companies. The Chancellor sees auctioning of at least part of the licences as a quick and easy way of raising a lot of money. No one knows how much could be raised this way but the very limited auctioning experiment in the 4th Round raised over £100 million and a

good deal more may be obtainable now. Auctioning is of course common practice in the United States of America. As a half-way house Mr Howell is now suggesting in his paper (E(80) 32) that more revenue could be raised by imposing higher licensing charges on at least some of the blocks, with discretion as to who gets the licences being left firmly in his hands. He estimates the possible receipts from this as perhaps £80-£100 million if the higher charges were confined to the 'own choice' blocks recommended in his other paper (E(80) 31).

4. Mr Howell is right in saying that auctioning limits his discretion, but there are two points to be made. First, it is by no means clear that Mr Howell's objectives are not obtainable within an auctioning system, especially if he follows the Chancellor's suggestion of auctioning some licences and allocating others. Indeed there may be other ways of solving the problem, eg applicants could be required to provide themselves with British or European partners. Second, the exercise of Government discretion in a situation where very large sums of money are at stake is an inherently uncomfortable operation. An auctioning system based on fair and known rules would be a major safeguard against charges of impropriety. There is of course absolutely no reason to suppose that such charges would have substance but the risk is there.

5. Consultation on depletion policy: At the meeting of E on 11 March (E(80) 9th Meeting, Item 1) when depletion policy was discussed, it was agreed that Mr Howell should defer discussion with the oil companies about depletion policy "until after the European Council meeting at the end of March". Now that the Council has been deferred Mr Howell wants to move straight away to such consultation while reserving any statement on policy until after the postponed Council is out of the way. The considerations which influenced the earlier decision, however, still stand and colleagues may feel that Mr Howell should curb his impatience for a further month. A late minute from the Foreign Secretary to Mr Howell has urged just this.

HANDLING

6. You may find it convenient to tackle the issue separately in the order set out above and to invite Mr Howell to introduce each in turn.

CONCLUSIONS

7. Subject to discussion, these might be:-

Either (i) to confirm the previous decision that the 7th Round should consist of 70 blocks,

Or (ii) to agree on a higher number (Mr Howell's original bid last year was for 100 blocks);

And (iii) to record a specific decision on whether the oil companies should be allowed to choose some of the blocks for themselves.

(iv) Either to agree that some of the licences should be auctioned with details to be settled between the Secretary of State for Energy and the Chancellor,

Or (v) to accept the Secretary of State for Energy's proposal for a higher charge for some blocks while retaining allocation by discretion.

(vi) To agree on whether Mr Howell should or should not enter into discussions with the oil companies on depletion policy before the next meeting of the European Council.

ROBERT ARMSTRONG

ROBERT ARMSTRONG

2 April 1980

CONFIDENTIAL

Qa 04994

To: MR LANKESTER

From: J R IBBS

AGRs and the Nuclear Policy

1. The Prime Minister is meeting with a small group of Ministers on Thursday, 3 April, to take a closer look at the need for the AGRs at Heysham II and Torness. She may find it useful to have my appreciation of the position in the light of discussion I have had within the CPRS.

2. When the CPRS first raised this issue with the Prime Minister in February, we noted that there was a strong prima facie case for a strategic review of the proposals to order the two stations. Briefly, that case was:

(i) that, with the prospect of lower economic growth, neither power station is needed on the traditional grounds of meeting electricity demand towards the end of the 1980s;

(ii) that, if the stations were postponed and became part of the Basic Programme, the PSBR would benefit by £3bn. over the next six/seven years;

(iii) that, although the stations could probably meet the 5 per cent Required Rate of Return (RRR), the economic case needed re-examination given that stricter than normal investment criteria might apply to non-essential projects undertaken during a period of capital rationing;

(iv) that the Chief Inspector of Nuclear Installations expressed reservations about the acceptability of the design for series orderings.

3. The CPRS recognised that there were weighty counter-arguments and asked for three weeks in which to examine the balance of the issues. The important counter-arguments revealed by our study were:

(i) that, if the two AGRs are postponed, many of the AGR specialists would withdraw from AGR manufacture permanently, some companies might leave the nuclear industry altogether, and a few would simply go out of business. Postponement would effectively shut off the AGR option for a number of years.

(ii) That postponement could undermine the Government's credibility on nuclear power with the result that any subsequent nuclear programme, whether AGR or PWR, would be more difficult to mount. (The impact on the PWR option is difficult to gauge. In our view it could be quite small.)

(iii)That, if the stations are built, the heavy expenditure will not come until we have the surge of North Sea oil revenues. The AGR programme would provide a means of ensuring that substantial sums ended up in the high quality end of British engineering industry.

(iv) That the two stations would save the equivalent of over 6 million tonnes of coal a year once they are in full operation towards the end of the 1980s.

4. We considered that the arguments for and against postponement were finely balanced, but the burden of proof should fall on postponement. We recommended therefore that the orders for the two stations should proceed as planned because the argument for change was not conclusive.

5. Following the discussion in E Committee on 24 March, however, it is clear that the decision on whether or not to postpone might turn on whether Ministers are prepared to reconsider the two basic planks of the Government's stated nuclear policy:

(i) The Basic Programme - the steady ordering of at least one nuclear station a year beginning in 1982;

(ii) Neutrality of Reactor Choice - maintaining the AGR as a viable alternative for the Basic Programme.

6. If Ministers wish to stick to both of these points of policy, our view remains that they have no choice but to allow the two AGRs to proceed as planned. This is because:

(i) Postponement of these two AGRs means forgoing the 1982 start date for the Basic Programme, since the start of the programme would have to await the outcome of the PWR inquiry. Our best guess for a first PWR order is the second half of 1983. But with the Westinghouse licence still not activated, staffing and other difficulties in the NNC and the NII, and mounting opposition to the PWR, any policy requiring a first PWR order before 1984 would be a fragile one.

(ii) Postponement is almost equivalent to abandoning the AGR option. The AGR industry would disperse. It could perhaps be reconstituted, but at a high cost and then only if the PWR failed to win acceptance (thereby guaranteeing series ordering for the AGR industry).

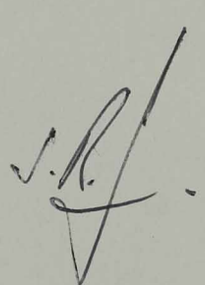
7. However, if Ministers are prepared to adopt both an obviously PWR-oriented policy and a deferred start to the Basic Programme, postponement of the two AGRs is a genuine option. The Government would then find itself with the following nuclear policy:

(i) The Ordering Programme. No power station order of either reactor type until the PWR has completed its procedural phases. Thereafter, a steady ordering programme of at least one station a year.

(ii) Reactor Choice. The PWR would be the first choice. The technology of gas-cooled reactors would remain as an insurance, but the AGR industry would be allowed to disperse.

8. This policy would be a major departure from that announced last December by the Secretary of State for Energy. Under it, there could be no guarantee that any nuclear power stations would be ordered during the life of this Parliament.

9. I am sending a copy of this minute to Sir Robert Armstrong.



2 April 1980

Ref: A01885

CONFIDENTIAL

PRIME MINISTER

AGRs and the Government's Nuclear Policy
(E(79) 54 and E(80) 30)
(Mr. Howell's minute to you of 31st March, Mr. Younger's minute to you of 2nd April and the Report by officials sent to you under cover of my minute of today's date)

BACKGROUND

E had a substantial discussion of nuclear power policy in October last (E(79) 13th Meeting, Item 1), based on a major paper by the Secretary of State for Energy (E(79) 54) which was largely concerned with a long-term ordering programme for nuclear stations, the role of the PWR and matters connected with the organisation of the nuclear industry. That paper took for granted the continuation of work on the Heysham II and Torness AGR stations which had already been authorised. On 18th December Mr. Howell made a statement to the House reflecting the conclusions of the E discussion. He referred to the existing AGR orders in the following terms:-

"The last Government authorised the CEGB and the SSEB to begin work at once with a view to ordering one advanced gas-cooled reactor station each as soon as possible. This is in hand."

2. Earlier this year, when the problems the electricity supply industry faced in living within its external financial limits (EFLs) came to notice, you asked the CPRS to look into the need for the Heysham II and Torness stations and to report back. Their report (E(80) 30) was considered by E on 24th March (E(80) 11th Meeting, Item 3). The CPRS recommended that the Heysham II and Torness stations "should go ahead as planned". Colleagues did not feel able to come to a decision on this recommendation without further information, and you asked officials to produce additional back-up material quickly for consideration by the Ministers immediately concerned under your chairmanship. I sent you the additional information earlier today, and your meeting is to take place at 12.30 pm tomorrow. In addition Mr. Howell has

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sent you a minute (dated 31st March) urging that continuation of work on the Heysham II and Torness AGR stations should be confirmed without delay. His arguments are partly political and partly industrial. Mr. Younger, in his minute of 2nd April argues strongly in support of Mr. Howell's view.

3. Given the mass of paper now available to Ministers, it may be helpful if I seek to pull out the central thread of the argument. Briefly:-

(a) In so far as financial appraisal of projects of this size and duration can have meaning, that for Heysham II (described in Annex 3 of the officials' paper) appears to be robust. The financial argument for it does not rest on questions of generating capacity (we have plenty of that), but on the cost savings it will provide when it backs older and more expensive generating capacity out of the system. The financial evaluation of Torness was made at an earlier stage when it was thought to be needed on capacity grounds in the Scottish system. Reductions in forecast electricity demand are now tending to shift the arguments for Torness from a capacity to a cost-saving basis as with Heysham II. There is no reason to doubt that on these grounds it will prove equally robust, though, for certainty, officials of the Treasury, the Scottish Office and the Department of Energy are seeking, with the SSEB, to update the Torness arithmetic. It is hoped that the results of this work will be available shortly after Easter.

(b) The above argument assumes the validity of the financial appraisals made by the electricity supply authorities. Doubt was expressed at the last meeting of E whether this assumption could properly be made. There are three elements in such appraisals: the methodology, the external assumptions (e.g. on future energy prices) and the internal assumptions (construction costs etc.). The Treasury satisfied itself last year that the CEGB's appraisal methodology was acceptable. The external assumptions are regarded as reasonable by Departments. The internal assumptions are not checkable within the present

framework of relations with the electricity supply authorities. Without a major change in those relationships the Government has to take them on trust. To do otherwise would involve the Government in taking the industry's investment decisions from it.

(c) As of now the only nuclear option open to the Government is to build AGRs. Mr. Howell's earlier hopes of ordering a first PWR in 1982 now appear unrealistic. Annex 1 to the latest report by officials describes the necessary sequence of events. An order in 1983 is possible, but could even slip beyond then. Thus if the Heysham II and Torness AGRs are cancelled it is unlikely that any new nuclear orders can be placed much before the end of this Parliament. A hiatus of this kind would not unduly damage our ability to order PWRs at a later date but, with other AGR work coming to an end, would be likely to do considerable damage to our ability to order further AGRs. A decision to cancel would therefore be tantamount to, or would be represented as, a decision to abandon the AGR and place all our future nuclear hopes on the PWR.

(d) A decision to defer, rather than cancel, one or both of the new AGRs would be likely to be almost as damaging to confidence in the plant-manufacturing industry as outright cancellation. As Annex 6 shows, a wide range of firms are involved and, quite apart from immediate damage, many would be likely to adopt a "once bitten twice shy" attitude to future nuclear, and nuclear-related business.

(e) In short, cancellation or deferment of Heysham II and Torness would inflict severe, and possibly mortal, damage to our ability to build AGRs in circumstances where we cannot order a PWR until 1983 at the earliest, and cannot be sure that we will ever be able (or want) to order them (quite apart from the possibility of another Three Mile Island, it is at least possible that the additional safety requirements which the NII may place on PWRs when they have completed their examination will alter the balance of economic advantage between them and AGRs).

4. Three other issues, touched on in the E discussion on 24th March, are dealt with in the report by officials:-

(a) Safety. You will remember that Mr. Heseltine expressed some doubt about the political acceptability of the safety formulation on AGRs set out in the Chief Inspector of Nuclear Installations letters attached to the CPRS report (E(80) 30). Annex 8 of the report by officials deals with this. The position seems secure, but the continuing discussions suggested in the Annex (and originally recommended by the CPRS in their paper) would provide a useful additional assurance.

(b) Drax B. The possibility of saving money by cancelling Drax B was mentioned. This is dealt with in paragraph 15 of the report by officials and in Annex 9. The conclusion that Drax B should be allowed to go ahead seems right.

(c) Alternative work for the plant-makers. The possibility of finding alternative work for the plant-makers if Heysham II and Torness were cancelled or deferred is dealt with in paragraph 12 of the officials' report. It does not appear to provide a realistic substitute to work on the stations.

HANDLING

5. You might begin by recalling the background and then invite Mr. Howell to lead off. The objective will be to see whether a consensus can be reached on the continuation, or cancellation, of Heysham II and Torness. Other issues contribute, but this is the central question.

6. Assuming that a consensus is reached, there remains the question of further handling. If the view of the group favours cancellation, or is hopelessly split, the issue will clearly have to go back to E (the next meeting being scheduled for 16th April). If on the other hand the consensus is in favour of allowing the orders to proceed as planned, Mr. Howell will certainly argue for an early announcement based on that decision without further reference to E. You will have to judge whether to accept this. The further work being done on the Torness costings would provide an excuse for deferment of final decisions should an excuse be needed. Equally, however, given that a decision in favour of continuing with Heysham II and Torness would be a confirmation of existing policy, you could let Mr. Howell have his way.

CONCLUSION

7. Subject to discussion the group can:-

Either: (i) confirm Heysham II and Torness and invite Mr. Howell to make an early announcement;

Or: (ii) refer the issue back, with whatever recommendations reflect the discussion, to E for final decision on 16th April. In this case you could either invite Mr. Howell to put a further paper to E or you could invite me to produce a paper summarising the issues.

D. Wright

(Robert Armstrong)

(approved by Sir Robert Armstrong and signed in his absence)

2nd April 1980

CONFIDENTIAL

Ref. A01872

PRIME MINISTER

AGRs and the Government's Nuclear Policy

At the end of the E discussion on AGRs and the Government's nuclear policy on 24th March (E(80) 11th Meeting, Item 3) you said that you would arrange for the Ministers directly concerned to meet again under your chairmanship to go into the issues more closely. A meeting for this purpose, to which the Secretaries of State for Industry, Scotland and Energy and the Chief Secretary, Treasury have been invited, is now to take place at 12.30 pm on Thursday, 3rd April.

2. After the E discussion you also asked officials of the Departments concerned to bring together additional information which would illuminate the main questions at issue. This has been done. The main material is in the Annexes to the attached document which brings together the salient points.

3. I am copying this minute and enclosure to the four Ministers who will be present at your meeting on Thursday.

D. J. Wright

(Robert Armstrong)

(approved by Sir Robert Armstrong and signed in his absence).

2nd April, 1980

CONFIDENTIAL

HEYSHAM AND TORNESS
Note by Officials

Introduction

At the end of the E discussion on 24 March about advanced gas-cooled reactors (AGRs) and the Government's nuclear policy, the Prime Minister indicated that Ministers would require further information before coming to a decision - and that as an aid to decision-taking she would hold an informal meeting with the Ministers immediately concerned. Officials were asked to provide further information as a basis for discussion in the small Ministerial group. This present report, which seeks to bring together the information immediately available, has been prepared by officials from the Department of Energy, the Treasury, the Department of Industry, the Scottish Office and the CPRS under Cabinet Office chairmanship.

2. The central question before Ministers is whether to confirm earlier decisions to allow AGR orders for Heysham and Torness to be carried through, or whether these stations should be deferred or cancelled. Secondary questions raised in the Ministerial discussion concerned certain design aspects of the AGR decision and the quite separate question of whether the Drax B coal-fired power station, at present under construction, might be cancelled.

The Heysham and Torness orders

3. A decision whether to confirm or overturn the present decisions to build AGRs at Heysham and Torness rests on the answers to 3 questions:-

a) What is the financial and economic case for the two stations?

b) Would cancellation or deferment have unacceptable implications for the construction of future nuclear power stations, whether AGRs or PWRs?

c) Would deferment or cancellation have unacceptable consequences more widely in British industry?

4. FINANCIAL AND ECONOMIC CASE

The role of sponsoring Departments in considering investments like Heysham and Torness is not to re-work the industry's calculations. Their job is to check that the industry has carried out a proper appraisal, and particularly to see whether the assumptions (especially those concerning the economy as a whole) are reasonable; whether sensitivity analyses have been carried out and hence that the projects' economics are robust; whether the financial consequences are spelt out and are consistent with public expenditure policy; and in the case of energy projects like Heysham and Torness whether they are consistent with the Government's energy policy. Inevitably this process requires the Government to put trust in the industry's business judgement. To go further and to become involved in the detailed costings would involve a substantial change in the Government's relationship with the industry concerned.

5. Heysham

On this basis, the Department of Energy and Treasury satisfied themselves in the course of normal procedures for giving investment approval that despite the inevitable forecasting uncertainties, there was a good prospect that investment in Heysham would meet the Government's stated requirement of a minimum 5 per cent real rate of return. This involved satisfying themselves both that the external economic assumptions (as described in the preceding paragraph) and the methodology of investment appraisal used by CEGB were adequate and realistic. Further details on the methodology are set out in Annex 3. Briefly, this methodology involves calculating the lifetime capital and operating costs of a station and its effects on other stations in the system. An appraisal of this kind was the basis of the recommendation, accepted by Ministers in June 1979, that investment approval should be given to Heysham.

6. The fact that the proposed investment at Heysham meets the Government's financial criteria does not of course mean that it is absolutely necessary to undertake the investment. Present controls are intended to provide

a uniform series of investment tests which, if followed, will permit the correct allocation of resources throughout the economy. It would nevertheless be possible, in present circumstances of public expenditure stringency, to argue that the national economic objectives point to rationing the availability of capital to heavy investment projects of this kind. This would however be a major new policy stance with implications extending well beyond the electricity industry. We are clear that likely future demand for electricity in England and Wales could be met without building further stations for the next 3 years and in Scotland for perhaps 6 years. But the justification for the investment is not a matter of overall generating capacity; new stations could generate electricity more cheaply. It is relevant that some 8 Gigawatts of the existing 56 Gigawatts installed capacity in England and Wales is oil-fired and 6 Gigawatts of the 14 Gigawatts under construction is also oil-fired, and this with fuel that is costly and relatively scarce. Cancellation of Heysham and Torness would also mean that the nuclear contribution to our energy supplies would be declining in the late 1980s as Magnox stations are taken out of service, and so the strategic advantage of introducing nuclear capacity to diversify fuels for electricity generation would be eroded.

7. Torness

In principle, parallel arguments apply in the case of Torness. There is, however, a difference in the methodology used by the SSEB in conducting its investment appraisals, in that the Board uses what they term a discounted differential cost method, which they consider more suitable for the size and composition of their supply system. Further details about this methodology are given in Annex 4.

8. Investment approval for Torness was originally given in 1978. At that time demand forecasts suggested that the station would be needed to meet demand in Scotland in the mid-1980s. Since then new economic and demand forecasts have become available, most recently during March, which suggest that the station will not actually be essential to meet demand until 1993/94. Nevertheless the same cost saving arguments that apply to Heysham ought, prima facie, also to apply to Torness since the

stations are similar, and the costs of providing fuel for alternative stations are if anything higher in Scotland. Officials are urgently seeking from the SSEB information on a comparable footing to that in Annex 3 for Heysham. They will circulate a note to Ministers as soon as this is available, but meanwhile they have no reason to expect a different conclusion in the Scottish case.

8. NUCLEAR CONSTRUCTION CAPABILITY

The last order for a nuclear power station prior to Heysham II and Torness was placed in 1970. That order - for Heysham I - was the last of the series of orders for AGRs placed between 1966 and 1970. Two of the five stations in that programme have been completed and the other three are nearing completion. The main new nuclear programme announced by the Secretary of State for Energy envisaged orders over a ten year period beginning in 1982. But that programme cannot include PWR stations until the safety assessment being undertaken by the Nuclear Inspectorate is completed probably in 1982, and there will then need to be a major public inquiry. (The timescale for the whole approval process is discussed in Annex 1 below). Our assessment is that it is unrealistic to assume that an order for a PWR could be placed before the middle of 1983 and slippage beyond this is by no means impossible. In the meantime the only nuclear stations which are available to be ordered in the United Kingdom are the AGRs.

9. We examine in Annex 6 whether the nuclear construction industry would be severely damaged by such a hiatus whether brought about by cancellations or deferments. The Departments concerned believe that, though cancellation or substantial deferment would not necessarily destroy our ability to build such stations in the long term, many firms would leave the industry and would be reluctant to re-enter it until the status of the PWRs was confirmed. Deferment would severely damage the confidence of the firms concerned, lead to a dispersal of design talent, and add substantially to the costs and the time necessary to resume any future programme of AGRs. We do not yet have the capacity to construct a PWR but we have in this case the ability to obtain licences from abroad, though the loss of confidence would also delay our ability to manufacture PWR components in the UK.

10. Similar arguments would also apply if only one of the two stations were deferred or cancelled. The nuclear industry's present programme relies on there being sufficient work for two stations. If only one station were ordered, then the risks of damage to the AGR-manufacturing industry, as described in the preceding paragraph, would substantially remain. Even if this did not happen, then the costs of the remaining stations would certainly be higher, perhaps by 15 per cent.

11. THE PLANT INDUSTRY

Annex 6 also considers the impact on the makers of the non-nuclear parts of electricity generating stations of the cancellation or deferment of the present AGRs. The firms concerned spread far beyond the turbine generator manufacturers and boiler-makers and embrace a wide spectrum of British industry. There is no doubt that in present economic circumstances and given the projected completion within the next 2 years of almost all the power stations at present under construction, the cancellation or deferment of Heysham II or Torness would have widespread repercussions.

12. We have considered whether a programme of refurbishment of existing plant might be an alternative source of work for the industry. A major programme of refurbishment of older power stations would by definition not assist the specialist and nuclear-orientated firms. Further, much of it is not of a kind which needs to be carried out in manufacturers' works, so that little design and shop floor work would result for the turbine generator and boiler manufacturers. Clearly, any such programme would have little application to newer, more efficient stations where long outages would be necessary. These would imply a reduction in the efficiency of the system as a whole, and a consequent increase in generating costs.

13. CONCLUSION ON HEYSHAM AND TORNESS

The CPRS paper (E(80)30) recommended that the two AGRs at Heysham II and Torness should go ahead as planned. Officials of the Departments concerned do not consider that the additional information presented in the report casts doubt on that conclusion. The key fact is that the PWR option is not currently available to us; is most unlikely to be available before 1983; and on the worst hypothesis may never be available. Against this background there is a strong argument for maintaining the AGR technology at least until the PWR uncertainties are resolved. The financial appraisals, (subject to confirmation in the case of Torness by the further official work), and subject to the inevitable uncertainty inherent in any investment with such a long lead time, suggest that the Government's normal investment criteria will be satisfied if the stations are allowed to proceed. The need to pay cancellation costs if work were stopped, and the amount of expenditure already committed, would in any case remove any prospect of saving money by cancellation in 1980/81.

14. SAFETY

At the meeting of E on 24 March concern was expressed that the formulation used by the Chief Inspector of Nuclear Installation in his letters of 13 and 19 March could be misunderstood by opponents of nuclear power if quoted out of context. We have sought to clarify this position and the formulation at Annex 8 has been agreed with the Chief Inspector. The Chief Inspector has agreed that the question is not whether the current design of AGRs is safe but whether it could be made even safer; it would be helpful for that to be clarified in further discussion as proposed in the Annex.

15. DRAX B

Annex 9 discusses the implications of cancelling the Drax B coal-fired power station. The cost of nugatory expenditure, including cancellation charges, of up to £250m, and the link between this investment and that of the National Coal Board in the Selby coalfield, suggests to us that this option is not a realistic one.

16. TIMING

Quite apart from political pressures for an early announcement, and given the uncertainties already created, it is clear that this matter needs to be decided one way or the other in the next few weeks.

LIST OF ANNEXES

1. Operational timetable for construction of nuclear stations

2. Heysham II and the CEGB's capacity requirements

3. Costs and economics of Heysham

4. Costs and economics of Torness

5. Past experience in nuclear construction

6. Implications for the power plant and nuclear industries

7. The National Nuclear Corporation

8. Possible design changes in AGRs

9. Completion of Drax and oil-fired stations under construction in England, Wales and Scotland

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ANNEX I

OPERATIONAL TIMETABLE FOR CONSTRUCTION OF NUCLEAR STATIONS

Note by the Department of Energy and Scottish Office

(a) AGRs

1. The present timetable calls for the placing of orders as soon as possible in order to maintain momentum.

2. The timetables for both Heysham II and Torness are similar, with both requiring a start to actual construction in August (with some component orders placed earlier). This is shown diagrammatically in the Appendix. The August start at Heysham II forms part of capital expenditure reduction by the electricity supply industry in England and Wales for the purpose of meeting its EFL of £187m for 1980-81.

3. Progress in effecting the reorganisation of the nuclear industry will also be important if momentum is to be maintained.

(b) PWRs

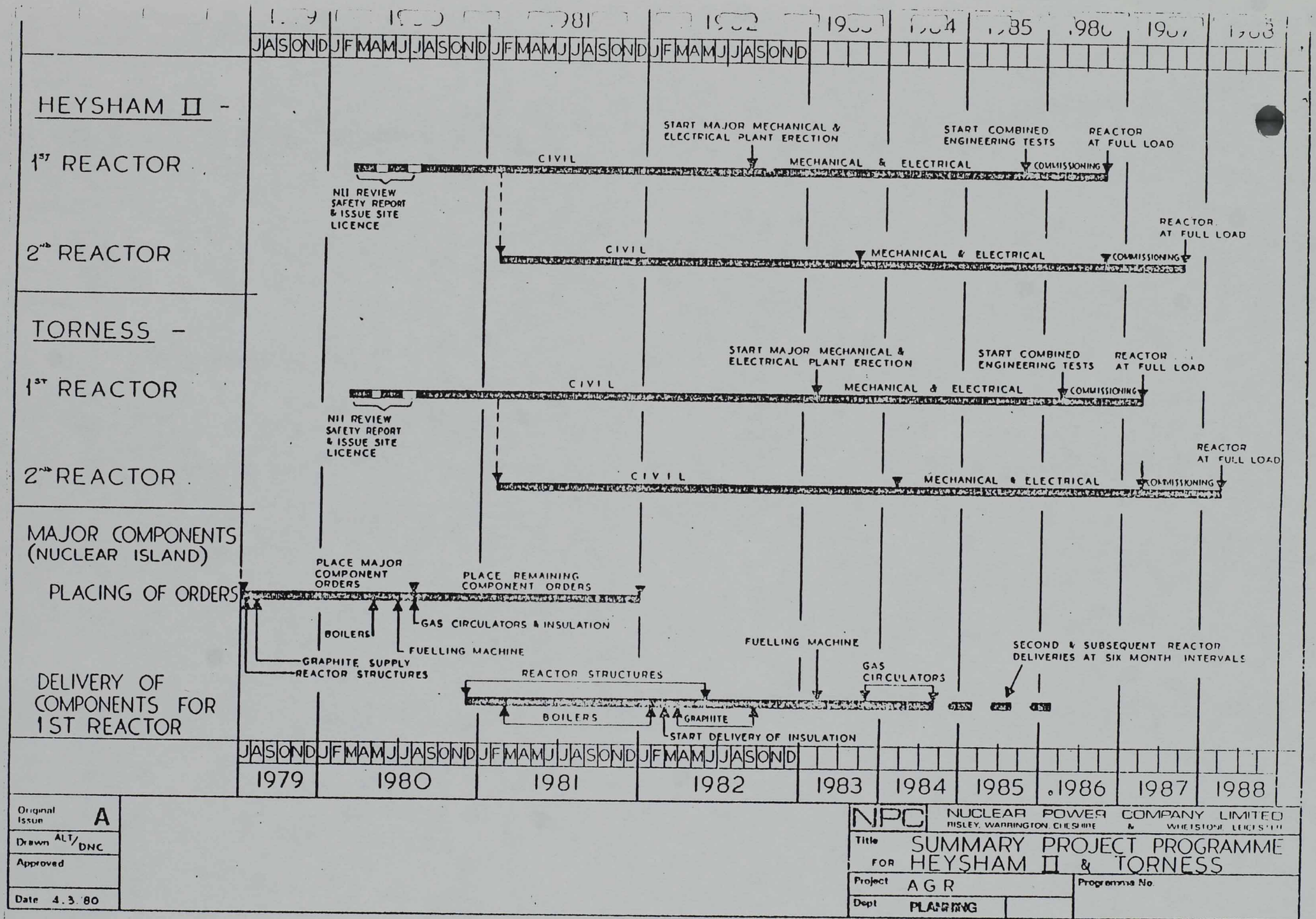
4. The Secretary of State for Energy in his statement on 18 December 1979 indicated that the aim should be to start construction of the first PWR in 1982, subject to safety and a full planning inquiry.

5. This was based on a very tight timetable which assumed immediate activation of the NNC's licence with Westinghouse, no slippage in items on the critical path leading up to construction by the end of 1982 and a public inquiry completed in reasonable time. A major element in the timetable in the work needed to obtain safety clearance for the first PWR which the Nuclear Installations Inspectorate (NII) consider will take about 2 years. They have examined this timetable with a view to shortening it but most of the events are sequential and the scope for saving time is limited at most to a month or two.

6. The Westinghouse licence has not yet in fact been activated and the necessary flow of information to the nuclear industry and the NII has not yet begun. Assuming, as seems likely, that the CEGB issue the necessary letter of intent this month so that activation of the licence can begin, the timetable will already have been delayed by 4 months. This means that a start on site in 1982 is probably impossible and that this timetable will now slip into 1983.

7. Indeed, the timetable for starting the PWR in the first half of 1983 is now very tight. In particular the PWR inquiry is likely to be a major and difficult exercise, and could take longer than allowed for, even assuming that the arrangements are given the necessary priority. Every effort will be needed to keep to the timetable but safety and planning issues cannot be rushed; and even a start on site in 1983 cannot be taken for granted.

8. The Department of Energy currently has in hand an exercise to update the PWR timetable in detail.



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NPC NUCLEAR POWER COMPANY LIMITED
RISLEY, WARRINGTON, CHESHIRE & WHETSTONE, LEICESTER

Title: SUMMARY PROJECT PROGRAMME FOR HEYSHAM II & TORNESS

Project: A G R

Dept: PLANNING

Programme No.

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ANNEX 2

HEYSHAM II AND THE CEGB'S CAPACITY REQUIREMENTS

Note by the Department of Energy

1. When investment approval was given to Heysham II in June 1979 the station was, on then existing load forecasts, required to meet forecast demand from 1987. The industry's latest (February 1980) load forecasts indicate a reduction in peak demand of 3.5 GW in 1986/87. The effect of this is to defer the requirement for Heysham II on capacity grounds for about 3 years on conventional assumptions about plant retirements, and assuming a planning margin of 28 per cent and that Heysham II can be built to time.

2. CEGB existing plant by fuel is set out in Table 1. Main plant currently under construction is set out in Table 2, together with projected completion dates. It will be seen that all plant except Drax is expected to be completed by 1982/83. Of this, AGR's account for 3.6 GW, and oil fired plant (excluding 2 sets at Grain on which work has stopped) for 5 GW. The economic usefulness to the system of this increment of oil-fired plant has been much reduced by oil price increases.

3. Examination of low electricity demand cases (averaging about 1 per cent per year to 2000) has shown that new capacity requirements should, again on conventional assumptions about plant retirements and a 28 per cent planning margin, and taking Heysham II as already committed, exceed the 15 GW of new plant envisaged in the 18 December 1979 statement.

4. Total committed expenditure so far on Heysham II is £97 million, of which £30 million has actually been spent.

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TABLE 1

EXISTING CEGB POWER STATIONS

	MW
Declared net capacity at 31 March 1979	56,129
Coal-fired	65.4%
Oil-fired	16.0%
Dual coal/oil	3.4%
Dual coal/gas	2.9%
Nuclear	7.5%
Other	4.8%

TABLE 2

GENERATING CAPACITY UNDER CONSTRUCTION: ENGLAND AND WALES

Station	Type	Start on site	Capacity	Completion date
Dungeness B	AGR	1966	2 x 660 MW	1981–82
Hartlepool	AGR	1968	2 x 660 MW	1982
Heysham I	AGR	1970	2 x 660 MW	1981–82
Grain	Oil-fired	1971	5 x 660 MW*	1980–81*
Littlebrook D	Oil-fired	1974	3 x 660 MW	1981–83
Ince B	Oil-fired	1972	2 x 500 MW	1980–82
Dinorwic	Pumped storage	1974	6 x 300	1982–83
Drax completion	Coal-fired	1978	3 x 660 MW	1984–86

* Work on the last 2 units has stopped; if resumed completion would be in 1982–83 or later.

FOOTNOTE TO TABLE 2

It should be noted that the Cross Channel cable link planned to commission in 1983 and 1984 will make an increasing contribution to capacity, reaching a maximum of 1.8 GW in about 1990. The CEGB envisage that this additional capacity will largely be offset by accelerating the closure of other plant.

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ANNEX 3

COST AND ECONOMICS OF HEYSHAM II
Note by the Department of Energy

COST

1. The CEGB's best estimate of the capital cost of Heysham II at March 1980 prices is £1250m, or around £1000 for kilowatt sent out (kwso). As no AGR orders have been placed for 10 years, estimating costs is difficult; however, as will be seen below, the estimated cost net of contingency and initial fuel is £1000m, and about 80% of this is based on contracts placed or tenders received (some tenders are still the subject of negotiation). The CEGB allow 17½% for contingencies (the SSEB allow 10%); the initial fuel charge is also included in the total capital cost. The CEGB estimate interest during construction as 17% of capital cost, or £212.5m; this figure is close to the £200m calculated by SSEB. Although the CEGB do not generally quote capital cost figures including interest during construction, they take it into account when calculating the Net Effective Cost of a station (see below).

2. The total cost of £1250m is broken down as follows:

	£m
a) Reactor group (liner, gas baffle, graphite, boilers, circulators and fuel machines)	420
b) Civil works, including insulation	205
c) Electrical (cabling, switchgear, etc)	82
d) Turbine generators and other mechanical	130
e) NPC fees	85
f) Controls and Instrumentation	25
g) Board's own engineering costs	45
	992
Add 17.5% contingency allowance	178
	1170
Add initial fuel	80
	1250

3. Of this £97m is now committed, and £30m has been spent. Based on an August 1980 start on site, the forecast incidence of expenditure is (in March 1980 prices);

£m

1980/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89
52.3	134	218	259	251	178	70	47	11
(of which fuel)			18	41	22			

4. Cancellation costs would be up to £67m, and would fall mainly in 1980–81.

ECONOMIC ASSESSMENT

5. The CEGB base the economic case for the station on their concept of "net effective cost" (NEC). This is explained in Appendix 1. Briefly it involves calculating the lifetime capital and operating costs of a station and its effect on other stations on the system. Because of the low operating costs of a nuclear station, it displaces higher cost fossil-fuelled plant on the system, making large savings. The CEGB's assessment, conveyed by the Chairman of the CEGB to the Energy Secretary, is that the NEC of Heysham on this basis is negative - ie that the expected lifetime savings, discounted at 5% in real terms, exceed the expected lifetime costs. The CEGB annuitise the figure and express it in per kw terms, so as to be able to compare the costs of stations with differing output capacities; the Chairman told the Energy Secretary that the NEC of Heysham was - £20 per kw per year.

	Nuclear	Coal
Capital cost per kw so	1000	490
Net Effective Cost £/kw/year		
Capital charges	84	41
Decommissioning	2	0
Other operating costs	12	10
Net system savings	-121	-30
TOTAL	- 23	+21

System savings are calculated by simulating the operation of the system over the life of the new station.

6. Any such calculation involves making assumptions about the movements of key variables until a distant point in the future - 25 years or so after the commissioning of a station which is not expected to produce full power until 1989. The outcome is inevitably subject to great uncertainty.

COST AND ECONOMICS OF HEYSHAM II

7. Two key assumptions are capital costs and fossil fuel prices. Capital cost has been discussed in paragraphs 1-4 above. The CEGB starting from a base before the recent NCB coal price increase, assume that NCB coal prices will rise by 5-6% per annum in real terms until 1986/7, and will rise more slowly thereafter. Taken from the present base, ie after the March price increase, the CEGB's assumption of coal prices equates to an average 2.4% annual increase to the year 2000; somewhat higher than the 2% assumed by the SSEB. The price of Heavy Fuel Oil (HFO) is assumed to double between now and 2000. Current thinking in the Department of Energy about pricing levels for use in the 1980 Energy Review suggests that it is likely to be based on prices broadly similar to those being used by the CEGB.

8. The CEGB assume a construction time of 8½ years from start on site to attainment of full power, and mean lifetime availability of 55%. Both these assumptions are more cautious than those used in the past.

9. System savings are a very important part of the calculation of Net Effective Cost. These savings come from the less frequent operation of less efficient (higher cost) fossil-fuelled power stations which are pushed down the merit order as new plant with lower operating costs comes in at the top. The savings made by a nuclear station are greater because of its lower fuel costs, as the following breakdown of the Net Effective Cost calculation shows:

	Nuclear	Coal
Capital cost per kw so	1000	490
Net Effective Cost £/kw/year		
Capital charges	84	41
Decommissioning	2	0
Other operating costs	12	10
Net system savings	- 121	- 30
TOTAL	- 23	+ 21

System savings are calculated by simulating the operation of the system over the life of the new station.

10. Since an immediate start on Heysham II is not required on capacity grounds, the comparison in NEC terms should be between its cost and that of keeping old plant on the system (about £14 per kW). So long as the NEC of Heysham is either negative, or less than that of old plant, it is worth building on economic grounds alone. Sensitivity calculations performed by the CEGB show that;

a. a 25 per cent increase in capital cost leaves the NEC just about at break-even point (-£1 per kW per year);

b. if the discount rate is increased to 7 per cent in real terms, the NEC is roughly zero; in other words, the rate of return of the project in cost-saving terms, is about 7 per cent;

c. if the rate of coal price increase used by the CEGB is halved, the NEC is still somewhat below that of keeping old plant on the system.

11. The economic case for Heysham II is not free from uncertainty. But there is a strong case for seeking to get more nuclear power on to the CEGB's system; diversity of supply and flexibility of operation cannot be largely assured, as in the past, by a mix of coal and oil stations - oil supply uncertainties make that too risky. Also, the Magnox nuclear stations, some 4GW of generating capacity, are drawing towards the end of their lives: Bradwell and Dungeness A are already having extensive outages following the discovery of cracks, and others could follow. The proportion of nuclear generation on the system could be declining in the late '80's, unless a start is made now on new capacity.

GOVERNMENT APPRAISAL

12. When the CEGB applies for investment approval for a new station, the Government has to satisfy itself that;

a. the demand forecasts justifying the capacity requirement are based on reasonable economic assumptions;

b. the economic case for the investment is based on reasonable cost and other assumptions;

c. the methodology used by the Board in constructing its economic case is generally sound;

d. the public expenditure consequences of the investment decision can be accommodated within the Government's public expenditure plans.

An appraisal of this kind was the basis of officials' recommendation to Ministers, accepted by them in June 1979, that investment approval should be given to Heysham II. (See letter from the Chief Secretary, Treasury, to the Energy Secretary of 20 June 1979, copies to other members of E Committee.) Before the December nuclear power policy statement, senior economists from the Treasury and the Department of Energy discussed their methodology in detail with the CEGB.

13. Broad appraisal along these lines has been seen as consistent with the traditional relationship between the Government and the nationalised industries. Government is responsible for the economic climate in which the industries operate, and needs to keep their broad strategies under review, particularly with respect to public expenditure implications. Government is also responsible for regulating both public and private industries with respect to such matters as safety and pollution. The industries are however expected to possess the necessary technical and managerial expertise to make technical choices and to run their day to day business without detailed Government intervention.

APPENDIX 1

EFFECTIVE COST

1 The economic benefit of a new station to the Generating Board is assessed by calculations which take account of its effect on all other stations in the system. The CEGB system is at present dominated by fossil-fired generating stations, with coal-fired capacity accounting for 70% or so. Nuclear stations have much lower fuel costs and displace fossil fired plant in the power station merit order. Using a test discount rate of 5% in real terms, the CEGB calculate that over the life of a new nuclear station, its total cost, both capital and running costs, will be outweighed by the fuel savings in other stations which it will make possible. Thus, although the initial capital cost of a nuclear station is higher, kilowatt for kilowatt, than that of a fossil fired station, the cost savings to the system as a whole over the life of the nuclear station make it the better economic choice. The CEGB call the net sum of capital cost less resultant savings the Net Effective Cost of capacity.

2 The calculation of the net benefit of a nuclear station rests on a number of assumptions and is subject to large uncertainties. The most important underlying assumption is the generally held view that fossil fuel prices will continue to rise substantially in real terms between now and the end of the century. Assumptions have also to be made about construction costs and periods, the performance of the nuclear station when commissioned and the growth of electricity demand. The conclusion that the total lifetime benefits of a nuclear station, discounted at 5%, exceed the total lifetime costs, is robust against considerable uncertainties. This is demonstrated by calculations made available to the Department of Energy by the CEGB. (These were set out in Annex D, Appendix 1 of the Energy Secretary's paper to E Committee in October 1973.) These are set out below. The (a) column shows the adverse change required in each individual basic assumption for it to cause lifetime costs to outweigh lifetime benefits. The (b) column however shows the further change required in each basic assumption for it to mean that the Net Effective Cost of introducing nuclear plant exceeds that of keeping older plant on the system. Extending the life of older plant can only be a temporary

expedient, so the table compares against a new coal-fired station. If the Net Effective Cost is assessed as negative, this indicates a strong economic case for the investment.

TABLE 1

	(a) Increases needed to raise NEC's to zero		(b) Increases needed to raise NEC's to £12/kW pa	
	AGR	PWR	AGR	PWR
Total Construction Cost increased by:	40%	80%	60%	110%
Nuclear island cost increased by:	80%	160%	120%	220%
Shortfall in rated output of:	30%	45%	40%	55%
Delay in commissioning:	5 years	7 years	7 years	9 years

3 Table 2 gives further figures showing the effect of changes in individual assumptions on the Net Effective Cost. It is apparent from these figures that if several adverse changes are combined - for instance, 3 years' delay and 30% capital cost increase on an AGR - the NEC will cease to be negative, though more adverse changes still will be required to bring the NEC up to that of a coal-fired station, even assuming that there are no delays and cost increases on the coal-fired station.

TABLE 2

Economic Sensitivity of Typical Plants

(Assuming 5% t d r)

	PWR	AGR	Coal-fired
NEC £/kW pa	-42/-35	-27/-20	19
Sensitivity of NEC to plant related factors £/kW pa			
a) Generation capital cost +10% or Station rated output 10% decrease	+4½/+5½	+6/+6½	+3½

	PWR	AGR	Coal-fired
b) Commission 12 months late	+7	+7	+2
c) Lifetime average annual station availability - 4% points decrease	+6	+6	+1½
Sensitivity of NEC to background assumptions (affects all stations) £/kW pa			
e) Coal price - 20%	+15	+16	-3
f) Oil price - 20%	+9	+9	+9
g) Coal and oil price - 20%	+21	+21	+3
h) Total nuclear fuel cycle cost + 20% OR Alternatively, uranium price up 60%	+5	+5	0

APPENDIX 2

HEYSHAM II

Assumptions used in CEGB economic assessment.

Test Discount Rate: 5% in real terms

Fuel Prices	1980	1986/7	2000/1	2015/6
Coal £/tonne delivered	33.1	42.1	53.6	70.9
Heavy fuel oil £/tonne delivered	83.9	99	168	189

Construction dates:			
	Start on site	August 1980	
	Completion of erection	December 1986	
	Commissioning at 60% full power	March 1987	Reactor 1
	Commissioning at full load	March 1988	
	Commissioning at 60%	March 1988	Reactor 2
	Commissioning at full load	March 1989	

Final rated capacity : 1250 MW (1.25 GW)

Mean lifetime availability : 55% (starting at 40%, rising to 70% or so, then declining)

On-load refuelling : Refuelling on 30% load

Saving compared with fossil fuel : £15m per TWh

Payback period (i.e. first date when lifetime benefit exceeds lifetime cost):

12 years from commissioning

COST AND ECONOMICS OF TORNESS

Note by the Scottish Office

1. As paragraph 7 of the Note by officials makes clear, it has not been possible in the time available for officials to examine the economic case for Torness in the same detail as for Heysham, because the same quantity of up-to-date analytical material was not immediately available. A further note will be put forward to Ministers as soon as possible, but the following is the information currently available.

2. SSEB estimates that the capital cost of the Torness AGR at March 1980 prices is £1,400m. This includes the initial fuel charge (£70m) and interest during construction (£200m). The Board has made an allowance for contingencies of 10% on the capital cost of the station and on the first charge of fuel.

3. In making an economic valuation of generating plant projects SSEB applies a discounted differential cost method which it regards as being particularly suited to the composition and size of its system. This method differs to some extent from that used by CEGB, because the effects of adding a large unit to the much smaller Scottish system are different. As the Scottish Boards do not build a large number of stations at the same time, the cost/benefit analysis looks carefully at the specific features of the next alternative major projects under consideration. In the latest studies the operation of generating plant has been simulated for each year over the period 1986/7 to 2005/6, using the most realistic data for generating plant availability. The fuel costs of alternative plants are calculated after allowing for availability and assume merit order operation.

4. For each year other works costs and annual capital charges are evaluated at a 5% discount rate. The cost of connecting new plant to the transmission system is taken into account. Annual differential costs of alternative investment programmes are then calculated, accumulated over the whole period under consideration and discounted to 1980 at the 5% discount rate.

5. SSEB is in the process of revising its load growth forecasts in the light of the current prospects for national economic growth. The Board's preliminary conclusion is that Torness is now not likely to be required to meet maximum demand on the Scottish system with a 28% plant margin until 1993/94, against the earlier assumption that the station would require to be commissioned in 1986/87.

6. The principal assumptions made by SSEB in considering the economic case for Torness are set out in the note attached. A comparison of the net present value of commissioning Torness in 1993/4 (ie a 6-year delay from the present timetable) with that of commissioning a coal-fired station in that year shows a cost advantage for the AGR, discounted to 1980, of £210m. A comparison of commissioning Torness in 1993/4 with commissioning it on the present timetable in 1986/7 shows a cost advantage in favour of the present timetable of £140m. If real fossil fuel prices were to rise more rapidly (coal by 2% and oil by 5% per annum) the cost advantage of the present timetable would be £260m.

7. There would be no significant economic advantage in proceeding with the construction of Torness if the test discount rate were increased to 7%, but the case on fuel policy grounds would remain because, for at least the next 20 years, SSEB will have sufficient capacity to burn all the coal likely to be produced from the Scottish coalfield. (The cost of importing coal from England is regarded by the Board as prohibitive).

Pattern of Expenditure

8. On the assumption that the construction of Torness would begin in March 1980, SSEB anticipated that the pattern of expenditure on the station in each year to completion, at March 1980 prices, would be as follows:-

£m

To date	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88
36	80	154	233	244	209	126	60	27

These figures do not include interest during construction. A start on construction in August 1980 would reduce the 1980/81 figure to £65m and

there would be smaller reductions in 1981/82 and 1982/83 which would be caught up gradually over the remaining construction period.

Experience with Hunterston B

9. Hunterston B was completed in 1977, some 3 years behind schedule, mainly because of design modifications. Cost experience was as follows:-

Original anticipated price	£97m
Actual out-turn	£143m

Make up of cost overrun

Inflation	£30m
Design etc modifications	£16m

Experience with Inverkip

10. SSEB's oil-fired station at Inverkip was completed in 1979, some 2 years behind schedule. Cost experience was as follows:-

Original anticipated cost	£102m
Actual out-turn	£169m

Make up of cost overrun

Inflation	£55m
Design etc modifications	£12m

SSEB has therefore been somewhat more successful recently than CEGB in completing power stations without major cost overruns or major delays.

Assumptions

(a) Torness capital cost (1986/87 commissioning) as at March 1980, including interest during construction and initial fuel - £1,400m

(b) Coal station capital cost including interest during construction - £750m

(c) Fuel prices (1986/87 as at March 1980 money values)

	£/Te	£/MWh
Coal	35.7	17.0
Oil	92.2	22.0
Nuclear AGR	-	5.35

(d) Economic lives

Nuclear	25 years
Coal	30 years

(e) Real price movements

Capital	4% pa
Coal	2% pa until 2000 then 3% pa
Oil	3% pa
Nuclear	1% pa from 1995

(f) Test discount rate - 5%

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ANNEX 5

PAST EXPERIENCE IN NUCLEAR CONSTRUCTION

Note by the Department of Energy

1. The problems of the AGR stations still under construction stem from -

a. building of 3 difference prototype designs virtuallly simultaneously;

b. inadequate design work before the commencement of construction;

c. in the Dungeness B case, inadequate resources on the part of the company undertaking the work, which ultimately went bankrupt.

The design on which Heysham II and Torness are being based is that of Hinkley Point B and Hunterston. The construction of these 2 stations was successfully completed with about 3 years' delay. The cost of Hinkley Point B rose in real terms by some 34 per cent (see annex) although with a new design the original cost estimates might have been over-optimistic. For comparison, Grain is now 5 years late, and its expected cost has increased by 26 per cent in real terms. By contrast, cost over-runs on the other AGR stations exceed 100 per cent in real terms, and the delay on Dungeness B is 10 years.

2. The Boards attach great importance to getting the benefit of the experience gained on Hinkley Point B and Hunterston, and are in many cases using the same contractors on the new stations for that reason. As at Drax, design phase contracts have been let first, so as to have a well-established design before hardware contracts are entered into or construction begun. This makes for a longer preliminary phase, but should lead to quicker progress once construction begins.

3. It is impossible to say with certainty that there will be no delays and no cost over-runs. What can be said is that the CEGB have put much effort into studying the causes of delays and over-runs on other stations, and are determined to do everything in their power to build Drax and Heysham II to time and within cost. They are very acutely aware of the implications for the nuclear programme of failure to do this.

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APPENDIX

COST OF HINKLEY POINT B

	£m
Original estimate	95
Out-turn	156

of which

Inflation	30
Non-inflation	31

Real terms cost increase: 34%

ANNEX 6

IMPLICATIONS FOR THE POWER PLANT AND NUCLEAR INDUSTRIES

Note by the Departments of Industry and Energy

1 The industries consist of:

a. The National Nuclear Corporation, who have the main responsibility for the design and construction of nuclear power stations in the UK;

b. the boiler manufacturers;

c. the turbine-generator manufacturers;

d. civil contractors and a large number of component suppliers;

e. British Nuclear Fuels Ltd.

2 Apart from the two new AGRs, the industries have had no new nuclear power station orders for ten years. Their present work-load arising out of the nuclear programme consists mainly of:

a. completing the first AGR programme at Dungeness, Hartlepool and Heysham I, which should be accomplished by 1982;

b. design contracts and preliminary sitework for the Heysham II and Torness AGRs;

c. preliminary work on the PWR design and safety case pending activation of the Westinghouse licence.

3 If the new AGRs are cancelled, there will be a period of months, perhaps longer, between completion of the first AGRs and start of construction of the PWR when the nuclear programme will be at a standstill with no nuclear stations under construction. The plant suppliers will be out of work for a much longer period. How long this period will be depends in part on the timetable for the PWR which is at present slipping and will continue to slip until the NNC's licence with Westinghouse is activated. The Nuclear Installations Inspectorate now consider that the earliest date by

which they could be ready for the major PWR inquiry which the Government has promised is mid-1982. Allowing time for the inquiry and subsequent decisions, the Government's target date of 1982 for the PWR order is slipping into 1983. A major effort will be needed to avoid further slippage.

4 The implications of cancelling the AGRs and having this kind of standstill would differ for the various parts of the nuclear industry.

5 The National Nuclear Corporation has been weakened by the 10 year decline in our nuclear programme, and the Government has stressed publicly the wish to see a steady build up of the company into a strong design and construction company fully able to supply nuclear power stations at home and abroad. In fact this will depend on organisational changes now in hand including the appointment of a new Chairman. But the prospect of a firm nuclear programme backed by Government is essential if the company is to recruit and retain management and staff of the right calibre and develop successfully.

6 There are at present nearly 400 professional and technical staff working on Heysham II and Torness. Some could be redeployed on peripheral activities such as work for BNFL and perhaps back fitting of existing nuclear stations, to tide them over a hiatus in the nuclear programme. But some skilled staff would inevitably have to be made redundant. The problem would be particularly severe among 150 or 200 site supervisory staff who, though important for the long term programme, would be virtually unemployable without any nuclear stations under construction. Site staff coming off existing sites would also be at risk even though they generally have specialised skills and long experience which the National Nuclear Corporation would not wish to lose.

7 Overall the impact on the morale of NNC staff and its ability to reverse its recent high rates of wastage would be damaging, and the ability of the company to undertake the 10 year nuclear programme would be weakened.

8 The effects of cancellation on the power plant industry would be serious. Demand is running at very low levels. There have been no home orders since Drax was brought forward and competition in the export markets that are open to us is fierce and likely to intensify. The principal effects are likely to be:-

(a) NEI Clarke Chapman Ltd. The company are leaders in boilers for oil fired stations, mixed oil/coal fired stations and AGR stations. But they do not have an up to date design for coal fired boilers. For that reason alone, the company faces a difficult long-term future. Though NEI have other industrial water-tube and small package boiler interests, their power station boiler activity is concentrated at Clarke Chapman at Gateshead. In the absence of the AGRs Clarke Chapman would almost inevitably close with a loss of at least 1300 jobs in Gateshead and a similar number among sub-contractors. Over 1000 jobs in site construction would also be lost.

(b) Babcock Power Ltd, unlike NEI-Clarke Chapman, produces a full range of boilers from power station boilers, through industrial water-tube to small package boilers. However, as a group, NEI's total boiler business exceeds Babcock Power's. In total, Babcock Power employ over 9000 people, including 4000 at Renfrew where considerable modernisation is taking place at an estimated cost of over £50M on a phased basis over a period of years. The company estimate that the work for Heysham II and Torness will be worth over £60M to them and would occupy about 20% of the Renfrew facilities at peak. The loss of the work would probably result in the loss of 250-300 job opportunities at Renfrew. Babcock Power have been particularly successful in the export market, particularly with coal-fired plant. However, the margins available on export work are such that a base load of home orders is essential for the company's viability. They claim a

reasonable mix would be 2/3 home stations, 1/3 other orders.

(c) NEI Parsons Ltd are already declaring 500 redundancies this year. The remaining workforce of 4500 at the Heaton works at Newcastle would be reduced by 1000 by the cancellation of the AGRs, and by a further 1000 if current export efforts are unsuccessful. In that event Parsons itself could be at risk and the knock on effect would result in a similar number of jobs being lost by sub-contractors. At present, the only large steam turbine generators in the Parsons works are 3 x 660 MW sets for Drax. They have a small share of the work on 2 x 540 MW sets for Canada. They are also building 2 x 60 MW sets for India and 2 x 45 MW sets for Ireland.

(d) GEC Turbine Generators Ltd has 6,200 employees manufacturing large steam turbine generators on 4 sites at Rugby, Trafford Park, Stafford and Larne. There are also 1,250 employees in their Construction Division. The loss of the Torness order would not be crucial to the company's survival but could bring on the closure of one of its four factories.

9 Cancellation of the AGRs would be a particularly serious problem for many component manufacturers in the nuclear industry, given the current recession in the heavy engineering industry and the critical importance to that industry of maintaining internatio competitiveness by continuing movement up market technologically.

(a) Whessoe Heavy Engineering Limited are to be responsible for fabricating almost all the steelwork within the two AGR nuclear islands - in contracts awarded last year together worth £84M and representing over half the company's business to mid-1983. Cancellation of Heysham and Torness would create a real risk that this substantial company could not survive. It is virtuall certain that no sufficient amount of alternative

business could be found to preserve the 2500 jobs at stake. Whessoe are spending some £5M on refurbishing shops, plant and equipment and on new facilities for the AGR orders, and believe that they can look forward to supplying component parts for the PWR.

(b) James Howden Limited would lose a contract for gas circulators worth £80M due to be placed in June, representing 30% of their workload up to 1986 and for which at least £6M is being invested in new machine tools and a specially purchased factory. Extensive preparation has gone on over the last 2½ years. A deferment of two years or cancellation would, despite the existing expensive commitments, cause Howdens to abandon their work thus making disposal of 400 staff probable. Very little alternative work would be likely to be found in current market conditions.

(c) British Acheson would lose orders worth £40M, which represents about 30 per cent of their workload over 2½ years ahead. The sub-contract for the supply of raw material from the USA has already been placed.

(d) Strachan and Henshaw, at present on short-time working and prepared for the first phase of fabrication in the middle of this year, with a major commitment to manufacture in the following quarter, would, by cancellation, lose a prospective £30M contract for fuel handling equipment. This would represent 30% of the company's total workload and some 300 jobs would then be in jeopardy. For this contract a new workshop has been built and the latest machine tools have been bought and are being installed this month.

(e) Weir Pumps Ltd are heavily dependent on contracts for heavy pumping plant as a major contributor to their workload in late 1980 and 1981.

Once component manufacturers had disbanded teams and facilities brought together for the AGRs it would be extremely difficult, perhaps impossible, to bring them together again in a few years time if need for another AGR arose. It would certainly be very hard to convince the firms concerned to believe in any future AGR orders and the credibility of the gas cooled option would be much diminished.

10 The Civil works contracts are worth more than £300M for the two sites. McAlpines are to be employed at Torness and Taylor Woodrow at Heysham.

11 British Nuclear Fuels Ltd have warned that loss of fuel fabrication and reprocessing work would worsen their future turnove and profitability, and delay Urenco's enrichment plans.

CONFIDENTIAL

ANNEX 7

THE NATIONAL NUCLEAR CORPORATION

Note by the Department of Energy

1. The Government has stressed publicly the importance which it attaches to the sready build-up of NNC into a strong design and construction company, fully able to supply nuclear power stations at home and abroad. Resolution of the company's present weakness and low state of morale will depend partly on the appointment of a new chairman, the introduction of a simplified management structure and stronger management and clarification of NNC's relationship with the CEGB. But the prospect of a firm nuclear programme backed by Government is another important element in the future stengthening of the company.

2. NNC have about 1,100 headquarters staff, split beteween Risley and Whetstone. Risley are working largely on the Heysham II and Torness projects with a smaller effort on commercial fast reactor design. Postponement of the new AGRs would therefore be of major concern to Risley. Whetstone are mainly engaged on the AGRs that are being completed at Heysham I and Hartlepool. As staff become free at Whetstone they are being transferred onto PWR work which currently employs about 80 people.

3. There are at present nearly 400 professional and technical staff working on the Heysham II/Torness projects. Of this total, appriximately 250 are engaged on design, performance, and safety work. The remaining 150 are deployed on project management, progress, inspection, planning, quality assurance, and research and development. Some of these staff could be redeployed on peripheral activities, such as work for BNFL and perhaps 'backfitting' of existing nuclear stations, but redundancies would be inevitable. The main difficulties would lie with the 150 support staff because of the standstill in the nuclear programme between completion of the first AGRs and the start of construction of the PWR.

4. NNC also employ around 700 site staff. There are already surplus staff coming available from the existing sites. Although some are locally recruited, they are generally staff with special skills and long experience whom the Corporation would not wish to lose.

5. Overall the impact on the morale of the company and its ability to reverse its recent high rates of wastage would be damaging. The ability of the company to undertake the 10-year programme would almost certainly be weakened.

ANNEX 8

POSSIBLE DESIGN CHANGES IN AGRs

Note by the Department of Energy

1. The basic approach of the HSE towards nuclear safety is:

   a. to require the meeting of absolute standards without which no licences would be considered; and

   b. over and above those absolute standards, to seek further reductions in possible risks where these can be achieved at reasonable cost.

2. There is no question of the AGRs being unsafe, as the Chief Inspector has made clear. His position is that if the Generating Boards were to want to order a substantial number of further AGRs, he would want the possibility of certain design changes to be explored and implemented if reasonably practicable. If, however, they were not practicable, he can see no reason why the existing Heysham II design could not be used as the basis for such a programme.

3. The design changes he has in mind stem from elimination of the 'gas baffle', a large steel dome inside the reactor which separates the gas flows in such a way as to ensure that the core is cooled. It has never been established whether a more simple "once through" gas flow is practicable, or not.

4. Even if elimination of the gas baffle were practicable, the NII would not object to, say, two further AGRs orders of the Heysham design before embarking on a substantial programme of Mark II AGRs. Nor would they object if the CEGB wanted to slot one or two AGRs of the Heysham design into a programme of PWRs, for instance for use on sites particularly suited to the AGR.

5. The issue therefore is not whether the current design of AGR is safe but whether the AGR could be made even safer for a large programme. It is an issue which might usefully be clarified (taking strict care to avoid publicity) in further discussions between the Generating Boards, the NNC and the NII in case our programme is eventually based on gas-cooled technology, but it is not in itself a reason for abandoning that technology.

6. The above summary has been agreed with the Chief Inspector of Nuclear Installations. An additional note by the Nuclear Power Company is attached.

NUCLEAR POWER COMPANY LIMITED

HEYSHAM II/TORNESS POWER STATIONS

Integrity of Gas Baffle

Introduction

The gas baffle is a steel cylindrical vessel of about 14 metres diameter situated within the concrete reactor pressure vessel. It has a torispherical head and is anchored at its lower end into the bottom slab of the concrete pressure vessel.

The function of the gas baffle is to separate gas flows within the reactor vessel so that cooling of the core is achieved. It is asked to withstand a maximum pressure differential of 3.6 N/mm^2 (52 lb/in^2), though it can be demonstrated that reactor safety is not at risk even if a large hole is postulated in the baffle.

During the early design stages of the new AGRs, consideration was given as to whether a satisfactory reactor design could be achieved without including a gas baffle. It was found that significant economic penalty would result, unless significantly higher graphite temperatures were accepted. Data aimed at justifying the acceptability of these higher temperatures could not be acquired for several years. Furthermore, an AGR design without a gas baffle would involve a major departure from the Hinkley 'B'/Hunterston 'B' design and the benefit of their operating experience would be reduced.

The requirement for a structure of the highest integrity has been recognised in the design of the gas baffle and this is readily achievable because of the easy duty to which the vessel will be subjected in service.

Duty

All the service conditions are well understood; they comprise modest pressure loadings and almost ideal temperature conditions (up to about 360°C), i.e. well above any brittle fracture regime yet below any significant creep condition. There are no severe temperature differentials or thermal shocks to cater for, and no significant effects of radiation.

Design

The easy design conditions allow the choice of a well-known carbon steel which has excellent fabrication properties, is easily welded and is defect tolerant. The light duty also allows margins to be built into the design without producing material thicknesses which would adversely affect material properties or

the sensitivity of non-destructive testing.

Gas baffle integrity is insensitive to defects far beyond those which could conceivably be present in service (a full thickness crack of at least 800 mm would be necessary to lead to disruptive failure), yet it can be demonstrated that reactor safety could tolerate large failures, such as the detachment of the largest nozzle, and would only be put at risk in the event of catastrophic failure of the complete gas baffle.

Great attention has been paid to design detail to eliminate undesirable features, such as fillet welded connections, which experience has shown can put vessel integrity at risk.

Fabrication, Inspection and Testing

All aspects will be at least to the high standards demanded for nuclear pressure vessels, so giving assurance that there will be no manufacturing deficiency which could significantly erode the large margins built into the design.

In-Service Inspection

The inside surface of the gas baffle is available for in-service inspection. In view of the fact that only very large defects would be of concern to gas baffle safety, any in-service examinations carried out could be visual, using remotely controlled cameras.

Conclusion

All possible steps have been and will be taken to secure the integrity of the gas baffle. It is beyond doubt that the integrity of this vessel will be superior to that of any steel reactor pressure vessel, or any other comparably-sized steel pressure vessel, for the following reasons :

It has a well-understood, easy duty, i.e, ideal temperatures, no thermal shocks, no significant irradiation.

It is of conservative design allowing an ideal material choice, margins on allowable stress levels, thin materials giving good properties and easy inspections, and large acceptable defect sizes.

Its fabrication, inspection and testing standards are above those required for nuclear vessels.

It is additionally comforting to realise that, unlike most pressure vessels, quite large local failures could be tolerated without safety hazard.

ANNEX 9

COMPLETION OF DRAX AND OIL-FIRED POWER STATIONS NOW UNDER CONSTRUCTION IN ENGLAND AND WALES

Note by the Department of Energy

1. The CEGB were asked by the then Government in July 1977 to bring forward the order for the completion of Drax power station. The 3 x 660 MW first tranche has been operating for some years; the 3 x 660 MW second tranche was intended to be substantially a replication of the first tranche. Design phase contracts were placed in late 1977 for the boilers (Babcock and Wilcox) and turbine-generators (NEI/Parsons). Hardware contracts for these items were placed in November 1978, when work began on site. It is planned that the 3 x 660 MW sets should commission successively in 1984, 1985 and 1986.

2. £100 million has been spent to date on the project; estimated further expenditure to completion at March 1980 prices is £782 million. The then Government agreed to compensate the CEGB for the cost to them of bringing forward the order. Under the Nuclear Safeguards and Electricity (Finance) Act 1978 the Government is authorised to pay up to £50 million for this purpose. The Conservative Party, then in opposition, did not divide the House over the Bill. Compensation payments are governed by a contractual agreement between the Government and the Board; compensation is paid in arrears on the basis of interest costs incurred on the Board's expenditure. No compensation is payable for expenditure incurred after March 1986.

3. The main reason for ordering Drax early was to help the power plant industry. Drax was the first main power station order placed for about 5 years (Littlebrook was ordered in 1973; Drax in 1977-8). Extensive commitments have been entered into by manufacturers and contractors, and cancellation would remove the entire home order book of NEI/Parsons, and with it almost all the work now in their factory. It would also perhaps put a question-mark in the minds of foreign buyers over the coal-fired boiler technology of Babcock and Wilcox. Cancellation charges of the order of £110 million would be incurred: these would fall largely in 1980-81, increasing the electricity industry's financial difficulties in that year. In addition, up to £50 million on work in progress is already committed in 1980-81.

4. The CEGB are concerned about the poor productivity and constant labour disputes which have plagued large construction sites in recent years. They are using Drax as the test site for a new construction strategy including -

a. design phase contracts before hardware contracts, so that design is well established before manufacture begins, and the need for disruptive changes during manufacture is reduced or eliminated;

b. contracts with an element of incentive for contractors to complete their tasks on time (some earlier jobs were on the basis of cost reimbursement);

c. a site management committee bringing all the contractors together with the unions in common dispute procedures and bonus arrangements.

The Board have worked closely with both unions and management on this strategy. Its success could have an important effect in future nuclear power station construction.

5. Since the second tranche of Drax was ordered, coal/oil price relativities have shifted in favour of coal. The oil-fired stations under construction are correspondingly less attractive than when ordered; Drax more so. Oil supply uncertainties add to its attractions.

6. Drax is close to the new Selby coalfield, where production is now expected to begin in late 1982. It makes obvious sense to minimise transport costs by using the Selby output at Drax.

7. In brief;

i. Drax completion was ordered at the request of the previous Government; compensation is being paid under a contractual agreement with the Board. It would be most unusual to go back on an arrangement of this sort;

ii. cancellation would be a serious blow to the firms concerned, and particularly to NEI/Parsons and Babcock and Wilcox;

iii. cancellation charges would be onerous, and might well increase the electricity industry's financial difficulties in 1980-81; there would be a prospect of nugatory expenditure of up to £250 million, for which the CEGB could be expected to seek compensation;

iv. the success of the new contract and site strategy being tried by the CEGB at Drax could have an important effect on future nuclear power station construction;

v. Drax makes sense both as an outlet for coal from the new Selby mines and also in view of the movement of the coal/oil price relativity in favour of coal since the project was begun in 1977-8, and oil supply uncertainties;

vi. cancellation would be very badly taken by the NUM and could well be construed as an indication of lack of Government confidence in the future of the coal industry.

OIL-FIRED STATIONS

8. Construction of all these stations is far advanced; halting the projects would save little, and would mean regarding much past expenditure as nugatory. The new stations are expected to displace generation in older, less efficient oil-fired stations.

GRAIN AND LITTLEBROOK

9. A complete cessation of work on both these sites would save £30-40 million in 1980-81 after taking account of cancellation charges; expenditure of £800 million, on which interest would continue to be payable, would be rendered nugatory. Industrial relations 'ripple effects' could be expected

at other sites. Work has stopped on the final two sets at Grain; consideration is being given to moving the turbines to Heysham II. Stopping work on the third set at Littlebrook would save £5 million in 1980-81, but this would be likely, in the CEGB's view, to affect productivity adversely on a site which is currently going well.

INCE B

10. Cancellations would save £10 million, leaving £200 million of nugatory expenditure.

SCOTLAND
(Note by the Scottish Office)

11. The 1320 MW oil/gas fired power station at Peterhead in the district of the North of Scotland Hydro-Electric Board is the only station under construction in Scotland at present. It is anticipated that the first 660MW unit will be commissioned in the summer of 1980 and the second in the Spring of 1981.

DRAX COMPLETION

The main contractors are -

Civil	Tarmac Construction
Boilers	Babcock and Wilcox
Turbine-generators	C A Parsons
Steelwork	Arrol and Findlay
Consultants	W S Atkins and Partners.

FCS/80/70

SECRETARY OF STATE FOR ENERGY

Depletion Policy

1. Thank you for your letter of 27 March.

2. I appreciate that the postponement of the European Council (which is now likely to meet on 27/28 April) causes difficulties. But the reasons for E Committee's decision on 11 March that discussions with the companies should be deferred until after the meeting of the Council apply just as strongly in the somewhat extended period of delicate negotiation which we now face. Our aim is to maximise the chances of a conclusive and favourable decision at the April Council; and this points to our doing all we can to exclude the risks that a premature public debate on depletion policy, sparked off by leaks from the companies, will contribute unhelpfully to what may in any case prove to be difficult discussions on energy. I would therefore strongly urge that we stick to our decision to defer the consultations until after the Council.

3. I am sending copies of this letter to the Prime Minister, other members of E, Sir Robert Armstrong and Sir Kenneth Berrill.

(C

1 April 1980

(CARRINGTON)

Foreign and Commonwealth Office

RESTRICTED

2

Prime Minister

There will - I hope - be a much fuller display of the costings etc. from the Cabinet Office and CPRS by tomorrow night. (Meeting on Thursday).

ce Mr Wolfson
Mr Duguid

PRIME MINISTER

MT

AGRs AND THE GOVERNMENT'S NUCLEAR POLICY

RL
31/3

I am very concerned that the uncertainty surrounding the AGRs is undermining our commitment to nuclear power as reflected in the Government's December statement.

That statement was designed to revive our nuclear programme and give confidence to our nuclear industry, after the decline in our nuclear programme over the last ten years. It reflected the views of the electricity supply industry not only that nuclear power was the most economic but that there were strong arguments for reducing their dependence on coal by further diversification. The Government's stance has been well received, nationally and internationally. There is every chance of success provided we do not falter.

The CPRS exercise has aroused fears that our backing for nuclear power is less firm than had been thought. Already recent recruits to the industry have doubts about its future. If we cancel the new AGRs now- whether one or both - only three months after confirming that they would go ahead it will be very damaging, not just for the gas-cooled option, but for the PWR and the 10 year programme to which we have given our support.

Industrial commitment to the AGRs is now substantial, as the CPRS have reported, not only in the power plant industry but among many engineering firms which supply components. If we cancel, some firms will close and others will be badly hurt. Launching a PWR programme will be much more difficult against the loss of confidence that will entail.

The proposed new Chairman of NNC, Mr Dennis Rooney, has made clear to me the importance which he attaches to having firm Government backing for the nuclear programme which he will be implementing. If he were now to withdraw, leaving us to start once again on the search for a candidate, it would be a serious set back, not least for the PWR, on which our ability to progress is dependent on reorganisation of the nuclear industry. The timetable for the PWR is already slipping and we need to avoid further delay.

There is no doubt in my mind that we should aim to make the PWR the main reactor system for this country in the long term. But we cannot yet be certain that the PWR will receive the necessary safety and planning consents in this country; and until its viability has been established, which is bound to take time, we cannot afford to discard gas-cooled technology, which is effectively what we would be doing if we cancelled the new AGRs.

If we cancel we may well also jeopardise the present bipartisan support for our nuclear policy in Parliament. It will be interpreted as a premature decision in favour of the PWR and run the real risk of making the nuclear programme and the PWR a party political issue, again undermining industrial confidence.

Internationally we have strongly supported the need to expand nuclear programmes. Without the new AGRs, the UK programme will actually be declining in the late 1980s as the first Magnox stations come out of service.

Against this background I believe we should concentrate all our efforts on making progress with our declared policies unless there really are new and powerful reasons to the contrary. To over turn a major long term strategy for short term considerations such as the external financing limit of the electricity industry in 1980/81 - vital though this is - would be to mix up two quite separate priorities and would be wrong.

Cancellation of the AGRs will make, at best, a marginal contribution to the EFL problem in 1980/81. I am pressing the CEGB hard for economies and I hope to put a paper to colleagues on the general EFL problem immediately after Easter.

I very much hope therefore that when we meet this week we can agree to reaffirm the AGRs without delay, as the CPRS recommend.

I am copying this to the Chancellor of the Exchequer, Secretary of State for Industry, Secretary of State for Scotland and the Chief Secretary and to the Secretary of the Cabinet.

DH.

Secretary of State for Energy
31st March 1980

Please file for 3rd April. [Energy]
Cl. 28/3.

Caroline dear –

Can you arrange meeting on AGR's. – ~~Biffen~~, ~~Joseph~~, ~~Howell~~, Younger ?, ~~Armstrong~~, ~~Hoskyns~~ Ibbs.

Robin

This meeting is provisional – depends on whether officials under Cabinet Office chairmanship are able to assemble their report in time. Will confirm on Tuesday. X

~~Either~~ Preferably Thursday morning; if not, Wednesday.

Can you make X above clear.

M. Younger will be away so Alex Fletcher will represent.
Cl.
28/3.

T.

C.F. For you?

BK

10 DOWNING STREET

From the Private Secretary

27 March 1980

Dear Catherine.

The Prime Minister has received the enclosed letter from the Chairman of NEI. She will wish to reply to this letter herself, and I would be grateful for a draft in due course when the AGR review is complete.

I am sending a copy of this letter and enclosure to Bill Ramsden (Energy).

Yours ever

T. L.

Mrs. Catherine Bell,
Department of Industry

BTP

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ

Tim Lankester
Private Secretary to
Prime Minister
10 Downing Street
London SW1

31 March 1980

Dear Tim,

My Secretary of State thinks the Prime Minister may wish to be aware of his decision further to restrict gas flaring at Shell/Esso's Brent field for the second quarter of 1980.

This further restriction has been accepted amicably by Shell/Esso. It can be fully justified simply on gas conservation and economic grounds, notwithstanding that it could have the effect of deferring oil production of some 0.25 million tonnes (equivalent to roughly 1% of total oil production) in the period. There is in fact a premium of about $10/barrel to be paid for oil production at Brent now, if accompanied by gas flaring.

The Chief Secretary has expressed support for the further flaring restriction, recognising that it can be justified without reference to oil depletion policy. The Minister of State at the FCO, Mr Ridley, did however see a risk that the restriction might spark off prematurely a wider public debate on depletion policies. But since with minor concessions Shell/Esso have accepted the new limit without rancour and there will be no public announcement, Mr Howell has decided to go ahead.

I am copying this letter to the private secretaries to the Secretary of State for Foreign and Commonwealth Affairs, the Chief Secretary and Mr Ridley.

Yours sincerely,

Bill

W J BURROUGHS
Private Secretary

DEPARTMENT OF ENERGY
THAMES HOUSE SOUTH
MILLBANK
LONDON SW1P 4QJ

Direct Line 01-211 3290
Switchboard 01-211 3000

THE MINISTER OF STATE

Hamish Gray Esq MP

The Hon Nicholas Ridely MP
Minister of State
Foreign and Commonwealth Office
Downing Street
London SW1A 2AH

31st March 1980

Dear Nicholas,

Thank you for your letter of 27 March.

This arrived after my deadline and after my meeting on that day with Shell/Esso. They accepted my proposals for a reduced flaring limit for the second quarter quite amicably after I had offered concessions on a gradual introduction of the new limit during April and on expressing it as a weekly rather than daily amount to ease their operational and adminstrative problems. Had this not been so, then I agree that we would have had to think again so as to avoid any speculative link with depletion policy.

There will be no public announcement. In view of this and Shell/Esso's helpful attitude, I am confident that there will be no adverse publicity for a decision which - as John Biffen has recognised - is clearly justified simply on gas conservation and economic grounds.

We have to give Shell/Esso a new flaring consent by today to enable them to continue to operate at Brent. In all the circumstances, therefore, I am putting our agreement with Shell/Esso into effect. David Howell is informing the Prime Minister and I enclose a copy of his private secretary's letter to No. 10.

I am copying this to John Biffen.

Yours ever,

Hamish

Energy

NBPM

01 211 6402

R

27/3

Rt Hon The Lord Carrington CKMG MC
The Foreign & Commonwealth Secretary
Downing Street
London
SW1A 2AL

27 March 1980

Dear Peter

DEPLETION POLICY

In endorsing my proposals on depletion policy (E(80)14) on 11 March E Committee decided to defer discussions with the oil companies and any necessary preparatory explanation of our depletion policy to other members of the European Economic Community (EEC) and the International Energy Agency (IEA) "until after the European Council meeting at the end of March". This meeting has, of course now been deferred probably until the end of April.

The implementation of depletion policy has been delayed for quite some time since I originally put forward my proposals in October 1979. This delay has already had some deleterious effects. Oil companies wish to know where they stand on depletion policy and have been making continuing representations on the subject. Further delay in starting discussions with the companies will either foreclose some of our options or give the companies legitimate grounds for complaint that we have imposed depletion controls without adequate discussion and notice. For example only limited action is possible on gas flaring in advance of our implementing our oil depletion policy, the possible deferral of BNOC's 30/17b field and the possible refusal of agreeing to increased production at BP's Forties field over and above what has already been accepted. If, contrary to our hopes, the European Council at the end of April is not conclusive it could be even more difficult to launch our discussions with UKOOA a week or two after such a meeting. In these circumstances our partners might well misinterpret our motives. But any further delay in launching the depletion policy which we have all agreed upon would really exacerbate the problems referred to above particularly in respect of gas flaring where in some cases $10 of gas would have to be flared for every barrel of oil produced.

Given the delay in the meeting of the European Council I am writing to seek your agreement and that of other colleagues to my initiating forthwith discussions with the oil companies about our decisions on depletion policy. I would not, however, intend to make any statement on our policy until after the Council meeting at the end of April. I would be prepared to agree to the proposal put forward by your officials prior to the news of the delay becoming public that at the same time we should brief our posts in EEC and IEA countries to confirm, if approached, that we had opened discussions with the companies and that we shall tell our partners what action we propose to take in advance of any public statement on depletion policy.

CONCLUSION

In the light of the changed circumstances I hope that you and other colleagues can agree to my proceeding along the lines indicated in the paragraph above. If not I hope we could have a brief discussion of the matter in E on 2 April.

I am sending copies of this Minute to the Prime Minister, other members of E, Sir Robert Armstrong and Sir Kenneth Berrill.

Yours ever

David

D A R HOWELL

CONFIDENTIAL

Energy

10 DOWNING STREET

From the Private Secretary

Mr. Wright

AGRs

The Prime Minister has read Sir Robert Armstrong's minute of 25 March, and is content that the Cabinet Office should coordinate the preparation of the material for the small meeting of Ministers on the basis proposed. She has, however, commented that we need a lot more material from the CEGB about the costings than we have had hitherto.

2. As you probably know, the Secretary of State for Energy is concerned about the prospect of continuing uncertainty about the AGR orders, and hopes that the further meeting can take place, if possible, before Easter. But next Wednesday is the last day we could arrange this, and this may not leave enough time for the further work to be done.

T. P. LANKESTER

27 March, 1980.

CONFIDENTIAL

1

Prime Minister

Content ?

Yes – but see note below. MT 26/3

CONFIDENTIAL

Ref. A01798

PRIME MINISTER

AGRs

At the end of the E discussion last night on the AGRs you indicated that you would hold a small meeting with the Ministers directly concerned to explore the issues at greater depth and on the basis of more facts than were available to the Committee.

2. It would be possible to base such a meeting on a further report from the CPRS but with Sir Kenneth Berrill's departure and the need for speed I doubt whether this would be wholly satisfactory. Subject to your approval therefore I would like to suggest that we here in the Secretariat should call together officials from the Departments concerned in order to assemble the material for your meeting. The aim would be to illuminate five questions:-

(a) Does a decision to continue with Heysham and Torness stand up on its own financial merits, ie will the investment yield a decent return?

(b) In so far as the decision is influenced by a desire to keep the plant makers in business, is there a viable alternative, eg through an expanded programme of modernisation of existing generating capacity?

(c) How strong is the case for these orders on the grounds of supporting the nuclear construction industry through to the time when PWR orders can be expected to be available? Or to maintain an AGR capacity should the PWR option prove to be not available?

(d) How serious is the safety worry referred to by Mr. Heseltine?

(e) What is the balance of argument for pulling out from the construction of the Drax B coal-fired station?

3. If you are content, we will try and pull the necessary material together for you to look at early in April.

We need a lot more material from CEGB etc than we have had hitherto. MT

D J Wright

(Robert Armstrong)

(approved by Sir Robert Armstrong and signed in his absence).

25th March, 1980

I'm seen

PRIME MINISTER

A.G.R.s

Neville Trotter telephoned today to say that N.E.I. had approached him, and had asked him to pass on their concern about the possibility of Torness and Heysham being deferred. I promised to pass on these views; Mr. Trotter will let it be known that he has been in touch with you.

MS

24 March 1980

Ref: A01768

PRIME MINISTER

AGRs AND THE GOVERNMENT'S NUCLEAR POLICY
E(80) 30

BACKGROUND

1. This paper from the CPRS was circulated rather late, but has been retained on the agenda because it would not have been possible to arrange another meeting of the Committee before Sir Kenneth Berrill's departure from government service. The Department of Energy will have had very little time to consider the paper, and if there is any substantial disagreement between colleagues, it would be desirable to use this meeting for a "second reading debate", with final decisions deferred until later. But it may be that the recommendations of the paper will gain general acceptance.

2. The basic conclusion of the CPRS is that the programme is now so far advanced that postponement, even for two years, would result in the collapse of two of the specialist suppliers, and would destroy the capability of building AGRs for a good many years. Thus postponement is essentially equivalent to cancellation, and to opting out of the AGR possibility. Since the timing of the first PWRs is inevitably uncertain, because of possible safety and procedural delays, removal of the AGR option would seriously affect the Government's commitment to a programme of regular orders for the nuclear industry.

3. The arguments for postponement are given in paragraph 3 of the paper. The effect on the PSBR in the next couple of years is relatively small. The figure of £3 billion is the total cost; it arises because they have assumed that, if the stations are delayed, they will replace rather than add to the early stations in the "basic programme" announced by the Government last December. The section on investment appraisal does not demonstrate that these stations are a bad bargain; the adoption of the 25 per cent premium on the cost

of capital, on the grounds that it is "inessential investment", is not a standard premium adopted elsewhere in the public sector. It merely gives an idea of the sensitivity of the decision to the desirability of savings of capital in the short term. Essentially it is a repeat of the PSBR argument. The question of repeatability of design seems marginal. It is to be hoped that the PWR will replace the AGR before many further stations are built, and in that case the letter to the Department of Energy at Annex B shows that the Nuclear Inspectorate would be willing to license another one or two AGRs with the present designs.

4. The case against postponement, is covered in paragraph 4. The arguments essentially come down to those accepted by the Committee in December, when the "basic programme" of regular nuclear orders was agreed. It would cause serious damage to the nuclear industry if these stations were now cancelled.

5. The case for postponing only one of the AGRs (Annex C) is weak, because the potential savings are less than pro rata, while the effect on confidence in the industry, and on the morale of the nuclear protesters who have opposed the Torness station, would be considerable.

HANDLING

6. You might ask Sir Kenneth Berrill to introduce the paper, and then seek comments from the Secretaries of State for Energy, Scotland and Industry, and from the Chief Secretary, Treasury.

7. Your handling of the discussion might then depend on the degree of divergence of views that have been presented. If it seems likely that colleagues will be in a position to reach agreement, on the basis of the CPRS recommendations you could move to consider these in detail (they are in paragraph 9 of the paper).

i Early announcement?

Since the review by the CPRS has been widely reported in the Press, it is desirable to dispel doubts by a clear announcement.

ii Priority call on funds?

This needs to be argued through. Given that EFLs are going to cause problems for the industry in 1980/81 (problems made more difficult by a decision not to postpone the AGRs) the choice is between in effect saying that EFL issues will not impinge on the AGRs or leaving the decision finally to the industry. On balance the arguments are likely to favour the CPRS view that the priority accorded to the AGR's should be made clear.

iii Safety aspects

Although the Chief Inspector says, in his letters, that he sees "no difficulty in licensing one or two more AGRs similar to the Heysham II design", his remarks about the 'gas baffle' might cause problems with the anti-nuclear lobby. The CPRS suggestion that the position should be clarified is therefore well worth pursuing.

CONCLUSIONS

8. If views prove seriously divided, you can postpone decisions until a future meeting, and invite the CPRS to produce a fuller report as the basis for such decisions.

9. If the Committee is prepared to accept the CPRS's general thesis, you will want to record specific conclusions on each of the recommendations made in paragraph 9 of E(80) 30.

ROBERT ARMSTRONG

(approved by Sr. R. Armstrong and signed in his absence)

21 March 1980

2

10 DOWNING STREET

PRIME MINISTER

This letter from the new Chairman of Northern Engineering Industries pleads for the continuation of the AGR programme - because of Clarke Chapman dependence on it. Because you knew Sir James Woodeson, I think you will wish to reply. I will prepare a draft after the E discussion on AGRs on Monday.

21 March 1980

F6

10 DOWNING STREET

From the Private Secretary 21 March 1980

I am writing to acknowledge your letter of 20 March about the AGR programme. I have placed this before the Prime Minister and a reply will be sent to you as soon as possible.

I. P. LANKESTER

Duncan McDonald, Esq.

~~MIKE~~ TIM yours, I think MJS

PATTISON

In view of the PMs link with NEI through Woodeson and Airey Neave I think she should reply personally to this letter.

Richard.

Richard Ryder Esq.,
Prime Minister's Private Office,
10 Downing Street,
LONDON, S.W.1.

NEI
A merger of Clarke Chapman and Reyrolle Parsons

D McDonald
Chairman & Chief Executive

Northern Engineering Industries Ltd

NEI House
Regent Centre, Newcastle upon Tyne
England NE3 3SB

Telephone: 0632 843191
Telex: 537900

20th March, 1980

The Rt.Hon. Margaret Thatcher, M.P.,
Prime Minister,
10 Downing Street,
LONDON S.W.1.

Dear Prime Minister,

I was recently appointed to succeed Sir James Woodeson, following his tragic and untimely death, as Chairman and Chief Executive of NEI. I was responsible with Sir James for the formation of the Company and our thoughts, policies and strategies were as one. I know that Sir James was very appreciative of the helpful attitude which the Government, under your leadership, has been showing towards industry and I know how much he welcomed the Government initative in announcing its commitment to a long term nuclear energy programme. I hope, in the circumstances, that you will not therefore be offended by this direct approach to you concerning the present state of uncertainty in relation to the AGR power stations for Heysham and Torness.

NEI has a much greater involvement in these two stations, indeed in the power plant industry generally, than any other company in the U.K.; our involvement, which is based on successful technology, relates not only to the major nuclear boilers and turbine generators but to a mass of ancillary nuclear and mechanical equipment as well as to conventional power station electrical plant.

Our Clarke Chapman power engineering company at Gateshead has already received and virtually completed the design contract for the boilers for both Heysham and Torness and our work programme has been based on receiving the hardware contracts for the manufacturing work within the next few weeks.

Our Parsons turbine and generator company at Heaton also received the design contract for the machines at Heysham and expected the manufacturing contract early this year. Many other sectors of our Group - John Thompson, Reyrolle, Bruce Peebles, International Combustion, Projects and Electronics - would be deeply involved in the provision of plant.

I really cannot overstate the importance of this work for NEI; there is no doubt that cancellation or long postponement would mean the death of

Contd...

the principal Clarke Chapman boiler operation in Gateshead with the most serious unemployment consequences and the loss of highly experienced technological resources in the nuclear power field. The Parsons problem would also be serious and the withdrawal of Heysham would produce a sudden gap in loading which there is no foreseeable chance of replacing which would also affect our endeavours in the export field.

We received the representatives of the C.P.R.S. earlier this week and I am sure they will advise you that we responded as objectively and as dispassionately as possible to the questions put to us on the effects of possible delay or cancellation of the AGR programme. I am sure you will understand that I do not doubt in any way the good faith and accuracy of the report which will be made but the issues raised are so fundamental to the future of our Company and so critically important to the successful implementation of a long term British nuclear power programme that I felt I had no alternative but to write to you personally.

Yours sincerely,

Duncan McDonald.

Energy

Ref: A01643

CONFIDENTIAL

PRIME MINISTER

Review of Depletion Policy

BACKGROUND

Discussion of depletion policy was postponed because the Attorney General advised that Ministers should not change their policy in the middle of the BP share sale. That problem has now passed, and the Secretary of State for Energy has taken the opportunity to update his earlier review and submit fresh proposals.

2. The report by officials attached to Mr. Howell's paper is a thorough piece of work, which is helpfully summarised on pages 1 to 6. Within the summary the specific recommendations made are to be found in sub-paragraphs (xiv), (xv), (xvi) and (xvii) on pages 3, 4 and 5. In his covering paper Mr. Howell endorses the report's recommendations and invites colleagues "to agree that we should be moving towards the policy of slower depletion in the 1980s". He wants permission to begin discussion with the oil industry about how the new policy could best be implemented. In the light of these discussions he would then propose to "advise my colleagues further on the timing and content of a statement we might make on our policy, bearing in mind the closeness of the EEC Council of Ministers' meeting at the end of March". In addition to these recommendations which are to be found in paragraph 6 of his covering paper, Mr. Howell also tucks away in paragraph 3 the proposition that the exploration effort on the United Kingdom Continental Shelf should be stepped up in order to "bear fruit in the 1990s".

3. There are four separate issues underlying Mr. Howell's approach:-

(a) Should an effort be made, and if so by how much, to shave off the peak of production foreseen in the 1980s, in order to preserve oil for the 1990s?

(b) What instruments should be used to achieve any such shaving?

(c) What should be said?

(d) When should it be said?

4. Present versus future gains: if it were possible accurately to foresee the future price of oil and to establish the correct discount rate, decisions in this area would be largely a matter of arithmetic. But certainty is not available to us. The question therefore becomes - and it is neatly illustrated in Figure 4 of the report - whether we want a net gain to the balance of payments in the 1980s (and associated revenues to the Exchequer) more, or less, than we want two or three more years of "self-sufficiency" in the 1990s. There are two additional points to be made. First "self-sufficiency" in oil supplies is a comforting concept with little real meaning. We are, and will remain throughout the period, large importers and exporters of oil. It is meaningful to ask "how much money or foreign currency do we want to get from UKCS". It is not meaningful to view this amount in relation to our oil consumption because there is no question of absolute shortage - other than politically-motivated shortage - arising during the period. The second point is that the "re-entry" problem - i.e. the likely sharp increase in our net oil imports in the 1990s - is not eased by these depletion proposals - but merely postponed for two or three years.

5. Depletion techniques: there are five basic techniques available to us to restrain oil output: we can put limits on gas flaring; we can delay the start-up of new oil fields; we can refuse to allow companies to adjust their field production profiles upwards once they have been agreed; we can use our powers - from 1982 - to restrain the output from existing fields; and we can space out or bunch up the issue of new exploration licences. Comments on each are:-

(a) Gas Flaring. On almost any assumption it makes economic sense to restrain the burning off of associated natural gas as far as the technicalities allow. Gas burnt is lost forever. The recommendation by officials that we should adopt a 'tight' approach to proposals for gas flaring, makes sense.

(b) Upward Profile Variations. Officials say, rightly, that Government action to refuse upward profile variation on individual oilfields can be defended only against the background

of a stated policy of restraining production. Decisions here therefore are a consequence of the basic decision on whether to seek to defer oil production from the 1980s to the 1990s.

(c) Development Delays. This is a tricky area because unwarranted delay could result in complaints of Government mismanagement. Colleagues may feel that there should be a bias against unnecessary delay rather than, as the report suggests, in favour of taking our time.

(d) Production cut-backs. This is the key element in any conscious depletion policy and the one most fraught with difficulty. The oil companies would loathe it because it defers production of the most profitable oil from each field and has a direct effect on finance and profits (as well as on tax and balance of payments flows). It can also run into technical troubles - e.g. it can run counter to "good oilfields practice". This is the element which is most affected by - and bears on - the basic decision on whether to have a conscious policy of restraining production in the 1980s.

(e) The Rate of Issue of New Licences. This is not discussed in the report but a policy line - rapid issue of licences - is asserted in Mr. Howell's covering paper. It is by no means self-evident that this is the best course. Control of the rate of issue of licences is the one "painless" instrument available for Government to influence the future course of oil output. Moreover it is one which can be exercised flexibly, e.g. by keeping successive licensing rounds reasonably small but varying the time intervals between them as circumstances - including the rate of actual discoveries of oil - require. This is a policy to which the last Government was feeling its way and consideration of it should not go by default.

6. The Content of the Statement: this must obviously depend on the particular decisions reached by E Committee. It is however worth bearing in mind that, in an uncertain situation, there is little point in closing options until it is operationally necessary to do so. If nevertheless Ministers decide now that they want to forgo the benefits of the peak oil production period in the 1980s for the benefit of the 1990s there is a lot to be said for a fairly comprehensive statement so that the oil industry knows where it stands. If on the other hand Ministers do not want to follow this path, or do not want to decide now whether to follow it or not, any early statement probably needs to do little more than deal with gas flaring. The "Varley assurances" already inhibit the use of production cutbacks until 1982 and, while the oil industry would clearly like to know whether it faces such cutbacks - and probably needs to know in the course of 1981 - it is doubtful whether the Government needs to commit itself yet to foregoing this instrument.

7. Timing of the Statement: an early statement that we intended seriously to reduce oil production below what it would otherwise have been in the 1980s would be criticised in Europe and seized upon by OPEC as a justification for any production cutbacks they may wish to impose. Any major statement pointing in the direction of reduced production should therefore be deferred at least until the European Budget issue has been settled and probably until OPEC has made a move on its own to reduce the output of its member countries. A minor statement, e.g. confined to gas flaring, could however be made at any time, because its justification does not depend on depletion policy as such but rests on the avoidance of waste of high quality fuels.

HANDLING

8. You will want to ask the Secretary of State for Energy to introduce his paper and then seek contributions from the Chancellor of the Exchequer on the financial and balance of payments aspects and the Foreign and Commonwealth Secretary on the overseas aspects. Other Ministers, and Sir Kenneth Berrill, may then wish to join in.

CONCLUSIONS

9. You will want to record specific conclusions on:-

(a) The major issue of whether we should decide now to seek to avoid being a net exporter of oil in the 1980s.

(b) If so, whether colleagues are prepared to endorse the full range of actions listed in the report by officials and on the pace of issue of new licences.

(c) If not, whether to support the recommendation by officials for a "tight" approach to gas flaring.

(d) What should be said - depending on the answers to (a), (b) and (c) above.

(e) When any statement should be made: a statement confined to gas flaring can and should probably be made quickly; a statement announcing a much wider policy ought to be delayed and its actual timing subject to a specific decision involving both yourself and the Ministers most immediately concerned.

RwA

Robert Armstrong

10th March 1980

2

Prime Minister

Energy

I am sure CPRS will bear in mind the point at X below.

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK LONDON SW1P 4QJ
01 211 6402

Tim Lankester, Esq
Private Secretary to the
Prime Minister
10 Downing Street
London SW1

5 March 1980

Dear Tim,

AGRs

Thank you for your letter of 3 March about the work which the Prime Minister has asked the CPRS to do on the new AGRs at Heysham and Torness.

My Secretary of State has asked me to make it clear, that he was not aware of this exercise when he saw the Prime Minister yesterday morning.

He is content for the work to go ahead. He has asked me to say, however, that he is concerned to maintain the momentum of the nuclear policy which he announced in the House on 18 December 1979. If news of the CPRS work becomes public (and there must be a strong possibility of this if firms are to be consulted), the Government's commitment to nuclear power could be called in question. Confidence in our nuclear programme, which we are endeavouring to build up and which is so essential to our long-term energy policy, would be bound to suffer from the fresh uncertainty which would be created. He thinks it important that the CPRS should work in the closest liaison with Departments about any outside contacts which are to be made. X

I am sending a copy of this letter to the Private Secretaries to the other members of E Committee, to the Secretary of State for Scotland, to Sir Robert Armstrong, and to Sir Kenneth Berrill.

Yours sincerely,

Bill

W J BURROUGHS
Private Secretary

cc Sir Kenneth Berrill,
cc S/Scotland

Energy

10 DOWNING STREET

From the Private Secretary

B/F 24-3-80

3 March 1980

Dear Bill,

AGRs

The Prime Minister has followed the correspondence on the 1980/81 external financing limit for the electricity industry and has noted that the forecast of much lower growth in demand for electricity has inevitably called into question the timing of the need for the new AGRs at Heysham and Torness. Your Secretary of State's letter of 29 February to the Chief Secretary to the Treasury sets out these problems and argues that decisions on these two AGR stations should not be taken in the context of the EFLs alone but in the far wider context of the future of our nuclear and power plant industries.

But these problems inevitably run across a number of departmental boundaries and responsibilities. As you will know, the CPRS has, over the years, undertaken studies on the UK nuclear and power plant industries. Accordingly, the Prime Minister has asked the CPRS to discuss the AGR issues with Departments and with the industry, and to report back to her in about three weeks' time.

I am sending a copy of this letter to the Private Secretaries to the other members of E and to Sir Robert Armstrong.

Yours ever,

Tim Lankester.

Bill Burroughs, Esq.,
Department of Energy.

CONFIDENTIAL

Qa 04455

To: MR LANKESTER

From: SIR KENNETH BERRILL

The AGR Programme

1. On Friday night I submitted a minute on the future of the AGR programme which suggested that the Prime Minister might like the CPRS to undertake a rapid (three weeks) study.

2. I understand that the Prime Minister is content for the CPRS to proceed along these lines and I attach a draft minute from you to the Department of Energy.

3. I also understand that the Prime Minister asked for a short note on why the Nuclear Inspectorate would not be willing to authorise, on safety grounds, the Torness/Heysham design of AGRs for a subsequent series ordering. I am having a very short note on this prepared and will let you have it soon. The information was given to the CPRS by the Nuclear Inspectorate very much in confidence (please protect) and it would embarrass relationships with the Department of Energy if this were to get back to them. If it were desirable, the issue could be raised at some stage by asking the Nuclear Inspectorate what, if any, design changes they would foresee if the Heysham/Torness design were to be submitted for series ordering.

4. I am sending a copy of this minute and the attachment to Sir Robert Armstrong.

KB

3 March 1980

Att

CONFIDENTIAL

CONFIDENTIAL

DRAFT MINUTE FROM MR LANKESTER TO DR BURROUGHS

AGRs

The Prime Minister has followed the correspondence on the 1980/81 external financing limit for the electricity industry and has noted that the forecast of much lower growth in demand for electricity has inevitably called into question the timing of the need for the new AGRs at Heysham and Torness. Your Secretary of State's ~~latest~~ letter of 29 February to the Chief Secretary to the Treasury ~~(29 February)~~ sets out these problems and argues that decisions on these two AGR stations should not be taken in the context of the EFLs alone but in the far wider context of the future of our nuclear and power plant industries.

But these problems inevitably run across a number of departmental boundaries and responsibilities. As you will know, the CPRS has, over the years, undertaken studies on the UK nuclear and power plant industries. Accordingly, the Prime Minister has asked the CPRS to discuss the AGR issues with Departments and with the industry, ~~She would hope that the CPRS report, together with the papers from your own Department and from any other interested Department, would be submitted to a meeting of E Committee~~ and to report back to her in about three weeks' time.

I am sending a copy of this to the Private Secretaries to the other members of E, and to Sir Robert Armstrong.

CONFIDENTIAL

CONFIDENTIAL

Qa 04454

To: MR LANKESTER

From: SIR KENNETH BERRILL

The AGR Programme

1. I attach a note by the CPRS on the case for and against cancellation of either or both of Britain's two new AGR stations (Heysham and Torness).

2. The reason for my putting in this note at the present time is that at the last meeting of E Committee when the Electricity Council's EFLs for 1979/80 were discussed, the Prime Minister raised question marks against the need for these two AGR stations. She asked that a paper on the electricity supply industry's capital programme for 1980/81 should be put before Ministers for the forthcoming discussion at E on the 1980/81 EFLs.

3. Such a paper is being prepared (and the CPRS is taking part in this) but the proposal in it is likely to be for a short moratorium on the placing of further contracts on Heysham and Torness as a contribution towards the 1980/81 financial problem.

4. If the problem were purely one of 1980/81 finances, such a temporary postponement might well appear to be the best solution. But, as the attached note explains, the CPRS believes that the case for the two AGRs needs more strategic re-examination which Ministers will not obtain unless the Prime Minister commissions it.

5. The attached note concludes by offering a rapid (three weeks) CPRS study on the options. Such a study would require the CPRS having talks (as it has had over past years) with senior people in the nuclear power supply industry.

6. I am sending a copy of this minute and attachment to Sir Robert Armstrong.

KB

29 February 1980

Att

CONFIDENTIAL

The Case for a Strategic Review of the AGR Programme

1. In the view of the CPRS there is a need for a strategic review of the case for the two new AGRs at Heysham (CEGB) and Torness (SSEB) in the light of:

(a) forecasts from the Generating Boards of much lower load growth, which suggests that construction work on new power stations like Heysham and Torness could comfortably be delayed by five years or more;

(b) strong hints from the Boards that they had considerably underestimated the completion costs of the stations, now put at well over £1bn. each;

(c) the construction of Heysham and Torness before they are really needed is bound to mean electricity tariffs higher than would otherwise have been necessary;

(d) an additional and disturbing factor has recently been drawn to our attention - namely that the Heysham/Torness design of AGR would not be acceptable to the Nuclear Installations Inspectorate for any future AGRs. So the construction of Heysham and Torness would not provide an insurance against an inability to proceed with the PWR programme.

2. Nevertheless, although Heysham and Torness are stations that the Generating Boards do not presently need and can only afford by raising tariffs, there are important reasons why Ministers should pause before demanding outright cancellation of both AGRs. These include (i) the possible damage to the nuclear industry, particularly to the key teams of design engineers; (ii) the desperate shortage of home orders for our power plant manufacturers; (iii) an undermining of the Government's credibility in the whole field of nuclear policy; and (iv) the risks of being seen to become totally committed to the PWR while Three Mile Island is still fresh in the public's mind and while Sir Alan Cottrell is casting a quite justified doubt on the life-time integrity of welded pressure vessels.

3. Options. The present view of the CPRS (i.e. before outside discussion with the nuclear industry) is that among the options available the best two are:

(i) cancelling Heysham forthwith, but continuing with Torness to its present timetable and design;

(ii) placing a moratorium of at least three years on both Heysham and Torness during which time

- the PWR would be put through its design, licensing, and planning procedures;
- the AGR would be redesigned so that, if the PWR fails to win through the procedures, Heysham and Torness could be built to a a replicable design.

Option (i)

4. The first option, continuing with Torness only, has some appeal. For example, we believe (a) that without much difficulty it could be reconciled with the Government's nuclear policy as presently stated; (b) that it would not put at risk any of the strategically important parts of the power plant industry (GEC might welcome the news, Babcock & Wilcox would be little affected, Northern Engineering Industries would be the main losers); (c) that it would cause few if any problems for the nuclear design industry; (d) that it would preserve employment opportunities in Central Scotland; and (e) it could strengthen the financial discipline of the EFL regime, since the Electricity Council whose EFL has been breached would have their AGR axed, while the SSEB whose EFL is probably intact could continue with their AGR.

Option (ii)

5. However, option (i) would be mixed blessing for the SSEB and they might be unwilling to proceed with Torness if the CEGB were to pull out of Heysham. They have traditionally let the CEGB make the running on nuclear power station construction and followed along behind. But in any event one would want to ask whether constructing Torness to its existing design is a justifiable use of public money. Our query over Option (i) and our present leaning toward Option (ii) rests on the fact that Torness would definitely be the end of the road for this particular design of AGR. The Nuclear Installations Inspectorate have said that very substantial

Then surely these design changes are essential now.

design changes would be essential if they were to grant licences to any more AGR stations after Heysham and Torness. Redesign could take at least two years and NII clearance another year. A credible alternative to the PWR should mean our AGR design teams working on the AGR Mark II, not wasting their source skills in papering over major weaknesses in the Mark I design. (The Chancellor suggested that Torness could turn out to be a £1bn. white elephant; a £1bn. dodo might be a more apt description.)

6. We in the CPRS believe that in considering the problem of the 1980/81 electricity EFL and the contribution which a change in the AGR investment programme might make, Ministers should have before them more than just a proposal for a short moratorium on new contracts. They should also look at the case for taking more strategic decisions along the lines of Options (i) and (ii) above.

7. Time is short but I believe we in the CPRS could produce such a paper in, say, three weeks. But such a paper can only be put together if the CPRS follows it usual practice in this field of high level soundings outside Whitehall. We would want to talk to Sir Arnold Weinstock (GEC); Sir John King (Babcock & Wilcox); Sir Francis Tombs (Electricity Council); Mr Berridge (SSEB); Mr England (CEGB); Dr Franklin (NPC); Dr Marshall (AEA); and Mr Gausden (Chief Inspector of Nuclear Installations). Although we would impress on each the need for confidentiality, there would be a clear possibility of leakage (the danger is to Northern Engineering Industries). We would therefore not embark on this without the Prime Minister's approval.

(For E Folder)

Qa 04445

Prime Minister

To: MR LANKESTER

From: SIR KENNETH BERRILL

Review of Depletion Policy

1. The Secretary of State for Energy has circulated (E(80)14) an inter-departmental review by officials on depletion policy for North Sea oil, and invites his colleagues to agree with the recommendations (slower depletion in the 1980s) and to the opening of discussions with the industry.

2. If one accepts that the real price of oil is likely to rise significantly, 1980-2000, the longer term economic case for deferment of some of the mid-1980s production peak is clear. The case against might be (i) our EEC partners would be unhappy at even the modest deferments proposed and we need their help over the EEC Budget; (ii) the need for cash into the Exchequer in the mid-1980s is so strong that we cannot afford any postponement; (iii) the oil companies might be so incensed that they bid less actively in the 7th and subsequent licensing rounds (unlikely this one - if the oil is thought to be there and its profitable they will bid).

3. In considering these possible objections it is important to distinguish two groups of proposal for deferring production:

(a) restrictions on gas flaring; refusal of permission for faster depletion; and delaying development.

(b) Production cutback.

The first group of restrictions (a) would provide about half the suggested deferment; are capable of immediate introduction and would be cheap in terms of the amount of Exchequer income deferred (£25m. per annum in the first two years). It is this group which Mr Howell wishes to discuss with the industry. Indeed, he cannot avoid discussing them since oil companies will come along one after another wanting to discuss depletion profiles, development, etc. (three are waiting now). Mr Howell is, in effect, asking his colleagues' permission to conduct these discussions against the background of a policy of restraint rather than 'throttle wide open'. He is not asking for a public statement

of policy now which our EEC partners might well use against us in the Budget negotiations. The timing and form of such an announcement would be agreed later. The CPRS would support Mr Howell in all this.

Depletion policy via production cut backs (b) could provide the other half of the suggested deferment but they are different from group (a) in that under the Varley assurances they could not be introduced until 1982. There is, therefore, little point in Ministers coming to a decision on them now and it is best that the issue is left for a year and looked at in the light of the then current circumstances.

4. Production cut backs are also very different in that although they offer the greatest scope for implementing a deferment policy they are the most expensive way of doing so (all the development expenditure has been made and the pay-off for that locked-up money is being delayed). The oil companies would not be surprised if, at the end of the Varley assurances period, something like this happened. But they would certainly make an outcry - and with some justification. An across-the-board production deferment would reduce the cash flows of all companies but in a capricious manner depending on the stage of development and profitability of individual fields.

5. As was said above, Ministers need not take a decision on this for a year and meanwhile there is time for Departments to explore alternative formulae for instituting a production deferment. One way not raised in the Review would be for HMG to leave some of its own 12½ per cent royalty oil longer in the ground. This would treat all companies equally and take the burden of delay off the companies and on to HMG. (Not such a big shift as it might appear since HMG is bound to bear the great part of the cost of any delay through delayed tax revenue - currently 83 per cent and perhaps rising.) BNOC would also be affected by having less royalty oil to trade, but the margin of royalty oil in the ground would enable the oil to BNOC (and to the United Kingdom) to be increased in a sub-crisis.

6. This and other possibilities might be looked at before Ministers return to a decision on the possible role of production deferment in depletion policy.

7. I am sending a copy of this minute to Sir Robert Armstrong.

KB

22 February 1980

PART 3 ends:-

PM to Congressman Wylder 19.2.80

PART 4 begins:-

E(80)14 20.2.80