PREM 19/203

SECRET
Pt 3

Confidential Filing

Energy Policy. Discussion on the World Oil Situation.
Meetings of the International Energy Authority (IEA)
Nuclear Power Policy.

ENERGY

Pt 1: May 1979
Pt 3: Nov 1979

Referred to	Date	Referred to	Date	Referred to	Date	Referred to	Date
~~8.11.79~~							
~~11.11.79~~							
~~22.11.79~~							
~~4.12.79~~							
~~7.12.79~~							
~~21.12.79~~							
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~~8.1.80~~							
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~~5.2.80~~							
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~~5.3.80~~							
19.2.80							
ends							

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PART 3 ends:-

PM to Congressman Wylder 19.2.80

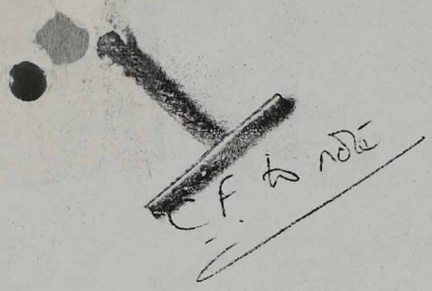
PART 4 begins:-

E(80)14 20.2.80

Original = G/R.

cc FCO

DSG



Energy

19 February 1980

Dear Mr Wylder

Thank you for your letter of 24 January. I appreciate your kind remarks about my address to the Foreign Policy Association in Manhattan.

Now that we have reached decisions on our thermal reactor programme and our nuclear industry, we shall shortly be turning to fast reactor policy, and your letter is timely. The possibility of international cooperation on this complex and costly technology is something that we should need to consider very carefully and I am grateful to you for telling me of the interest that exists in Congress in this field.

I ahall bear what you say in mind. Thank you once again for writing.

Yours sincerely

MT

Congressman John W. Wydler.

jfh

PRIME MINISTER 2

FROM THE MASTER
SIR ALAN COTTRELL, F.R.S.

THE MASTER'S LODGE
JESUS COLLEGE
CAMBRIDGE CB5 8BL
TELEPHONE (0223) 353310

MP 12/2

AHC/IMM

6th February 1980

The Rt Hon. Mrs Margaret Thatcher, P.C.,
The Prime Minister,
10 Downing Street,
London.

Dear Prime Minister,

Pressurised Water Reactor

Thank you so much for your letter of 5 February and for the copy of the NII's recent report, on the subject of the safety of Pressurised Water Reactors. I greatly appreciated the detailed and careful answers you gave to my letter of 4 December and I shall certainly take up your invitation to get in touch with Dr Marshall, to learn from him of the latest work of his group.

Yours sincerely,

Alan Cottrell

CONFIDENTIAL

cc Master Set
Energy Jan 1980
North Sea Oil Prices.

10 DOWNING STREET

From the Private Secretary

6 February 1980

Dear Bill,

OIL PRICES

As you know, the Prime Minister held a meeting here this morning to discuss the prices of Iranian and UKCS oil. In addition to the Secretary of State for Energy, the Foreign and Commonwealth Secretary, the Chancellor of the Exchequer, the Secretary of State for Trade and Sir Robert Armstrong attended the meeting.

Iranian Prices

The Secretary of State for Energy said that the Iranians had increased the price of their oil by $2.50 per barrel. This was broadly in line with other increases. Despite the fact that some of the pressure had been taken off the spot market, this seemed to be having no effect on term or Government fixed prices. The dominant factor was customer nervousness about access. The contract agreed with the Iranian authorities early in the year on a price of $30 had given the Iranians freedom to renegotiate the price every month. If BP and Shell were to reject the latest Iranian increase, they would in effect be breaking that contract.

Mr. Howell said that Shell and BP would be the principal immediate sufferers if they did not purchase Iranian oil. The French and the Germans would suffer in the longer term since much of BP's oil went to Germany and of Shell's to France. In the short-term, however, it was easy for the French, e.g. M. Giraud, to adopt a relaxed attitude. Even the Germans were being somewhat ambivalent. Count Lambsdorff had told the Americans that he favoured concerted action towards Iran while taking with Mr. Howell the line that he would prefer to let market forces operate. As for the Americans, their oil companies were buying oil at higher prices throughout the Middle East. This was the wrong point in the oil price spiral for Britain to be asked to make a stand.

The Prime Minister asked whether there was any possibility of getting oil from Saudi Arabia or ARAMCO to make up for any short-fall in the supply from Iran. Mr. Howell said that he had raised this point with both the Saudi Government and with Mr. Duncan but had got nowhere. Shaikh Yamani's unwillingness to give the UK a share of Saudi production probably reflected both the peculiarities of the ARAMCO arrangements in Saudi Arabia and generalised nervousness about American reactions.

/The Secretary of State

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The Secretary of State for Trade said that he thought it important to bear in mind our broader relations with Iran. Eventually the situation in that country would improve and commercial activities might open up for us there. If we distanced ourselves from Iran now, the effect on our future prospects would be unhelpful. This might apply the more strongly if a deal was done with ARAMCO. The Foreign and Commonwealth Secretary said that the same argument applied to our political relations with Iran: once the hostages were released there might be an important role for the European Governments in Iran. We should not be pushed into action now which might prejudice our chances of exploiting that future opportunity.

Summing up the discussion, the Prime Minister said that it was agreed that we should go ahead with the Iranians on the basis of the new price demand. But the Secretary of State for Energy should also get in touch with the Americans and others to try to arrange for a concerted policy on holding off from the purchase of Iranian oil in the months immediately ahead in the hope that market forces would operate. Contacts with ARAMCO as a possible source of alternative supply should also be pursued. Finally, it was agreed that if there were to be joint resistance in future to demands by "the OPEC hawks" the Iranians should not be regarded as a result of today's decision as a special case who would be excluded from the operation of such a policy.

UKCS Prices

The Secretary of State for Energy said that the price of Libyan, Nigerian and Algerian crudes had now risen to $34 or over, and it was no longer possible for BNOC to hold their prices at $30. There were two options - either to force BNOC's price to arbitration, or to allow BNOC themselves to settle a price at not more than $34. His own initial instinct had been to go for arbitration, but he now felt that on balance it would be better to allow BNOC to negotiate the price. If expert valuers were brought in, the price was likely to go even higher. Furthermore, the arbitration arrangements differed as between the various companies with which BNOC had contracts; different results would therefore almost certainly emerge, and this would cause confusion.

The Prime Minister said that BNOC had done well to hold the current price of $29.75 and she was concerned about the implications for the RPI of allowing UKCS prices to go up now. She wondered whether, were it not for the Treaty of Rome, it would be possible to have differential prices for North Sea crude - with world prices for exports and a lower price for crude entering the UK market.

Mr. Howell said that a differential price system would either require physical controls on the movement of oil, or subsidies from the Government on oil sold in the UK. Although the continued hiking of prices by OPEC was deplorable, any attempt by the UK to move away from market determined prices would be contrary to the Government's whole philosophy - and in any case this could not be done within the EEC rules. The Chancellor added that even if we were able to hold down UKCS prices, product prices would still move in line with the market. From a revenue point of view, it was better if UKCS prices went up as well.

/The Prime Minister

The Prime Minister then raised the question of from which date the new BNOC price should be operative. She hoped that on this occasion there would be no back-dating - particularly since the Nigerians appeared only to have moved their prices on 4 February. Mr. Howell explained that BNOC had notified their customers on 1 February that the price would go up from that date, and they had done this only in response to the price increases announced by Algeria, Libya and Kuwait at the end of January. If the BNOC price increase was back-dated to 1 February, as he proposed, it could still be presented as being in response to the market. The Foreign and Commonwealth Secretary expressed the hope that use of the word 'premium' in relation to the price could be avoided.

Summing up a brief discussion, the Prime Minister said that Ministers were agreed that BNOC should be authorised to negotiate a price of not more than $34 on the lines suggested in paragraph 12b of Mr. Howell's minute of 5 February; they were also agreed that the price increase should be back-dated to 1 February but that it should be made quite clear that the decision to raise prices had been taken after the other producers had already moved.

I am sending copies of this letter to George Walden (Foreign and Commonwealth Office), John Wiggins (H.M. Treasury), Stuart Hampson (Department of Trade) and to David Wright (Cabinet Office).

Yours ever

Michael Alexander

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

cc Energy: Jan 80
North Sea oil Prices

Ref. A01343

CONFIDENTIAL

PRIME MINISTER

OIL PRICES AND IMPORT TARGETS
(The Secretary of State for Energy's minute to you of 5 February)

Mr Howell's minute, to be discussed at your meeting at 9 am tomorrow, covers three issues: Iranian prices; UKCS prices; and import targets. The first two are urgent, the latter less so. I suggest that the meeting concentrates on the price issues and leaves import targets for the time being (Mr Howell in paragraph 16 of his minute promises a separate submission on this).

2. Iranian prices: The Americans are trying to get a united front against the Iranians' latest $2.50 a barrel increase in their prices. But these new prices are not particularly out of line with the market and if we refuse to buy the Iranians will sell to others. The impact of any resulting shortfall in supplies would fall on European consumers and on Japan and on BP and Shell. The Americans would be unaffected. Moreover, this hardly seems the moment to apply a new screw to the Iranians (the Americans are themselves holding off their economic measures). Your colleagues may therefore find little difficulty in accepting Mr Howell's suggested line in paragraph 17(a) of his minute - which besides price recommends that we should not agree to holding a meeting on Iranian oil prices in London but should be ready to join in discussions elsewhere at a suitable time.

3. UKCS prices: The North African producers have moved to an oil price around $34 a barrel. BNOC is still selling similar crudes at $29.75 a barrel. We cannot afford to hold BNOC back from matching these prices (even if the independent North Sea producers would let us) and the question is how we best move to, say, $33.75 a barrel without attracting unnecessary criticism from our European partners. Mr Howell sets out the alternative techniques in paragraph 12 (a) and (b) of his minute.

He recommends (b). There is in fact no simple solution because the interests of the companies producing in the North Sea vary widely and some would welcome a low price (for tax reasons) while others would want the most they could get. Moreover, while arbitration offers a neat way out in principle the mechanics leave a great many uncertainties about the outcome. And for arbitration to take place BNOC would still have to declare its hand on prices. Mr Howell's recommendation for leaving the outcome to "careful and determined negotiation" by BNOC is probably the best way out. (The reference to paragraph 13(b) in paragraph 17(b) in Mr Howell's minute is a misprint for 12(b)).

CONCLUSION

4. It is likely that Mr Howell's recommendations on prices will be accepted. The question of import targets should be put on one side pending his further minute.

RWA

Cabinet Office
5 February 1980

CONFIDENTIAL

cc FCO CO

cc Energy Jan 80 North Sea Oil Prices.

PRIME MINISTER

OIL PRICES AND IMPORT TARGETS

There have in the last few days been three developments which we need to consider together and on two of which we need to take urgent decision:-

(a) Iranian prices

The Iranian authorities told the oil companies including BP and Shell at the end of last week that they were increasing prices for oil under the contracts concluded at the beginning of the year by $2.50 a barrel following the increase of $2 a barrel by Saudi Arabia, Iraq, Kuwait and the Gulf States. BP and Shell are temporising but Shell loaded two tankers on 1 February the day after they received the notification. Charles Duncan telephoned me on Friday evening to say that the Americans were trying to get up a Western front against the Iranian demand and to ask us to ensure that BP and Shell did not commit themselves while discussion continued. He claimed to have the support of M. Giraud, who was in Washington, and he has been in touch with the Germans and the Japanese. The latter have in consequence told their companies to hold off for several days. Our most recent information from Washington says that Giraud has agreed that the line should be $30 for Iran. Lambsdorff told me this morning, however, that he was convinced that this attempt by the Americans to generate action was misplaced and that the right response would be a very low-key understanding on the part of all the major consumers to try and take the heat out of the market, refrain from heavy buying for a couple of months and let market forces operate for us. The Germans will certainly not welcome precipitate action on Iran.

(b) UKCS Prices

We decided last month that BNOC should be seen as a moderating influence on world oil prices by not setting a price in the first quarter of 1980 above about $30 and leaving suppliers who were not content with that

price to take the issue to arbitration if they wished. Before the spate of further price increases in the Middle East and Africa in the last few days BNOC had gone a long way towards establishing UKCS prices at least for January at around the $30 level. The fact that Libyan, Nigerian and Algerian crudes, which are the closest in quality to UKCS crudes, are now all priced above $34 makes this position no longer tenable.

(c) Import Targets

President Carter said in his State of the Union Message that the US Import ceiling for oil imports in 1980 would be 8.2 mbd (comfortably above likely outturn which we estimate at 7.9 mbpd) and that the US would be willing to reduce their target if other oil consuming countries individually join in a fair and mutual reduction. The Americans are building up heavy pressure for a reduction in 1980 targets at the IEA Ministerial planned for late March. Lambsdorff confirmed that he like us was totally opposed to the target cutting exercise and that he would seek to persuade Duncan to defer the IEA Ministerial.

2 This complex of issues is likely to dominate internationl energy discussion over the next few months leading to the Venice Summit. We need to handle them with great care if we are to safeguard UK interests and at the same time avoid damage to our relations with the Americans and/or our European partners.

3 Immediately there are two questions which need to be resolved - our response to the US approach on Iran and action on UKCS Prices.

4 Both need to be looked at against world oil prospects. Our own latest forecasts and those of the IEA suggest that demand for OPEC oil in 1980 will be about 29 mbpd compared with 31½ mbpd in 1979. Spot prices have shown a marked downturn through January and there are even suggestions now that cargoes are being disposed of at a loss. We see no sign, however, that term prices - particularly for light oils - are likely to weaken. Moreover the supply condition is general remains extremely fragile. But unless there is a sharp cut in OPEC production deliberate or accidental - oil prices may have reached a temporary peak.

Iranian Prices

5 Although they will try to negotiate better terms BP and Shell both feel that they have little option but to accept the Iranian demand. They need the oil (125,000 bpd for BP and 95,000 bpd for Shell). The Iranians have the right under the terms of their contracts to increase Government Selling Price at any time. The increase of $ 2.50 a barrel is only 50 cents more than that imposed by the Gulf states. If, however there were to be a firm stand which resulted in a loss of Iranian supplies, BP and Shell argue that there should be a safety net under which the Aramco partners and perhaps other US companies would give help.

6 While it is, no doubt, the case that the price now being asked by the Iranians is high for oil of that quality in relation to Gulf prices (though not in relation to North African prices) I do not share the American view that the Iranian increases can be treated in isolation as a principal destabilizing influence. On the contrary the latest Kuwait and Iraq increases and the prices set by the African producers matter far more. Concerted action on the part of consumers only makes sense at this point if it is taken as part of a united front with the moderate elements within OPEC, against irresponsible price increases more widely.

7 Unless there are non-oil reasons for trying to exert pressure on Iran, with all the risks for Shell and BP and their mainly continental European customers, I do not see how we could reasonably invite the companies to break their existing contracts.

/8 The Americans

8 The Americans have asked whether we would be prepared to hold a conference in London later this week, without publicity, to consider the Iranian issue. I am sure we should not take the lead in this way but I would be prepared to participate in an informal meeting a little later on to look at the possibilities of making use of what we see as favourable market forces in the wider context.

9 Whatever we decide we must carry the Japanese with us.

UKCS Prices

10 BNOC, if left to themselves, would now offer their suppliers a Forties crude price of $ 33.75 (with related prices for other UKCS crudes) from 1 February. They would regard this as a moderate market price which might be accepted by the oil producers as a fair recognition of what has happened in recent days. BNOC wish to avoid disagreement over price leading to a reference to experts i.e arbitration; they believe that the few independent experts are of poor quality and that the results of arbitration would be unpredictable and unsettling for the future.

11 There is some force in their view. But a $4 jump offered by BNOC could attract a great deal of international criticism even though e.g US companies have been buying at higher prices - no one would choose to believe that the BNOC offer was not inspired by HMG.

12 Ideally we would find a solution which allowed market forces to settle UKCS oil prices at reasonable levels without exposing HMG

/to the

to the criticism that it was responsible for the results. There are two ways in which the pressures on the Government might be mitigated:

(a) by forcing the price to arbitration. This could be easily achieved by BNOC offering an unreasonably low price and sticking to it. In this way BNOC's moderation is clear and the final decision is taken by independent experts; or

(b) the oil producers forward their price demands and BNOC, after careful and determined negotiations, settle (as they believe they can) for not more than $34. This also can be presented as a valiant attempt by BNOC to moderate the excessive demands of the producers while avoiding arbitration which might well result in a higher price. It would of course be essential that BNOC only reacted and was not the first to propose a price.

13 (a) looks superficially attractive since it removes the decision from HMG's control. But in addition to the points in para 10 there would be a serious technical risks, eg in one case the participation agreement requires an arbitrator to choose either the buyers or the sellers suggested price. More generally we cannot really hope to escape some responsibility for what happens in a world where every producer government intervenes on pricing policies, and when we regard it as essential to retain a trading capability for our own security of supply.

14 I favour (b) above which if properly stage managed will get us back with the position of following nearly the Libyans, Algerians and Nigerians but being dragged there under duress. This should put us in the most flexible position we can hope for in the future.

15 As for the price at which BNOC sell oil to refineries, I have insisted that they give notice that this price will not be less than the price ultimately fixed at which they buy.

16 All this has implications for import targets on which I will be minuting you separately.

A suggested line:

17 I think the way through is to:

(a) tell the Americans that we do not think it is now possible to prevent the 1 February Iranian increase but that we are very ready to join in discussion with them and the other main consuming countries soon about joint resistance to future unreasonable demands by the OPEC hawks provided action is not confined to Iran (but we should not hold a meeting in London);

(b) urge BNOC to proceed as in para 13(b).

18 The US Administration clearly wish for electoral reasons to provide a convincing demonstration of American leadership at the IEA Ministerial and at Venice. This is likely to be at the expense of European interests without leading to any new action by the US to help solve its own energy problems. We must do what we can to modify these US pressures.

19 You may think it useful to have an early meeting of the small group which discussed these issues before Christmas.

20 I am sending copies of this minute to Peter Carrington, Geoffrey Howe, John Nott and Sir Robert Armstrong.

JH.

5 February 1980

10 DOWNING STREET

THE PRIME MINISTER

5 February 1980

Dear Sir Alan,

Thank you for your letter of 4 December about the Pressurised Water Reactor (PWR).

In his statement on 18 December, the Secretary of State for Energy made clear the Government's wish that the next nuclear power station order, after the two new AGRs now in hand, should be a PWR. He also made it clear that we attach overriding importance to safety and to learning the lessons of the accident at the Three Mile Island nuclear power station in the United States. The PWR order will be subject to full safety clearance by the Nuclear Installations Inspectorate (NII) and to a public inquiry, and the principal safety documentation supporting the licence is being prepared with a view to its being made publicly available.

I enclose a copy of the NII's recent report, which David Howell requested on the implications for the UK of the Kemeny Report into the Three Mile Island accident. You will see that the NII believe that the accident was largely the result of organisational and human failures, compounded by some detailed weaknesses in the design of the control room and its instrumentation, but that none of the information available to them on the accident casts doubt on the basic concept or design of the PWR.

As far as the present state of the Harrisburg reactor is concerned, I understand from the NII that the accident did indeed involve a drastic change in cooling conditions which in turn led to serious damage to the fuel. But after the first few hours

/effective cooling

effective cooling of the damaged core was established through the use of water initially at high pressure and later at lower pressure, and stable conditions have been maintained continuously to the present time. The general water temperature is about 72°C with local temperatures up to about 110°C and local boiling is prevented by keeping the pressure at a suitable level (255 psig).

I have been advised that our information from the USA does not confirm your statement that there is a large heap of disintegrated fuel lying in the bottom of the vessel. While the fuel is certainly severely damaged, all the evidence suggests that it is retained in the region of the reactor core. Recent evidence also suggests that damage to the fuel is less severe than originally thought. There is good reason to believe that repair and restoration of the plant is a practicable though expensive possibility. A programme aimed at renewal of the damaged components and eventual restoration of the plant to service has been drawn up and the first stage has already been started.

I am glad to see that you are confident that no dangerous cracks in PWR pressure vessels will escape detection if the recommendations of the Marshall Group on Pressure Vessel Integrity are rigidly applied.

Dr. Marshall's Group is now revising its recommendations in the light of the knowledge they have gained since 1976, giving even more emphasis to the use of advanced inspection techniques during the fabrication of high pressure components. I understand that what they have learnt, including the results of their own research work and work done elsewhere, has tended to make them more confident about the problem of the growth of cracks in service. I am sure Dr. Marshall would be glad to bring you up to date if you would like him to do so.

The NII accept that the repair of the plant, once having been brought into operation, would be difficult, but they believe it is not impossible. The French have certainly decided that they can carry out repairs to their plant after a period of operation.

/Remedial measures

Remedial measures could, of course, also include limits on the mode of operation of the plant to prevent defects from becoming unacceptably large. Nevertheless, the Inspectorate have the power, which they would use, to prevent plant from being operated in an unsafe condition.

The existence of defects, which are inevitable in any large structure, can thus be prevented from prejudicing the safety of the plant. This could, as you say, involve economic penalties. But the adoption of any reactor system involves the acceptance of such risks, which are expected to be kept small by vigilance and high quality in design, construction, operation and maintenance of each plant.

Yours sincerely

Raymond Hobbs

Sir Alan Cottrell, F.R.S.

10 DOWNING STREET

PRIME MINISTER

Sir Alan Cottrell has written to you about the choice of nuclear reaction.

His letter arrived before Mr. Howell's statement in the House. I am afraid that it has languished for some weeks owing to a misunderstanding between the Cabinet Office and the Department of Energy. We should have chased this harder earlier, and I apologise for that.

Mr. Howell's office have now suggested the attached draft reply.

MAD

4 February 1980

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

Mike Pattison Esq
Private Secretary to the Prime Minister
No. 10 Downing Street

4 February 1980

Dear Mike,

I am attaching a draft letter approved by my Secretary of State which the Prime Minister may wish to send in reply to Sir Alan Corttrell's letter of 4 December about PWR safety.

I am copying this letter and its attachment to David Wright in Sir Robert Armstrong's Office.

Yours ever,

Denis

Denis Walker
Private Secretary

DRAFT LETTER FOR THE PRIME MINISTER

Sir Alan Cottrell FRS
The Master's Lodge
Jesus College
Cambridge

Thank you for your letter of 4 December about the Pressurised Water Reactor (PWR).

In his statement on December 18, ~~You will know that since you wrote to me~~ the Secretary of State for Energy, ~~David Howell, has made a statement about nuclear power policy which makes~~ made clear the Government's wish that the next nuclear power station order, after the two new AGRs now in hand, should be a PWR. He ~~has~~ also made it clear that we attach overriding importance to safety and to learning the lessons of the accident at the Three Mile Island nuclear power station in the United States. The PWR order will be subject to full safety clearance by the Nuclear Installations Inspectorate (NII) and to a public inquiry, and the principal safety documentation supporting the licence is being prepared with a view to its being made publicly available.

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As far as the present state of the Harrisburg reactor is concerned, I understand from the NII that the accident did indeed involve a drastic change in cooling conditions which in turn led to serious damage to the fuel. But after the first few hours effective cooling of the damaged core was established through the use of water initially at high pressure and later at lower pressure, and stable conditions have been maintained continuously to the present time. The general water temperature is about 72°C with local temperatures up to about 110°C and local boiling is prevented by keeping the pressure at a suitable level (255 psig).

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LPO

Sir A. COTTRELL

10 DOWNING STREET

From the Private Secretary

1 February 1980

Thank you for your letter of 31 January.

I confirm that you will certainly receive a reply to your earlier letter to the Prime Minister, and I am sorry that you have had to wait so long.

M. A. PATTISON

Sir Alan Cottrell, F.R.S.

VLS

C.R. chasing 1/2

Chase & tell me today what the position is MAP

PSatt R1/2

THE MASTER'S LODGE
JESUS COLLEGE
CAMBRIDGE CB5 8BL
TELEPHONE (0223) 353310

31 January 1980.

Michael Pattison, Esq.,
The Private Secretary,
10 Downing Street,
London SW1.

Dear Mr. Pattison,

You will recall your letter to me (6 December) which acknowledged my letter of 4 December to the Prime Minister. I shall be glad to know if I may expect a reply on the content of my letter.

Yours sincerely,

Alan Cottrell

Alan Cottrell

Not for wank of trying.

Jane

→ Energy (Pt 3) 'Oil Prices' thereof

SECRET

Extract from PMs Meeting with King Hussein 23 ~~24~~ January 1980
at No. 10 1630 hours
Subject copy filed on Jordan (June 1979) 'Visits to London by King Hussein'

Oil

King Hussein said that another very serious problem in the area, which was of course connected with the situation in Iran, was that of the uncertainty in the oil market and the instability of oil prices. The Iranian crisis had driven up prices and he was now concerned about the consequences if the Soviet Union entered the oil market in a more substantial way. The Prime Minister agreed about the need for greater stability in oil prices. At present there was, in fact, a surplus in oil production. But purchases of oil for stock-piling purposes was driving up the price. If

- 2 -

Iran were to break up, it might be impossible to re-establish stability in the oil market in the foreseeable future. The Foreign and Commonwealth Secretary commented that he was not convinced that a number of oil producing states would not limit production if it became apparent later this year that there was a surplus.

SECRET

FILE

RH

Energy.

17 January 1980

Visit to the Middle East

The Prime Minister has read with interest the Secretary of State for Energy's minute to her of 16 January about his visit to the Middle East. She has no comments.

M. O'D. B. ALEXANDER

W J Burroughs Esq
Department of Energy

(2)

PRIME MINISTER

VISIT TO THE MIDDLE EAST
4-11 JANUARY 1980

I had a most useful visit to Kuwait, Saudi Arabia and Iraq in the week 4-11 January. In the course of this visit I had full discussions with oil and other Ministers and was received by the Emir of Kuwait, the King and Crown Prince of Saudi Arabia and the Deputy Prime Minister of Iraq.

Events in Afghanistan and Iran have clearly frightened the Governments of all these countries. Amongst other things, they saw recent Soviet actions as a possible prelude to moves to gain control of Middle East oil. Kuwait and Saudi Arabia explicitly said that only a firm stand by the West could prevent further intrusions by the Soviet Union. Generally, the oil producers in the Middle East have become much more aware of the extent to which they depend on the continued stability of the West. Their fear of the Soviet Union is not, however, matched by an equal willingness to stand up and be counted in the international fora of the world.

All the oil ministers I talked to were of the view that there would be a temporary surplus of oil supplies over demand during 1980. Views on the size and duration of this surplus varied: Sheik Yamani taking the most optimistic line in estimating that there was a current surplus of 3 million barrels per day. All the Ministers expressed the hope that this surplus would lead to an easing of oil prices and to their greater stability (though there was at least some doubt about the whole-hearted support of Kuwait).

There was, however, no agreement on the extent to which, and how soon, this surplus might lead to an easing of prices. The general nervousness amongst consumers could well lead to continued stockpiling beyond the current already high levels. Furthermore, buyers might still take contracted supplies at high prices to retain the goodwill of suppliers. I emphasised to Sheik Yamani, in particular, that an additional problem was the maldistribution of supplies - the fact that the Aramco Partners were getting more than adequate supplies meant that other companies, notably BP and Shell, were forced to pay higher prices for other supplies (e.g. from Iran).

The Saudi Arabians said that they did not see themselves maintaining their production at 9.5 m.b.d. indefinitely but at least implied that they were not intending to cut back until some easing of prices had taken place. The Kuwaitis stressed their determination to reduce production at an early date to 1.5 m.b.d. but I am left with the impression that they will not in practice do so if it is likely to lead to increased instability of prices. The Iraqis gave no indication that they were likely to reduce oil production in the foreseeable future.

There was general agreement that there would be increased use of Government-to-Government oil deals. Iraq in particular wanted to see almost all oil moved through such channels so that their political strategy could be enforced. Kuwait, though taking a much less political view saw no reversal of the trend as likely though she accepted that greater use of this route was inefficient and likely to lead to higher prices and higher stock-piles.

I explained our potential interest as a Government in direct oil deals and received sufficient encouragement to make me think that there will be opportunities for us. Iraq spoke of possible trading deals particularly when the market had become more stable; Kuwait were ready to renew discussions with BNOC and Saudi Arabia took note of our potential interest. We must watch for and take any openings which occur.

Kuwait and Saudi Arabia in particular took up the question of North Sea oil pricing. The line was taken that the UK should not be taking its lead from such "revolutionary" governments as Algeria and Libya. By doing so we would be used as justification for more moderate producers to bring their prices into line with the extremists. I explained to them, as also to Iraq, that the UK did not set prices. BNOC was required under its participation agreements to pay market prices for the oil it bought. Since North Sea was directly comparable to that of

African producers we had therefore no escape from following the lead of such countries.

Other points were:

i) Kuwait was finding it extremely difficult to invest its revenues. It wanted opportunities to make low risk high return investments overseas of a kind which it was very difficult to find. The obvious conclusion was that it was better advised to reduce production and keep its oil in the ground.

ii) The Kuwaitis stressed that additional taxes by industrial countries on oil encouraged oil producing countries to put up prices however illogical this might seem to us. (Yamani made the same point on previous occasions).

Finally a special word about Iraq. We appeared to be much more welcome than we expected. This socialist police state seems to be cautiously opening its doors wider to the West. Apart from the possibility of oil deals they showed considerable interest in a continuing dialogue with us and in the possibility of a Seminar on oil and particularly gas questions which it was left to us to pursue further in the first instance.

I am copying this to Chancellor of the Exchequer, the Foreign Secretary, the Secretaries of State for Industry and Trade, and Sir Robert Armstrong.

DH.

Secretary of State for Energy
16 January 1980

File

Original in C/K. JD

C.F. to note

cc: D/En

Energy

10 DOWNING STREET

THE PRIME MINISTER

16 January 1930

Dear Terence,

Thank you for your letter of 20 December enclosing one from Mr. D.R. Park on behalf of the Worthing Group of the Conservation Society about nuclear power. Mr. Park raised a number of interesting and important points; in consequence, my reply is long, but I hope that he will find it helpful.

The Need for Nuclear Power

We are sure that the ordering of more nuclear power stations is necessary if we are to have a realistic policy for meeting our future energy needs. Quite simply, as David Howell has made clear, we must face the fact that our own oil and gas resources will be declining in the 1990s. Even with full exploitation of our coal, and of energy conservation, and with great efforts on renewable energy sources, we cannot realistically expect to be able to meet our long term energy needs without a sizeable contribution from nuclear power. Nuclear power, and a strong nuclear industry, are therefore essential to the UK's energy policy.

Use of the Pressurised Water Reactor (PWR)

I think it is clearly right in principle for Britain to become involved in this technology while continuing with the two latest AGR stations. The PWR system is well established and proven abroad, with over 400 operating years behind it. It costs less than the British AGR; and the research and development that has been devoted to it worldwide is many times greater than that on the AGR. The techniques of manufacturing, constructing and operating it are well developed and understood. If problems should arise, there will be a major effort in many countries to resolve them, whereas with the AGR we are alone.

/ But, of course,

But, of course, safety is of overriding importance; and I would emphasise that there is no question of this or any other type of reactor being built or operated here unless it meets the full requirements of the Nuclear Inspectorate and our independent licensing authority. David Howell has also said that documentation on the safety issues will be available to the public for the public inquiry that will take place in connection with the Generating Board's application for consent to build a PWR station.

As to the implications of Harrisburg for the PWR, the NII in their recently published assessment of the Kemeny Report said it has not led them to change their view that a PWR is capable of being designed, constructed and operated to satisfy their conditions for a licence in Britain. But of course they will take this Report into account in their licensing work.

Information for the Public

We want the public to be properly informed about the problems of nuclear power and nuclear safety. I do not think it is right to say that people only hear what the nuclear industry wants, or thinks is favourable. The industry certainly publishes information about its activities, and I think it is less than fair to them to suggest that this is not objective. But other people publish as well. The obvious example of an outside publication is the quarterly statement of incidents at nuclear installations. Another is the reports of inquiries. The Royal Commission on Environmental Pollution examined the effect of nuclear power on the environment in 1976, taking a wide range of evidence. Their report has been published. There was also a very wide ranging inquiry (lasting 100 days) into the proposed Thermal Oxide Reprocessing Plant at Windscale; the environmental implications of nuclear energy were again examined. This report was published also. For the future we are committed to a public inquiry into the PWR and, as I said above safety documentation will be available for this.

/Terrorist Risks

Terrorist risks and material not accounted for

I can assure Mr. Park that we do not belittle terrorist risks. On the contrary, we take very careful precautions - including the provision of armed guards to protect plutonium and other sensitive fissile materials in storage and in transit - and will continue to do so. The handling of such material is strictly controlled within establishments where it is held or used.

Accounts of nuclear materials are kept at all nuclear sites in the UK. At intervals, comparisons are made between the physical and the "book" inventories of these materials. The arithmetical difference between the two inventories is known as the "material unaccounted for" (MUF) and may vary from one accounting period to another, being positive, showing an apparent gain; or negative, showing an apparent loss. These fluctuations arise because of unavoidable uncertainties in the precise measurement of large amounts of material of varied compositions. Mr. Park is thus right in this sense in saying that site accounting for nuclear materials is not exact. But the occurrence of positive MUF figures does not in fact mean that material has in some way been created or brought secretly on to the site; similarly, a negative MUF figure need not signify an actual loss of material. We are satisfied in fact that no significant quantity of material has been lost.

Handling of terrorist incidents

I do not think it would be helpful to speculate on what the Government would do if terrorists or other criminals actually obtained sensitive nuclear materials. We have contingency plans for dealing with terrorist incidents of all kinds, including those involving nuclear materials. But I do not think it would be in the national interest for me to go into the detail of these. On Mr. Park's suggested scenario, I might comment that I am advised that it would be necessary to set fire to enormous quantities of plutonium to create a significant hazard at even a range of a few hundred yards from the source. It seems an improbable situation. Terrorists could use other materials if they wanted to pose a significant threat to the population. I think it is worth emphasising generally that the

/problem is

problem is basically terrorism, not plutonium. If there are terrorists who want to harm the public, the absence of plutonium will not stop them.

Incidents at Windscale

Neither of the two recent leaks of radioactivity at Windscale has caused any harm to public or workers, or to the environment beyond the vicinity of the building concerned. The 1957 release of radioactivity was caused by a fire in an early nuclear reactor engaged in defence - related operations; the type was never used for commercial nuclear stations. It led to a temporary ban on the consumption of milk locally. A Committee set up at the time by the Medical Research Council concluded that "it is in the highest degree unlikely that any harm was done to the health of anybody, whether a worker in the Windscale plant or a member of the general public".

Waste disposal

I do not believe that the disposal of nuclear waste arising from the new programme need be a major problem. At present, highly active reprocessing wastes are stored in special tanks. The intention is to vitrify these wastes with a view to disposing of the glass to strata underground or to the sea, possibly after a period of surface storage. A full scale vitrification plant should be in operation later in this decade. A large scale research programme is in progress here and abroad into the disposal options referred to above. We share the confidence expressed by the Royal Commission on Environmental Pollution that an acceptable solution will be found.

Proliferation of nuclear weapons

We have always recognised the danger that the wider adoption of nuclear power might increase the possibility that other countries would obtain nuclear weapons. Our aim has been and remains to minimise this risk, and we take a full part in the extensive international efforts that are made to this end. These include arrangements to restrain the transfer of sensitive technology by means of technical and institutional barriers. But in the end, a decision by another

/country to build

country to build nuclear weapons is a political one and need not depend on civil nuclear power programmes. The key to reducing proliferation risks is to seek stability in international relations, and we are certainly doing this.

Costs of nuclear power

I am not sure that I understand the figures Mr. Park uses to support his argument that nuclear power is uneconomic. But in general, in considering investment in new generating capacity the CEGB assess future capital and operating costs, including fuel costs, as well as the cost of eventual decommissioning. On the best available estimates of these costs they believe that nuclear plant is the most economic for development, quite apart from our need of nuclear power as a contributor to total energy supplies.

Alternative supplies of energy

We certainly agree on the need to develop alternative sources so that in due course they may make a contribution to our energy needs. We have research programmes under way on tidal, wave, geothermal, wind and solar energy. Expenditure has increased, and in the current financial year the Department of Energy expenditure is estimated at £7 million. This is modest in comparison with expenditure on nuclear energy, but the renewable sources are still at the early research stage. Programmes have not yet reached the much more costly stages of prototype, development and demonstration. It seems unlikely that renewable sources will be able to contribute significantly to supply, or be economically preferable to other fuels, during the rest of the century; but they could begin to play a more substantial role thereafter.

I hope these comments will be of value to Mr. Park and the Worthing Group. The Government do not regard nuclear power as an end in itself. We are very conscious that we must have a balanced energy policy drawing on every one of the resources available to us, and that safety must be paramount. But we cannot have such a policy without a substantial nuclear contribution.

Yours ever

Margaret

The Rt. Hon. Terence Higgins, MP.

CONFIDENTIAL

Energy
cc Trade

10 DOWNING STREET

From the Private Secretary

21 December 1979

I enclose the note of the meeting held here at No. 10 this afternoon on Government-to-Government oil sales and privatisation of BNOC.

I am sending copies of this letter and enclosure to Bill Burroughs (Department of Energy), Michael Richardson (Lord Privy Seal's Office), Bill Beckett (Attorney General's Office) and Martin Vile (Cabinet Office).

T. P. LANKESTER

A.M.W. Battishill, Esq.,
HM Treasury.

CONFIDENTIAL

CC Masters
Energy Branch 2

CONFIDENTIAL

OIL POLICY

NOTE OF A MEETING HELD AT 10 DOWNING STREET AT 2:30PM ON FRIDAY 21 DECEMBER 1979.

PRESENT: THE PRIME MINISTER
THE CHANCELLOR OF THE EXCHEQUER
THE LORD PRIVY SEAL
SECRETARY OF STATE FOR ENERGY
ATTORNEY GENERAL
SIR KENNETH BERRILL

MR P LeCHEMINANT)
MR P MOUNTFIELD) Secretaries

1. GOVERNMENT-TO-GOVERNMENT OIL SALES

The meeting considered a note by the Secretary of State for Energy circulated with his Private Secretary's letter of 20 December.

THE SECRETARY OF STATE FOR ENERGY said that he wished to take the opportunity of his visit to the Middle East early in January to explore the possibility of Government-to-Government oil purchases. As agreed at the Prime Minister's meeting on 10 December, he had arranged for informal discussions with BP and Shell. While neither company was enthusiastic about the prospect, both recognised that in present circumstances, an increasing proportion of oil sales were likely to take the form of Government-to-Government deals, but were anxious that any initiatives taken by the British Government should not undermine their position in those countries where they still had a significant stake. The oil companies were anxious to be kept in touch.

In discussion, there was broad agreement that the British Government could not afford to ignore the possibility of such oil sales in future. At the same time it was important not to damage the interests of our own oil companies. We should therefore concentrate on developing

Government-to-Government contacts with those countries where BP and Shell no longer had a significant interest. It was also important that BNOC, if it were used as an instrument in these sales, should not be put into a position where it might make sizable losses.

THE PRIME MINISTER, summing up the discussion, said that the meeting agreed the Secretary of State for Energy should explore, on an entirely non-commital basis, the possibility of Government-to-Government sales, and should inform her of the reactions here received.

2. PRIVATISATION OF BNOC.

The meeting considered a note by officials, circulated under cover of a letter from the Chancellor of the Exchequer's Private Secretary dated 20 December.

THE CHANCELLOR OF THE EXCHEQUER said that he hoped to raise £500 million by way of disposal of public sector assets in 1980-81. About half of this was already available from 'firm offers'. Or a number of other potential sales, and it would not be absolutely necessary to dispose of part of BNOC in order to meet the target. But BNOC could make a significant contribution. The figures in the paper set out first, the contribution which BNOC's cash flow was likely to make to a reduction of the public sector borrowing requirement (PSBR) over the years to 1983-84. It then showed, for each of four possible disposal cases, the difference which this would make. Consistent assumptions about the future course of oil prices had been taken, and tax revenue was shown separately. The essential difference was that any sale of assets involved giving up future revenues in exchange for immediate cash. The Budgetary position in 1980-81 and 1981-82 would probably justify such disposals. The longer-term objective remained the privatisation of large parts of the present public sector.

In discussion, it was suggested that the Government might need the additional revenue from BNOC just as badly in the later years of the

period. If oil prices continued to rise in real terms at their present rate, those revenues would be significantly higher. It might be more prudent, therefore, to dispose of a comparatively small part of BNOC in the early years.

In further discussion, it was argued that any split of the existing BNOC into a 'trading' and 'operating' subsidiary would be seen overseas as a political device intended to retain a Government control over the destination of North Sea oil. Against this it was argued that the proposed arrangements were easier to defend, in terms of community law, than the present participation deals, which contained 'sale back' arrangements which were open to challenge. On balance, it seemed that, internationally, there was nothing to lose and possibly something to gain from the proposed changes.

It was further argued that the device of splitting the present BNOC would weaken the management of the BNOC 'trading' subsidiary by deprieving it of information about the costs of North Sea oil production. Most major oil companies still operated as integrated entities, combining production with trading functions. Against this, it was argued that BNOC 'trading' would be dealing with many different production companies, and there was no particular case for it to retain a stake in its former affiliate, BNOC (operating). Indeed the operation might go better if the two were at arms length.

In continuing discussion, it was suggested that the sales of the 'operating' subsidiary would command a better price if it were made clear to the market from the start that the ultimate objective were to remove the new company from Government control. This would also have the technical advantage of removing the company from the public sector, and thus allowing the proceeds of sale to be treated as a reduction of the Public Sector Borrowing Requirement, rather than a means of financing it. It was however suggested that the accounting conventions in this area were unnecessarily rigid and need not be regarded as an overriding objection.

THE PRIME MINISTER, summing up the discussion, said that the meeting agreed on a division of BNOC into separate 'operating' and 'trading' subsidiaries. The necessary legislation should be drafted accordingly. While the ultimate object remained the privatisation of BNOC, there was no need for a decision at this stage on the timing, speed or extent of disposal of shares in BNOC (Operating). The Secretary of State for Energy, in consultation with the Chancellor of the Exchequer, should raise the issues again at a later stage. At the same time, the Chancellor of the Exchequer should re-examine the accounting conventions which determined whether or not the proceeds of sale counted as a reduction of the PSBR.

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

01 211 6402

Michael Alexander
Private Secretary to the
Prime Minister
10 Downing Street
LONDON SW1

20 December 1979

Dear Michael,

GOVERNMENT DEALS WITH OPEC

Thank you for your letter of 17 December concerning the IEA Ministerial Meeting. My Secretary of State has acted on the Prime Minister's suggestion that informal discussions be held with the oil companies concerning Government deals with OPEC countries in time for the meeting of Ministers on 21 December.

I attach a paper for discussion at this meeting, reporting the outcome of contacts with BNOC, BP and Shell and indicating the direction in which my Secretary of State intends to proceed, subject to the agreement of colleagues.

I am sending a copy of this letter and attachment to the recipients of yours.

Yours ever,

W J Burroughs
Private Secretary

2.30

MEETING OF MINISTERS TO DISCUSS OIL POLICY - 21 DECEMBER, ~~4.00~~ PM

AT NO. 10

GOVERNMENT to GOVERNMENT OIL PURCHASES

Note by the Secretary of State for Energy

In my note on the Implications of Changes in the World Oil Market, which was circulated by my Private Secretary's letter of 5th December, I recommended that officials should evaluate the scope for and relative merits of establishing direct purchasing arrangements with OPEC governments through BNOC, specially created subsidiaries of BP or Shell, or major UK industrial oil consumers. Exploratory discussions have been held between my officials, BP Shell and BNOC. We need to form some preliminary views on the merits of these possible approaches to guide me in my forthcoming visit to the Middle East (Kuwait, Saudi Arabia (and Iraq)).

2. BP and Shell share basic reservations about the OPEC producers' interest in encouraging government to government arrangements. They doubt that the producers' motivation is genuinely antipathic towards the multi-nationals (who offer some attractions as technically and financially reliable customers when supply exceeds demand), believing rather that their basic objective is simply to divert more oil to the spot market. The companies draw attention to the obvious increased vulnerability of government customers to OPEC political pressure. They are anxious about government competition with the major oil companies for access to supplies simply aggravating supply disruptions and pressure on prices. Nonetheless, both companies ultimately took a pragmatic attitude, accepting that in present circumstances there may be some countries in which governments can gain access to much needed oil supplies which are likely to be denied to the traditional multi-national customers.

BP's attitude

3. BP's initial reservations were stronger than those of Shell because they see the UK as already being relatively advantaged in terms of secure oil supply, particularly following the recent dedication of BP's UK production to UK needs. In these circumstances they questioned the need for HMG to join the rush of governments seeking direct supply from OPEC. They themselves, however, have already given some encouragement to their affiliates in Europe to seek direct supply on their own behalf. If HMG were to move into this area, BP would hope to be directly associated with the initiative and to have access to any oil secured for the benefit of their international business. However, having accepted that the imminent net self-sufficiency of the UK does not amount to security of supply for all the oil requirements of the UK, BP do accept that HMG might be able to gain access to oil to which BP cannot hope to have access and which would then be dedicated to the UK. For example, BP have no real expectations in Saudi Arabia, nor do they expect to be able to improve on the reduced supply they have been offered in Iraq in 1980. On the other hand, they would regard any government intervention at this stage in Kuwait as potentially damaging. What they seek is a commitment to close consultation case by case with HMG to try to ensure that there is no additional loss to BP through the appearance on the scene of HMG (or its agent). Should HMG secure oil of this kind, BP seek the opportunity to use their facilities (transport and refining) to the maximum extent compatible with HMG's basic purpose.

Shell's attitude

4. Shell's attitude to the practical aspects of a possible initiative by HMG is to warn against the danger of paying prices too far in excess of the Government Selling Price (GSP). On the basis that world supply is currently actually in excess of real demand, they expect to be able to close their supply gap in 1980, albeit in part at spot prices. Their prime interest in HMG's potential role is in possible access to crude at a better price. They have a deficit on their UK requirement and would be prepared

to take an additional supply from HMG on terms which give some fall-back insurance through their international supply company if this new supply were suddenly terminated. Shell share BP's assessment of the lack of prospects for them in Saudi Arabia. However they would regard any government initiative in Iraq or Kuwait as premature. Shell, like BP, would gladly offer its facilities as agent to HMG in the event of HMG securing additional supplies.

BNOC position

5. BNOC have already held some conversations with the Kuwaitis with a view to a small scale crude oil exchange that would give the UK a net volume advantage (say 1.3 barrels of heavy for 1.0 of light) and claim they have the blessing in principle of the Kuwaiti Minister for Oil. They also have invitations, but only in general terms, to visit Saudi Arabia, Qatar and Abu Dhabi. BNOC take the view that they should be principal rather than agent in any direct dealings with OPEC governments for the supply of crude, accepting that they should dispose of it to UK refiners. They offer the services of the Corporation as a participant from the outset in any discussions with OPEC governments.

Assessment

6. My assessment is that the OPEC move away from the multi-nationals has substance and cannot be ignored. Though the UK has a clear advantage over its EEC neighbours, we remain heavily dependent on the efforts of the multi-nationals for the imported half of our supply. Even during the period of net UK self-sufficiency we shall be unable to count on about 1/5th of our crude requirement (even on an exchange basis) since volumes of UKCS crude of that order belong to companies without refining interests in the UK. Government to government deals may be the only way in which sufficient crude can be obtained for our refineries at term prices (or something near that). Despite the danger of adding impetus to undesirable market changes I judge that our security of supply could be increased by government to government dealing with OPEC.

7. OPEC may well prove more willing in practice to deal with HMG than with Shell or BP, even though OPEC professes reluctance to deal with traders, even national oil companies, who have no refining interests. This assessment does not need to be resolved now, but it is clear from the assessment of Shell and BP that there are already some OPEC producers who might repay government to government overtures.

8. At this stage we need go no further than test the reaction of OPEC governments to dealing with HMG or a company acting on its behalf. I believe that any associated financial risks, whether our agent is BNOC or a private company, could be off-loaded on to the ultimate recipients of the oil. Refining companies should be willing to pay that price in the interests of securing their supplies at something close to term prices.

9. I propose to use my visit to the Middle East in January to take soundings of the position and the strength of the OPEC move away from the multi-nationals. The line I will take will depend upon the circumstances in each country, accepting the general need for caution in our approach at this stage. It is clear that in Kuwait I shall need to exercise special caution given the interests of BP and Shell. In Saudi Arabia there seems to be scope for more robust enquiry. Should one of my team visit Iraq, he will need to take a middle course, bearing in mind BP's lack of further expectations there and the uncertainty of Shell's position. I am arranging up to the minute briefing from the two private sector companies. I propose to warn BNOC to take no further initiative in the Middle East until after my return.

cc Energy (BNOC) PM 2

PRIME MINISTER

ENERGY POLICY - MEETING 21 DECEMBER

There are two separate points for discussion at this meeting: Government-to-Government oil sales; and Privatisation of BNOC. You may find it convenient to take them in that order.

(A) Government-to-Government Oil Sales:

BACKGROUND

At your meeting on International Energy Policy on 10 December, you agreed that there should be a further discussion among Ministers of Mr Howell's proposal to explore the scope for Government-to-Government oil sales. The original proposal was set out in the second of the three long papers which he sent to you on 5 December, under the heading 'Implications of changes in the world oil market'. Paragraph 37 of that paper said that, while North Sea oil reduced the pressure on us to seek such deals, and while we would wish to discourage others from doing so, we could not afford to be left behind. It then suggested a number of possibilities: using BNOC; using BP or Shell subsidiaries; or using other big British trading companies. In paragraph 5(a) of his covering note, he asked for agreement that 'officials should urgently evaluate the scope for and relative merits of establishing direct purchasing arrangements [of this kind]'. He returned to this point in his minute to you of 12 December, reporting on his visit to the IEA Ministerial meeting. Mr Alexander's letter of 17 December records your agreement that Mr Howell should enter into informal contacts with the United Kingdom oil companies, and report back before Christmas. His Private Secretary's letter of 20 December covers that report. It says that BP and Shell, while not enthusiastic, are prepared to play, provided that any oil they handle can be placed in such a way as to eliminate any loss to them (back-to-back sales); that BNOC is similarly prepared to operate on a 'no loss' basis, on-selling to British refiners (this disposes of the Chancellor's main worry about

Flag A

the involvement of BNOC and their possible exposure to risk); but he has not so far discussed the matter with any other British trading companies.

The point for decision is that Mr Howell wants to carry out some exploratory talks with producers while he is in the Middle East from 4 January onwards. This is the last chance for Ministers to give him a line to take.

HANDLING

You might therefore invite him, briefly, to recapitulate the stage he has reached with the oil companies and BNOC; and then invite comments from the Lord Privy Seal, the Secretary of State for Trade (who himself visited Saudi Arabia recently and saw possibilities there); and from the Chancellor. The points to establish are -

a. should we, in principle, be prepared to enter into Government-to-Government sales at all, or should we pursue the path of virtue and encourage other Western Governments to do the same?

b. if we are disposed to go in this direction, is the response of the oil companies and of BNOC sufficiently encouraging?

c. is it agreed that Mr Howell should explore these possibilities with producer states during his visit? If so, with what degree of commitment? On this, the key point, you will presumably want him to stick to exploration, and if there is any interest shown, to promise to send out Government and oil company officials to explore in more detail. Such matters as quantity, price, and other conditions should not finally be settled during this visit;

d. what implications does this have for the future role of BNOC? At this point the discussion shades off into the next item: you may prefer to wind up this part of the meeting first.

1

CONCLUSIONS:

You will probably be able to sum up this part of the discussion by saying -

i. that Ministers agree in principle to explore the scope for Government-to-Government oil sales;

ii. that they agree that the best route is to use BP, Shell and BNOC on the terms suggested by Mr Howell;

iii. to agree that in his visit to the Middle East, Mr Howell should explore without commitment the scope for such deals, and if necessary, promise to send out officials to negotiate in more detail.

(B) Privatisation of BNOC

BACKGROUND

Following an inconclusive discussion in E last week, the Chancellor has arranged for officials to set out, more clearly than before, the PSBR consequences of the various routes to privatisation. He has added a rather more general cover note, and is also circulating an aide-memoire setting out the various options schematically. At the same time, the CPRS have produced a note which effectively re-opens the whole question of disposing of BNOC at all.

now combined Flag B in one document —

Flag C

See also Mr Howell's minute at Flag D

It may help to put these in the context of a recent discussion in E(DL). The Chancellor has established a target of £500 million - worth of disposals next year (1980-81). Against this, he has a shopping list amounting to some £879 million. About £320 million of this is 'fairly firm'; and BNOC is set down for a separate £225 million, corresponding roughly to a sale of 25 per cent of the shares in BNOC 'operating'. (For comparison, sale of BGC's Wytch Farm oil field would yield perhaps another £100 million). So disposal of BNOC next year is not absolutely essential to the achievement of the Chancellor's target.

The facts and figures are now set out, with a fair degree of confidence. There are two main points to watch. The first is the trade-off between early revenue from disposals and later revenue from keeping BNOC in the public sector. The second is the differing effects on the PSBR of the different modes of disposal. Roughly speaking, the further BNOC moves away from the Government, the bigger the reduction in the PSBR. If the Government retains control of BNOC, so that it stays within the public sector, disposal does not reduce the PSBR; but the proceeds of sale go to finance the PSBR instead. (ie, they count as a kind of Government borrowing, although tapping a rather different market.) The effect on the budget arithmetic is the same. It is the published PSBR figure which differs and this can affect confidence. The points raised by the CPRS are very fair, and may affect the absolute figures but they do not seem to affect the relative costs of the various options. Ministers thus have the facts and figures on which they can reach a judgement. The essential choice now is between postponing a decision, or pressing ahead with legislation early in the New Year. If a decision is postponed, there will be more time to explore the alternatives. If there is to be legislation next year, and in particular if the Chancellor is to score £225 million or so for BNOC in 1980-81, then one or other of the modes of disposal must be chosen now. The CPRS paper points up some of the difficulties. The first part of the discussion is also relevant: do Government-to-Government oil deals increase the attractions of maintaining a state owned oil company of sufficient and credible size, ie is there now a case for going slow on changing the nature of BNOC.

HANDLING

I suggest you might pose the question in these terms, and then call for statements from the Chancellor, the Secretary of State for Energy and (if you wish) from Sir Kenneth Berrill. Other Ministers can then join in. It will be particularly important to hear from the Lord Privy Seal and - in view of the legal issues raised before - from the Attorney General.

CONCLUSIONS

The essential conclusion must be either -

i. to agree to postpone the privatisation of BNOC; or

ii. to agree to press ahead with legislation in the current Parliamentary Session.

If the choice is ii, then you need also to record a decision on -

iii. the choice of method -

- whether to split the Corporation between 'operating' and trading'; (Case 1)

or

- to keep the Corporation intact and sell 49 per cent of the shares; (Case 2)

or

- to choose one of the other two options set out in the Chancellor's paper (Cases 3 and 4)

iv. whether to hold open the option of a 'British Columbia' give-away

v. to invite the Secretary of State for Energy, after consulting the Chancellor, to prepare a detailed scheme, on which policy approval can be given so that drafting can proceed, and thereafter, to come up with a phased plan for disposals in 1980-81, on which the Chancellor can base his Budget arithmetic. (He will need this by the end of February).

P Le CHEMINANT

Cabinet Office

20 December 1979

DEPARTMENT OF TRADE 1 VICTORIA STREET LONDON SW1H 0ET Telephone 01-215 7877

Energy

From the Secretary of State

The Rt Hon David Howell MP
Secretary of State for Energy
Thames House South
Millbank
London, SW1

20 December 1979

Dear David

21/12

GOVERNMENT TO GOVERNMENT OIL DEALS

In your minute to the Prime Minister dated 12 December reporting the outcome of the IEA Ministerial Meeting, you asked for views on the question of government to government oil deals with OPEC countries. I fully support an initiative on the lines you recommend, although we must seek to avoid the pitfalls you describe in your paper on the 'World Oil Market'. Indeed, you will be aware that I raised this matter with the Iraqi Minister of Trade, Mr Hassan Ali, on my recent visit to the Middle East, and the suggestion that we would be willing to explore state to state agreements on oil was favourably received. He suggested that we should pursue this matter with them, and your visit would provide the opportunity for you to do so.

I am copying this letter to recipients of your minute.

Yours ever

John.

JOHN NOTT

CONFIDENTIAL

Foreign and Commonwealth Office
London SW1

19 December 1979

IEA MINISTERIAL MEETING: 10 DECEMBER

In your minute to the Prime Minister of 12 December you asked for agreement by correspondence to the recommendation in paragraph 5(a) of your note of 3 December on 'Implications of changes in the world oil market'. I have since seen Geoffrey Howe's minute of 17 December; and the letter from No 10 to your Private Secretary recording the Prime Minister's views.

I agree that it will be useful to consider the question in the light of the consultations with the companies before your visit to Saudi Arabia and Kuwait. If we subsequently decide that BNOC should be more active in dealing with OPEC governments, it will be important to ensure that the foreign policy implications of what they do are carefully considered in Whitehall. Since we are seen abroad as having responsibility for BNOC, I think you will agree that we must keep a particularly close eye on their activities in the inevitably sensitive area of dealings with foreign governments or state-owned companies. I think that it would be useful for officials to consider this aspect of the matter, and to make recommendations for any new machinery or procedures which may be required.

/You

The Rt Hon David Howell MP
Secretary of State for Energy
Thames House South
Millbank
London SW1

CONFIDENTIAL

You mentioned in your minute that we shall have to move fast if the available oil is not to be pre-empted by others. I hope that the consultations with the companies, and more particularly with BP and Shell, will give us the material we need to assess the extent to which there is a real danger of pre-emption in the short term . We should clearly avoid action which may give unnecessary stimulus to the international competition for short supplies, and serve artificially to strengthen the hand of the more extreme OPEC countries.

Finally, I agree with Geoffrey Howe that we shall wish to avoid a situation where BNOC might obtain oil at the expense of Shell and BP; and that we should also consider the implications of government to government deals for the future structure of BNOC.

I am copying this letter to the Prime Minister and to the other recipients of your minute.

Subject filed on USA Nov 79: Visit to US: Policy

CONFIDENTIAL

Extract from Record of Meeting between PM and Chairman of the Board of the US Federal Reserve System, Washington, 17.12.79

Oil Producers' Balances

The Prime Minister expressed her concern that the huge scale of current liquidity in the international banking system would inevitably fuel inflation in some part of the world economy. Mr. Volcker was worried about the funds to be absorbed following the latest round of oil price increases. Percentage rises were now much less dramatic figures, but the rises were on a very much larger base than those of 1973/74, producing a volume just as large. There could be major problems in getting all this re-cycled. The Prime Minister shared these concerns. The situation was made bleaker by the growing ability of the producers to preserve their incomes whilst regularly decreasing their oil output. Mr. Volcker recalled that in 1973 there had been talk of the IMF working much more closely with the commercial banking sector. Nothing significant had come of this at the time, but the prospects would now need to be re-examined carefully.

CONFIDENTIAL

Subject filed as USA Visit Policy: Nov 1979

CONFIDENTIAL

Extract from Record of Meeting between PM and President Carter, Washington 17.12.79 (Pt 2)

Extract from discussion on Middle East -

The Foreign and Commonwealth Secretary said that the PLO band-wagon was rolling in Europe. The British Government was virtually the only Government not already on it. The reason for the reaction against Israel was their policy of establishing settlements on the West Bank. Mr. Brzezinski asked how the move in favour of the PLO would express itself. The President said that if it were to be in the United Nations he would not deplore this. The US Government was for the moment committed to Israel but the PLO had been very helpful of late. It would however be valuable if the isolation of Israel could be avoided where oil was concerned. He hoped that the United Kingdom, along with Norway and Mexico, might be prepared to sell the Israelis some oil if they asked for it. The Prime Minister pointed out that

/ Britain

CONFIDENTIAL

Britain was a member of the IEA and of the EEC. We were committed to sharing our oil with the other members of those organisations if there was a shortfall of 7 per cent. The President repeated that it would help if the UK could sell Israel a few tens of thousands of barrels of oil. The Foreign and Commonwealth Secretary recalled that our EEC partners had made it plain in Dublin that they expected the UK to sell them whatever spare oil they had. The President said that it was necessary to overcome difficulties rather than to enumerate them.

Energy

The Prime Minister asked whether the West Bank issue affected the views of the major oil producers on price. Or were the producing Governments simply selling their oil for whatever they could get? The President said that in his view the Middle East problem now made a minor contribution to rising oil prices. He noted that there were signs that recent events in Iran and Saudi Arabia was causing a reassessment by Middle East countries of their strategic alignments. It was very important in everyone's interest that Egypt and Israel should be strong and on good terms with their neighbours. He had written in his own hand to both President Sadat and Crown Prince Fahd saying how helpful it would be if there could be some easing of the animosity existing between their respective governments. There were encouraging signs of movement on this front.

The American Government was determined to carry forward the discussion begun at the recent meeting of the IEA. They were seeking an arrangement at the next IEA meeting in March on the allocation of oil in a time of shortage. They did not want a free for all. They wanted a specific formula to accommodate a shortfall of 1/1.5 million barrels per day/ in world production. The American Government thought that next year's production would fall below this year's level by that amount. They were ready

/for

for draconian action to keep imports under control. They already had the authority to impose import fees. The Prime Minister said that if consumption could be reduced imports would look after themselves. As prices moved upwards every household took steps to economise on their consumption. The present price rise was caused as much by uncertainty over future supply as by anything else.

18 December 1979

CONFIDENTIAL

Prime Minister

These points can be taken up at the meeting which we have fixed for ~~today~~ Friday.

N
17/12

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

PRIME MINISTER

GOVERNMENT TO GOVERNMENT DEALS WITH OPEC

David Howell sent me a copy of his minute to you of 12th December reporting on the outcome of the IEA Ministerial meeting on 10th December. In the penultimate paragraph of his minute he asked colleagues to agree by correspondence that he should pursue the question of Government to Government deals with the OPEC countries on the lines recommended in paragraph 5(a) of his paper on "Implications of Changes in the World Oil Market" (circulated under his Private Secretary's letter of 5th December).

2. Paragraph 5(a) of David Howell's paper invited colleagues to endorse:

> "That officials should urgently evaluate the scope for, and relative merits of, establishing direct purchasing arrangements with OPEC Governments through BNOC, specially created subsidiaries of BP or Shell or major UK industrial oil consumers."

I certainly welcome the study proposed in paragraph 5(a), but I should want the opportunity to consider its results before there were any contacts with OPEC countries about Government to Government deals. I say this particularly because of the financial risks such deals may involve. Paragraph 38 of the report by officials attached to David Howell's paper rightly points out that the most

/important

important problem involved in the deals indicated in his paragraph 5(a) is the risk of financial loss to the Government. In the case of BNOC any loss incurred in the purchase of oil from OPEC countries would necessarily fall on public expenditure and the PSBR. Major industrial oil consumers which did not normally buy oil direct might well ask us to guarantee them against any losses incurred through purchases of OPEC oil undertaken with our encouragement. And as paragraph 38 pointed out, even in the case of specially created BP and Shell subsidiaries, the possibility of a request for Government underwriting cannot be ruled out. I can certainly see the potential advantages of the sort of deal referred to in paragraph 5(a), but I could not welcome any arrangement which exposed the Government to significant risk of loss with consequences for the PSBR. I hope therefore that officials in their further consideration can devise some arrangement which minimises the risk of financial loss to the public sector.

3. I see that officials commented in paragraph 37 of their report that in view of some OPEC Governments' wish to deal with State oil companies, BNOC looked to be the obvious choice for such deals though the Corporation's lack of refining interests might be a disqualification in the eyes of OPEC. If this is right, I wonder whether it has any bearing on our consideration of the future of BNOC? Would OPEC be even less willing to deal with BNOC if the Corporation was solely an oil trader without any oil fields of its own? I would be interested to have David Howell's views on this point. In any event we want to avoid the situation where BNOC is obtaining oil e.g. from Kuwait, at the expense of Shell and BP. The result then could be that our national oil supplies would not have increased but that business would have been transferred from the private sector to the public sector, perhaps at higher prices to OPEC. We clearly need to guard against this.

/4. It is

4. It is clear that while the objective of Government to Government deals is welcome, they do carry certain risks. As I have already said, I entirely agree that officials should further consider the possibility of such deals and indeed should, as they recommended in paragraph 9 of their report, discuss them with BNOC, BP and Shell and with ICI and other major oil purchasers, including the CEGB. I hope all this can be done so that we can come to some view before David Howell goes to the Middle East early in January. If it cannot, I think that he will have to be very guarded in any approach he makes to OPEC governments on the subject.

5. I am sending copies of this minute to Peter Carrington, David Howell, John Nott, Sir Robert Armstrong and Sir Kenneth Berrill.

(G.H.)

17 December, 1979

PA

MJS

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

Nick Sanders Esq
Private Secretary
10 Downing Street
LONDON SW1

17 December 1979

Dear Nick,

NUCLEAR POWER POLICY AND THE NUCLEAR INDUSTRY

Thank you for your letter of 12 December about the statement which my Secretary of State will be making tomorrow.

I attach the final draft of the text. It incorporates the Prime Minister's drafting changes, as well as some more general clarification of the wording which my Secretary of State felt was needed. You will note that he now proposes to refer to the 15GW programme in the text of the statement itself.

My Secretary of State has asked me to say that he has decided not to announce Lord Aldington's successor as NNC Chairman in the statement. Mr Howell has not yet finally completed his consultations on this subject and believes that it would be wrong to make a public announcement before doing so. He will, however, be making it clear, with the agreement of Lord Aldington, that there is to be a change of chairmanship.

I am copying this letter to the other private secretaries to the members of E Committee and to Martin Vile (Cabinet Office).

Yours sincerely,

W J BURROUGHS
PRIVATE SECRETARY

Bill

STATEMENT ON THE NUCLEAR PROGRAMME AND THE NUCLEAR INDUSTRY

With permission, Mr Speaker, I wish to make a statement.

2. Safe nuclear power and a strong nuclear industry are essential to this country's energy policy. On present prospects, supplies of North Sea oil and gas will be declining in the 1990s. Even with full exploitation of coal and conservation, and with great efforts on renewable energy sources, it will be difficult, if not impossible, to meet this country's long-term energy needs without a sizeable contribution from nuclear power.

3. The British nuclear power programme has been in decline over the last decade and the structure of the nuclear industry has been under review for nearly two years. If we are to reverse this trend and ensure that industry is on a sound footing we must act now.

4. The Government have therefore held urgent consultations with those most directly concerned.

5. We believe that there must be continuing nuclear power station orders if our long-term energy supplies are to be secured and current industrial uncertainties are to be resolved.

6. The last Government authorised the Central Electricity Generating Board and the South of Scotland Electricity Board 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.

7. The last Government also endorsed the intention of the CEGB to establish the Pressurised Water Reactor as a valid option by ordering a PWR station provided - and I quote - "design work is satisfactorily completed and all necessary Government and other consents and safety clearances have been obtained." The present Government agree that the nuclear and electricity supply industries should now proceed along these lines, and we have made clear to them our wish that, subject to the necessary consents and safety clearances, the PWR should be the next nuclear power station order, with the aim of starting construction in 1982. With the approval of the Government, the CEGB have endorsed the National Nuclear Corporation's selection of Westinghouse as licensor for the PWR, and will shortly issue a letter of intent to NNC to authorise the design and, subject to the necessary approvals, manufacture of a PWR. In consultation with the CEGB, the

NNC will prepare the safety case forthe Board to consider and submit to the Nuclear Installations Inspectorate. Statutory consent actually to build the station will also be needed and an inquiry will be held in due course.

8. We attach overriding importance to the safety of nuclear power and will want to ensure that the lessons of events at the Three Mile Island station in the United States have been learnt. I am today publishing preliminary assessments of the Kemeny Report on this incident provided to me by the NII and other authorities in the UK

9. Looking ahead, the electricity supply industry have advised that even on cautious assumptions they would need to order at least one new nuclear power station a year in the dacade from 1982, or a programme of the order of 15000megawatts over ten years. The precise level of future ordering will depend upon the development of electricity demand and the performance of the industry, but we consider this a reasonable prospect against which the nuclear and power plant industries can plan. Decisions about the choice of reactor for later orders will be taken in due course.

10. The Government attach importance to the steady build-up of the NNC into a strong and independent design and construction company, fully able to supply nuclear power stations at home and abroad efficiently.

11. The Boards of NNC and of its operating subsidiary, the Nuclear Power Company, will be brought together into a single-tier structure with full responsibility for the affairs of the company. The supervisory management agreement between the NNC and the General Electric Company will be terminated. The management of the NNC will be built up to suit the needs of our nuclear programme.

12. Lord Aldington, chairman of the NNC, has told me that he wishes to retire. I would like to pay tribute to the valuable and unstinted service which he has devoted to the nuclear industry over the last six years. I will be arranging for a successor to take over the chairmanship in due course.

13. The immediate task of the NNC is to carry forward their work on the AGR programme, including early commissioning of the remainder of the first AGRs, and to complete work on a PWR design, ready for safety scrutiny. In addition it is the Government's wish that the Company should take on total project management responsibility for the first PWR, drawing on whatever resources it may need to

support it in this role. The Company may also wish to consider moving into some areas of manufacturing in due course.

14. The future success of our nuclear programme is of great importance to the prosperity of this country. I ask all concerned to give their active support to the decisions which I have announced.

CONFIDENTIAL

cc FCO
HMT
CO
TRADE
CPRS

217

10 DOWNING STREET

From the Private Secretary

B/F 20.12.79.

17 December 1979

Dear Bill,

IEA Ministerial Meeting

The Prime Minister has seen the minute which the Secretary of State for Energy sent to her on 12 December on this subject.

On the point raised in the penultimate paragraph of Mr. Howell's minute, the Prime Minister agrees on the need to press ahead rapidly on the problem of Government to Government deals with OPEC countries. She suggests that Mr. Howell should enter into informal contacts with the UK oil companies, including BNOC, as soon as possible and that he should report on the outcome of those contacts by the middle of next week in order that Ministers can consider the problem when they meet on 21 December.

I am sending copies of this letter to George Walden (Foreign and Commonwealth Office), Tony Battishill (HM Treasury), Stuart Hampson (Department of Trade), Martin Vile (Cabinet Office) and to Sir Kenneth Berrill.

Yours sincerely

Michael Alexander

Bill Burroughs, Esq.,
Department of Energy.

CONFIDENTIAL

PRIME MINISTER

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STATEMENTS IN THE HOUSE

There have been four Statements in the last three days - on the Third London Airport, Nuclear Power, Rhodesia and Bingham. The first three went exceptionally well, and gave the Government an air of enhanced authority and confidence. Today's Statement by the Attorney General did not go nearly as well.

Third London Airport

The Statement is at Flag A. Mr. Nott spent the best part of an hour dealing with supplementaries, most of which had a constituency flavour. He was warmly supported from most sides of the House, but ran into the expected sharp criticisms from Alan Haselhurst and Eldon Griffiths. Alan Haselhurst said that many people would regard the package he had announced as having expediency written all over it, and that it would cost £1 billion. Eldon Griffiths said that Mr. Nott should not assume too lightly that the Government would necessarily get their way.

Mr. Nott said that he understood that some people would be disappointed with the choice of Stansted for development, but that the total cost could be met out of the self-financing revenue of the BAA. He reminded Mr. Griffiths that when he was the Minister responsible, the Government went for Maplin.

Mr. Nott emphasised repeatedly that he was not proposing a wholly new third airport for London, but only the development of Stansted to meet the demand, together with the fourth terminal at Heathrow and the possible second terminal at Gatwick.

Nuclear Power

A copy of the Statement is at Flag B. Mr. Howell emphasised in dealing with supplementaries that safety would be the paramount consideration in reaching decisions, and that there would be a wide-ranging inquiry before any PWR was begun. He refused to give

/any

any indication of where future nuclear power stations would be built, and ran into a little trouble as a result.

Mr. Benn said that the programme now proposed would involve public expenditure of £10-20 billion. He called it a "crash programme, with American reactors not tried in this country and now suspect abroad". Mr. Howell said that the programme he had announced would result in 22 gigawatts at the end of 10 years, far short of the level outlined in Mr. Benn's own Green Paper of 40 gigawatts by the turn of the century.

Mr. Howell published yesterday the evaluations of the Kemeny report prepared by the NNC, CEGB and UKAEA. He said that he proposed to make public further documents to help to meet the queries and worries of Members and the public. He said that although a lot of research was going on, he could not see a very substantial contribution from wind, tide or wave power in the near future.

Overall, it seemed to me to be Mr. Howell's most confident and polished - and successful - performance in the House so far.

Rhodesia

The Lord Privy Seal made a brief Statement about the successful conclusion of the talks. He was congratulated without qualification from all sides of the House. This included such unlikely bed-fellows as Julian Amery - who said that he hoped events would prove that he had been wrong and that the Lord Privy Seal had been right throughout - Andrew Faulds, Don Concannon, Robert Hughes and Joan Lestor. There were some probing questions about South African troops, but they were avoided in a generally warm atmosphere.

STATEMENT ON THE NUCLEAR PROGRAMME AND THE NUCLEAR INDUSTRY

With permission, Mr Speaker, I wish to make a statement.

2. Safe nuclear power and a strong nuclear industry are essential to this country's energy policy. On present prospects, supplies of North Sea oil and gas will be declining in the 1990s. Even with full exploitation of coal and conservation, and with great efforts on renewable energy sources, it will be difficult, if not impossible, to meet this country's long-term energy needs without a sizeable contribution from nuclear power.

3. The British nuclear power programme has been in decline over the last decade and the structure of the nuclear industry has been under review for nearly two years. If we are to reverse this trend and ensure that the industry is on a sound footing we must act now.

4. The Government have therefore held urgent consultations with those most directly concerned.

5. We believe that there must be continuing nuclear power station orders if our long-term energy supplies are to be secured and current industrial uncertainties are to be resolved.

6. The last Government authorised the Central Electricity Generating Board and the South of Scotland Electricity Board 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.

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support it in this role. The Company may also wish to consider moving into some areas of manufacturing in due course.

14. The future success of our nuclear programme is of great importance to the prosperity of this country. I ask all concerned to give their active support to the decisions which I have announced.

CONFIDENTIAL

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

PS/Secretary of State for Industry

17 December 1979

Dr Dennis Walker
Private Secretary to the
Secretary of State for Energy
Department of Energy
Thames House South
Millbank
London SW1P 4QJ

PL 17/12

Dear Dennis

Your Secretary of State minuted the Prime Minister on 10 December covering the statement which he intends to make to Parliament on nuclear power policy and the nuclear industry. I understand this statement is now planned for Tuesday 18 December.

My Secretary of State attaches some importance, in the interest of wider industrial cooperation, to a reference in the statement to the work which the French are carrying out on Westinghouse PWR technology and the possibility of collaboration at a later stage. This question was raised at a recent meeting between my Secretary of State and M Giraud. We would therefore suggest that the following sentence might be added to para 7:

> "We are of course in touch with our partners in the European Community and have had recent discussions with the French Government on this and other nuclear matters."

I am copying this to the private secretaries to all members of E, Sir Robert Armstrong and Sir Kenneth Berrill.

Yours sincerely

Peter Mason

PETER MASON
Private Secretary

Ref: A0959

CONFIDENTIAL

MR. LANKESTER

IEA Ministerial Meeting - 10th December

Mr. Howell's minute of 12th December records the discussions at the IEA Ministerial meeting. He looks forward to a further meeting of United Kingdom Ministers about this, but probably after Christmas. Meanwhile, there is one immediate and urgent item. In the penultimate paragraph he proposes that 'colleagues should agree by correspondence that I should pursue the question of Government deals with the OPEC countries, on the lines recommended in paragraph 5a of my paper on 'Implications of changes in the world's oil market' circulated with my Private Secretary's letter of 5th December.' He hopes to use his visit to the Middle East, starting on 4th January, to explore the possibilities.

2. There are two separate points here:-

(i) Should studies of such sales continue in the United Kingdom, including consultation with the oil companies?

(ii) Should Mr. Howell explore the possibilities when he goes to the Middle East in January?

3. There is no problem over point (i). Clearly it would be sensible for Department of Energy officials to have private talks with BP and Shell, and with BNOC: other major industrial concerns can probably be brought in later.

4. But the Treasury tell us that the Chancellor will urge caution over (ii). He is very worried that BNOC will become deeply involved in Government-to-Government sales which could involve a substantial risk to the PSBR if they get the price wrong. He is anxious, therefore, that Ministers should have a chance to discuss these ideas before Mr. Howell goes to the Middle East.

5. It may not be easy to get a meeting of the Ministers concerned between Christmas and 4th January. We think that the right course for the Prime Minister would therefore be:-

(a) to encourage Mr. Howell to press ahead with informal discussions with United Kingdom oil companies, including BNOC;

(b) to ask him to report on this by the middle of next week, so that the subject can be considered when Ministers meet on 21st December - a meeting originally arranged to consider a different BNOC problem, concerning privatisation.

6. We understand that the Foreign and Commonwealth Office and the Treasury would both be content with this.

(M. J. Vile)

14th December 1979

CONFIDENTIAL

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

Rt Hon John Nott MP
Secretary of State for Trade
Department of Trade
1 Victoria Street
LONDON SW1

14 December 1979

Dear John

STATEMENT ABOUT NUCLEAR POWER

Thank you for your letter of 11 December.

I agree with you that the Guardian article has effectively removed any hope of using PWR licensing as a means of influencing Westinghouse's lawsuit against RTZ.

I think I am bound to mention Westinghouse in my forthcoming statement since activation of the National Nuclear Corporation's licence with them is the essential next step in development of the PWR and a key feature of what I shall be announcing. Our decision is already publicly known and if I try to avoid mentioning Westinghouse in my statement I will still be asked about it in supplementary questions. The only effect would be to make the nuclear industry wonder if we were pulling back, which would be unfortunate.

If I am asked about the RTZ lawsuit, however, I will certainly try to make use of the briefing which your officials have supplied to mine.

Copies go to the recipients of your letter.

Yours ever

D A R HOWELL

David

CONFIDENTIAL

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(1)

The reference in Mr Howell's final para is at Flag A. Agree, subject to the views of colleagues?

Yes ok

PRIME MINISTER

IEA MINISTERIAL MEETING - 10 DECEMBER

I duly attended this meeting which was entirely concerned with the oil situation. A copy of the communique is attached.

National oil import limits for 1980 and goals for 1985 were adopted for all member countries. In the case of the EEC and summit countries these targets are those already agreed at Tokyo and in the Community. UK figures are net imports of 12 million tonnes for 1980 and -5 million tonnes for 1985. It was also agreed that the performance of each country should be monitored regularly on a quarterly basis. Ministers would meet to consider corrective action if performance is not satisfactory or if there is a major change in the supply situation.

The Americans did not put forward the proposal they had made before the meeting that the 1980 targets should be scaled down in line with the latest estimate of the supply of OPEC oil. Instead it was agreed that the Governing Board should meet again at Ministerial level in the first quarter of 1980. The main debate was about how far that meeting should be committed in advance to reduce the import targets. The Americans pressed strongly for a firm commitment now to reduce targets next March in line with likely supply. They were supported by many of the smaller countries and in a low key way by Japan. As I had anticipated the Germans showed signs of giving way under American pressure at the crunch. Nevertheless I was able to secure agreement to a formulation which safeguards our position. Ministers at their next meeting will consider adjustment of the 1980 oil import ceilings to the extent which proves necessary on the basis of oil supply and demand development. I made it clear that we interpreted this formula as meaning that there would not necessarily be any adjustment. This was accepted. I had to agree to work being done on plans for adjusting the import targets should this prove necessary: but it is for a future Ministerial meeting to decide whether those plans should be implemented and in any case they are to be prepared in the light of so many factors that it is difficult to see how anything practical can be done (see paragraph 6 of communique).

The discussion of import targets left little time for other matters. I did however stress the importance which we attached to bringing about real reductions in consumption rather than the paper adjustment of targets. This point is satisfactorily recognised in paragraph 2 of the communique. There are also satisfactory references to contacts with the OPEC countries, to oil market problems and to stockpiling policy.

In general we were able to secure a satisfactory outcome for the UK without antagonising our partners. It is a pity that the American obsession - it is not too strong a word - with targets meant that Ministers did not get to grips with the real issues which face us - the risk of a major interruption in supplies and spiralling prices. But these issues were the main theme of a good if sombre discussion at a breakfast which M. Giraud gave to the US, German, Italian and Japanese Ministers and to me. We all recognised how serious these issues were. Although it was not an occasion for specific conclusions there was much in common in our thinking on which we can build.

It may be that a reduction in demand for oil as a result of slower economic growth will bring about a rather easier oil market in the next few months. Alternatively a major disruption in supplies could produce a full scale crisis in which the agreed scheme for the international allocation of the available oil would be put to the test. But we may well face a continuing and slowly worsening situation just short of a full scale crisis. I think we need to work out more clearly our policies for such a situation taking into account economic and foreign policy as well as energy policy considerations. In particular we need to be clear on the balance between using North Sea oil primarily to protect ourselves and working with our partners in a joint effort to limit the damage which a continuing sub crisis could do to the world economy. I hope we can return to that issue when we resume discussion of the international oil situation and in any case well before the next IEA Ministerial meeting.

I understand that the resumed discussion cannot now take place until after Christmas. In the meantime I should be grateful if you and our

Agreed ms.

colleagues could agree by correspondence that I should pursue the question of government to government deals with the OPEC countries on the lines recommended in paragraph 5(a) of my paper on "Implications of changes in the World's Oil Market" (circulated under my Private Secretary's letter of 5 December). We need to move fast on this if the available oil is not to be preempted by others and if I am to use my visit to the Middle East early in January to explore the possibilities.

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

SECRETARY OF STATE FOR ENERGY
12 DECEMBER 1979

IEA OECD

press release

Château de la Muette - 2, rue André-Pascal, 75775 Paris Cedex 16 - 524.82.00

IEA/PRESS(79)28
10th December, 1979

COMMUNIQUE

INTERNATIONAL ENERGY AGENCY

Meeting of Governing Board at Ministerial Level

10th December, 1979

The Governing Board of the International Energy Agency (IEA) met at Ministerial Level on 10th December, 1979, in Paris under the Chairmanship of the Minister of Economics of the Federal Republic of Germany, Otto Graf Lambsdorff.

1. Ministers noted with concern the turbulent development of the world oil market in 1979 and the continuing uncertainties about oil supplies which pose a severe threat to the health of the world economy. The IEA Countries are determined to make their contribution to restoring order and reducing pressures on the world oil market so as to avoid further sharp price increases. Their actions are aimed not only at the immediate situation, but also at accelerating and facilitating the medium and long-term transition to an oil-scarce world economy. They expressed their determination to overcome any shortfall of supply in a spirit of full solidarity.

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Ministers underlined their concern and recognition of the fact that development policies might be compromised if developing countries do not have sufficient energy resources at reasonable prices and stressed the need for energy specific action to help developing countries in meeting their energy requirements.

Ministers further recognised the importance of oil producing countries for their part in pursuing policies which contribute to stabilization of conditions in the world oil market and in the world economy. They feel certain that such countries will be influenced by this consideration. Solution of the world's serious energy problems require a common approach by producing and consuming countries, both developed and developing. IEA countries would welcome more opportunities to discuss these issues with oil producing countries.

2. Ministers agreed on the importance of keeping domestic oil prices at world market levels or raising them to these levels as soon as possible, and that action must be taken within individual IEA countries to transform short term conservation measures into permanent long term gains in energy efficiency, and to accelerate the development of alternative energy sources: rapid medium term substitution of natural gas for oil; much greater world-wide production and use of coal; steady expansion of nuclear power wherever possible and having due regard to legal and constitutional provisions; and pursuit of new energy technologies for the long term. The effect of measures taken should be sufficient to achieve acceptable balance between available supply and demand and to give a substantial contribution to meeting IEA countries' need to reduce their dependence on imported oil.

3. Ministers undertook to assure that their countries take serious and effective energy policy action to restrain demand for oil on world markets in 1980.

4. All IEA countries firmly committed themselves to limit their oil imports in 1980, and to pursue goals for their oil imports in 1985, as set forth below:

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

5. Ministers agreed upon a monitoring process to cover energy policies and developments in the short, medium and long term:

- The Governing Board will meet again at Ministerial level within the first quarter of 1980 to begin the process of monitoring, to review all aspects of the situation and the outcome of the work commissioned today, including adjustment of the 1980 oil import ceilings to the extent which proves necessary on the basis of oil supply and demand developments;

- Thereafter the IEA Governing Board will review quarterly the results achieved by each country in meeting its 1980 ceiling and its goal for 1985, and will determine whether the specific measures in place in each country are adequate and are being effectively implemented, and whether additional measures are necessary;

- The IEA Governing Board will review quarterly oil supply developments and whether the 1980 ceilings and the 1985 goals are adequate in light of these developments;

- Ministers will meet promptly to consider what corrective action is necessary if the performance of countries in keeping within their import limitations is not satisfactory, or if there is a major change in the supply situation.

6. The Governing Board at official level will develop plans to meet any deterioration of the supply/demand situation which may arise in the coming months, including a system for adjusting national oil import ceilings and goals which, taking account of the 1980 and 1985 oil import targets, promotes equitable burden-sharing and which also takes account of each country's continuing performance in accordance with the IEA Principles for Energy Policy; its economic growth and overall economic structure; its development needs; the structure of its energy economy, including consumption levels, energy prices, and changes therein; and opportunities for and achievements in conservation, fuel switching and indigenous production.

7. IEA countries will take the measures necessary within their national responsibility to ensure that they keep within their oil import ceilings and goals.

8. Ministers agreed that the overall Group Objective for oil imports by IEA countries as a group in 1985 will be lowered to 24.6 million barrels per day plus bunkers, as compared to the former Group Objective of 26 mbd, plus bunkers. Each country will adjust its energy programmes to assure that this revised Group Objective for 1985 will be met.

9. Ministers agreed that because stock movements are an essential element in determining market conditions, IEA Member countries should increase their ability to influence stock levels. As a first step they directed the Governing Board to elaborate on an expedited basis an improved information system on stock movements, adding information on stocks at sea, stocks in bonded areas and consumer stocks.

10. Ministers agreed on the necessity of improving understanding of and ability to cope with changing oil market structures by: expanding the list of oil companies which report oil flows directly to the IEA; extending the new international register of crude oil transactions to include oil products; obtaining more information regarding state-to-state transactions; and effectively discouraging unnecessary recourse to spot market purchases by both government-related and private companies.

11. Ministers also agreed that the Governing Board at official level should:

- seek to develop a system of consultation on stock policies among governments within the IEA and between governments and oil companies, evaluate the 90-day emergency reserve level; and develop other proposals for an effective and flexible stock policy; and

- consider additional measures leading to a more co-ordinated approach to spot market activities by Member country governments, companies and individuals, which might include developing a system for registration of entities trading oil into or from IEA countries, in order to identify the participants in changing market structures; developing a "code of conduct" as a basic standard for desired behaviour of market participants; and preparing measures and procedures designed to "cool-off" oil markets under overheated trading conditions.

CONFIDENTIAL

FILE

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'E' Ctee
HO
FCO
HMT
D/Int.
Hd Pres

10 DOWNING STREET

From the Private Secretary

12 December 1979

B/F 19-12-79
for Hansard

D/Emp
MAFF
D/Trade
(D/Energy)
Chief Sec
+ C.O.

Nuclear Power Policy and the Nuclear Industry

The Prime Minister has seen your Secretary of State's minute of 10 December. As I told you on the telephone, she would like the Statement to be made on Tuesday 18 December. I also let you have a few minor drafting changes and you agreed to incorporate them. No doubt you will circulate a further revised draft in due course.

I am copying this letter to the other Private Secretaries to the members of E Committee and to Martin Vile (Cabinet Office).

N. J. SANDERS

Bill Burroughs, Esq.,
Department of Energy.

CONFIDENTIAL

NUCLEAR ENERGY AND THE NUCLEAR INDUSTRY

These notes have been prepared by the Department of Energy to provide information and to answer questions often raised about nuclear energy and the nuclear industry. It is hoped that these will contribute to the public debate about the future of nuclear energy in the UK.

Contents	Paragraphs

NUCLEAR ENERGY AND THE NUCLEAR INDUSTRY

Contribution of Nuclear Power

1 Experience of nuclear power in the UK extends over more than two decades. Calder Hall, the world's first full scale commercial sized nuclear power station, was opened in 1956. Since then, ten further Magnox stations with 22 reactors and two Advanced Gas-cooled Reactor (AGR) stations with two reactors each have been built and three further AGRs are nearing completion. Construction work on two more AGRs has recently begun.

2 Nuclear power already provides 12% of the electricity generated in the UK and by the early 1980s, when the three AGRs nearing completion are due to come onstream, this is expected to increase to 20% or about 6% of total UK energy requirements.

3 To generate the electricity produced each year by our present nuclear capacity would require the equivalent of 7m tonnes of oil. With the increased capacity in the early 1980s, this should rise to some 14m tonnes, an amount equivalent to the annual output of a large North Sea oilfield like Piper or twice that of a coal mine like Selby.

Energy Forecasts

4 On present prospects, UK indigenous oil production will be in decline by the 1990s and natural gas production may begin to decline a few years later. The Department of Energy's recently published projections for the year 2000 suggest a gap between energy demand and indigenous supply. This is after making allowance for substantial savings from energy conservation and for major investment in long life economic coal production capacity, as well as assuming a major expansion in nuclear power and a contribution from alternative energy sources. The UK energy import requirement could by then be over 100 million tonnes of coal equivalent (mtce) at a time when oil supplies in international markets are expected to become increasingly scarce and expensive. The projections suggest the following energy balances for 1990 and 2000:

/ UK ...

UK PRIMARY ENERGY BALANCE

mtce

	1977	1990	2000
DEMAND			
Energy	332	370-390	400-460
Petrochemical Feedstock*	28	40- 45	45- 55
TOTAL	360	410-435	445-510
INDIGENOUS SUPPLY			
Coal	122	127-138	137-155
Gas	60	68- 71	62- 65
Oil	65	153	100
Nuclear and Hydro	16	34- 35	88- 95
TOTAL	263	380-395	390-410
Net Fuel Imports	97	15- 50	35-120

* Includes gas and bunkers
NB Figures do not add vertically

It should be noted that these energy projections are necessarily based on certain long term assumptions which are liable to change. The projections do not imply Government commitment to particular levels or sources of energy production.

5 Without a major contribution from nuclear power, net dependence on imported fossil fuels from the 1990's onwards is likely to increase substantially and it may not be possible to ensure adequate and secure energy supplies at tolerable prices. With lead times of about a decade for most forms of energy investment, including conservation, it is necessary, in spite of the inevitable uncertainties, to look ahead now to the end of the century in considering energy policy.

/ Nuclear ...

Nuclear Fuel and Reactor Types

6 The splitting, or fission, of an atom produces heat. The atoms of most substances can be split by bombarding them with neutrons, but this usually requires more energy than is given out. If you want to produce heat in a nuclear reactor, you need to find a substance in which the atoms can be made to go on splitting by themselves - and giving out heat in the process. Uranium, and in particular a variety or "isotope" of uranium called Uranium 235, is the only naturally occurring substance that will do this. This is because when a uranium atom is split, it gives out a number of neutrons. These neutrons can be made to split other uranium atoms, which give out more neutrons, and so start a self sustaining chain reaction. This chain reaction can provide a large and continuous source of heat.

7 Uranium 235 makes up only 0.7% of naturally occuring uranium. Another isotope, U238, makes up 99% of the rest. In most reactors, the fuel is either made from natural uranium or the percentage of U235 it contains is slightly increased by a process known as "enrichment".

8 During reactor operation, some of the Uranium 238 captures neutrons and is subsequently converted into plutonium. Like Uranium 235, plutonium is a good nuclear fuel because it will sustain a chain reaction. About one-third of the energy released while uranium fuel is being fissioned comes from fission of the plutonium that is formed by the conversion of U238. When the spent fuel is discharged from the reactor, typically after about five years, only a small amount of the uranium and derived plutonium has been consumed. The unused uranium and plutonium can be extracted from the spent fuel by chemical "reprocessing". Then either the uranium or plutonium, or both, can be made into new fuel elements.

9 For the current generation of reactors to operate successfully, the fast moving neutrons produced by the chain reaction must be slowed down by a substance called a "moderator". Reactors of this type - using slow moving neutrons - are called "thermal reactors". The heat produced is removed from the reactor core by a "coolant", which transfers the heat to the electricity

/ generating ...

generating equipment. In some cases, it is possible for the same substance to act both as moderator and coolant.

10 The first generation of reactors in the UK was the Magnox, which was fuelled with natural uranium, and used a graphite moderator and pressurised carbon dioxide gas as a coolant. A development of this, in which heat resisting steels were used to enable operation at higher temperatures to improve economy are the "Advanced Gas Cooled" Reactors, which are the base for our second reactor programme.

11 Worldwide, the most common reactor uses ordinary water as both a moderator and coolant. These are called "light water reactors" (LWRs). The coolant is kept under pressure; and in some reactors it may boil, as in the Boiling Water Reactor (BwR), or be circulated without boiling as in the Pressurised Water Reactor (PWR). With some design changes, heavy water may be used as a moderator, as in our own prototype Steam Generating Heavy Water Reactor (SGHWR) at Winfrith or in the Canadian CANDU reactors. It was decided in 1978 not to develop the SGHWR system further in the UK.

12 Another type of reactor which has been under development in the UK and some other countries for several decades has no moderator. The neutrons in the core are not slowed down but move fast. These are called "fast reactors". The UK has a 250 megawatt prototype (PFR) in operation at Dounreay, Caithness. Fast reactors are fuelled by plutonium. The plutonium core is surrounded by a blanket of a type of uranium which cannot be burned in thermal reactors but which, during the fission process, is turned into more plutonium. Fast reactors can be operated either to produce more plutonium than they consume, to produce as much plutonium as they consume or to burn up plutonium produced in thermal reactors. How they are operated would depend on forecasts of electricity demand. Because they can be used to breed plutonium, they are also known as "breeder reactors" or "fast breeder reactors", although they do not "breed fast". Their development would make it possible to increase the energy available from uranium by 50 to 60 times.

/ Cost ...

Cost

13 The following table gives the generation costs, including capital costs in 1978/79 for the CEGB's six Magnox nuclear stations, 13 coal-fired stations and two oil-fired stations commissioned after 1 April 1965, as published in the CEGB's Annual Report for 1978/79:-

	per/kwh
Nuclear (Magnox)	1.02
Coal - fired	1.29
oil - fired	1.31

The cost of nuclear stations include provision for reprocessing and vitrification of residues from nuclear fuels, and for the ultimate decommissioning of the stations. Although Hinkley Point B, the one AGR station operating, was not fully commissioned for that year, its costs on a comparable basis were about 1.3 p/kwh. However, these figures are historic costs and are not suitable as a basis for future investment decisions.

14 In considering investment in new generating capacity, the CEGB assess future capital and operating costs, including expected future increases in fuel costs, as well as the cost of eventual decommissioning. They also take into account such strategic considerations as the availability of oil and coal. When ordering a power station, a major consideration is the assurance of adequate and economic fuel supplies over the life - about 35 years - of the station. On the best available estimates of capital costs and future fuel prices that can be made, the CEGB believe that the development of nuclear plant will be the most economic, besides its value in forestalling possible energy shortages. They consider it essential that the options for both coal and nuclear plant should be fully maintained: 70% of current capacity is coal fired.

Thermal Reactor Strategy

15 The UK has been developing gas -cooled reactor technology for 25 years, first with the Magnox stations and then through the AGRs. However, the UK is alone in basing all its commercial reactors on the gas -cooled design: the major design adopted in other countries is the water-cooled PWR. The construction costs of a PWR are less than an AGR. The CEGB estimate the costs to be about £750,000 per MW for an AGR and £680,000 per MW for a PWR (1979 price levels). In order not to be dependent solely on one reactor design, the last Government endorsed the intention of the CEGB to order a PWR station. Together with the building of the two latest AGRs at Heysham and Torness this should enable us to continue to exploit our experience with gas -cooled technology while also ensuring that the PWR is available and its technology understood in the UK. As with all reactors, no PWR can be built until the stringent safety and licensing requirements have been satisfied.

Planning Margin

16 The Generating Boards work to a standard of security of supply of meeting the winter peak demand in full in all except 24 winters per century and of avoiding disconnections at the winter peak in all except three winters per century. To achieve this standard, the Boards include an element of additional generating capacity, called the planning margin. The current value of the planning margin in England and Wales is 28%; that is to say the total generating capacity is 28% above the forecast (made for planning purposes) of future winter peak demand in average cold spell weather conditions. The planning margin provides cover against unavailability of generating plant, increase in demand due to unusually bad weather, and increase in demand above the forecast level. That such a margin is necessary was shown in 1978/79 when the peak demand in England and Wales was

44.1 GW and 46.1 GW of plant was available for service, thus coming within 2 GW of an interruption in supply.

17 The present power station ordering programme, including nuclear stations, is required in order to meet the estimated demand for electricity in the mid and late 1980's with no increase in the size of the planning margin.

Safety

18 During 23 years of operation, no accidents have occurred at commercial nuclear power stations in the UK that have given rise to significant public hazard. This is the result of the way in which nuclear power stations are designed, licensed, constructed and operated. Probably in no other industrial activity is such a wealth of time, expertise and resources devoted to the supervision of safety.

19 The principal risk from the development of nuclear power is that of an escape of radioactivity. However there is no evidence that any injury has been caused by radiation from a nuclear power station in the UK. The number of industrial accidents from non-nuclear causes has been relatively low compared to many other industries. This is shown by the following table, published by the Health and Safety Executive in 1977. It sets out the incidence rates for 1975 for injuries per 100,000 employees at risk in different industries.

Industry	Fatal accidents	Total accidents
Shipping (Merchant seamen)	120	1560*
Coalmining	24.7	20900
Coal & petroleum products	22.4	6570
Construction	17.7	3460
Railways	18.7	2920
Shipbuilding & marine engineering	14.0	6180
Agriculture**	11.7	1800
Metal manufacture	10.0	6350
Bricks, pottery, glass & cement	7.2	4750
Chemicals	6.7	3640
Timber & furniture	5.5	3200
Mechanical engineering	3.4	4110
Paper, printing & publishing	2.9	2270
Electrical engineering	1.8	2320
Food, drink & tobacco	1.7	4370
Textiles	1.7	2750
Nuclear Power generation	0.0	2897***

*	excludes fatal accidents
**	excluding farmers and their families
***	from non-nuclear causes
/	frequency rates are based on the number of CEGB staff employed at nuclear power stations

20 A small number of workers involved in research, fuel fabrication and reprocessing, but not the operation of commercial power stations, have been restricted from work involving contact with radiation sources. This is because their bodies have retained plutonium in excess of internationally agreed safety limits. Exceeding these limits does not mean that disease will necessarily occur.

21 In three cases, financial settlements have been reached with relatives of former British Nuclear Fuels employees who died of cancer. These cases were settled out of court on the basis of expert medical advice as to the balance of probability of the fatal disease having been radiation - induced. These settlements reflect the position under the Nuclear Installations Act 1965 by which where a plaintiff establishes that a death or injury is attributable to radiation from a defendant's premises, the defendant becomes liable to pay compensation. In fact, in none of these cases was it completely established that the deaths were attributable to radiation. There are also a number of claims pending concerning employees and ex-employees of BNFL and one case is outstanding against the AEA.

22 In 1957 a release of radioactivity from an early nuclear reactor, of a type never repeated for commercial nuclear stations, engaged in defence -related operations at Windscale led to a precautionary ban on the consumption of milk within a radius of some miles. The Hermsworth Committee, set up by the Medical Research Council to report on the heath and safety aspects of the accident, concluded that "it is in the highest degree unlikely that any harm has been done to the health of anybody, whether a worker in the Windscale plant or a member of the general public."

23 As a comparison, the Health and Safety Executive have estimated the number of deaths due to accidents per Gigawatt year of electricity sent out. The results, published in 1978 were: coal 1.8, oil and gas 0.3, nuclear 0.25. None of the deaths from nuclear generation was from radiation. The nuclear figure included the HSE's estimate of the fatalities in uranium mining even though this is carried out outside the UK.

Nuclear Licensing

24 No commercial nuclear installation may be built or operated in this country without a licence granted by the Health and Safety Executive (HSE) under the Nuclear Installations Act 1965. Operators have to comply with legally binding licence conditions imposed by the HSE on the advice of its Nuclear Installations Inspectorate (NII) and a licence is not issued until the NII is satisfied with the safety standards to be achieved. The HSE and the NII are completely independent of the nuclear industry and the Inspectorate make rigorous safety checks at all stages of the design, siting, construction and operation of a nuclear installation.

Unlike an Atomic Bomb

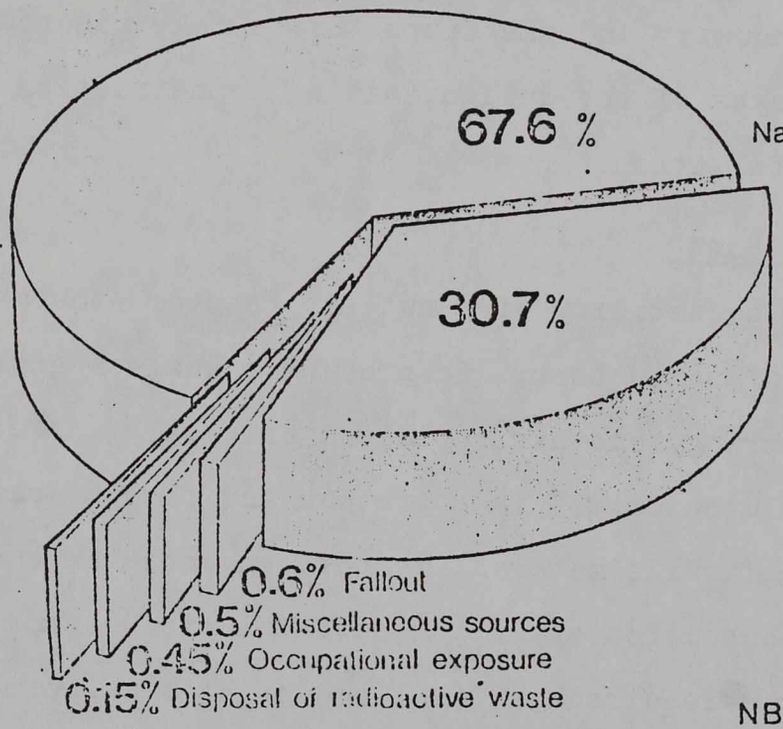
25 There is no possibility of a nuclear reactor -thermal or fast - exploding like an atomic bomb. To produce a nuclear explosion, it is necessary to bring together rapidly a critical mass of almost pure uranium 235 or plutonium 239 in a precise and compact shape. However in a reactor the fissile material is not concentrated enough to explode, there is too much neutron absorbing material present and there is no means by which the required critical amount of fissile material could be assembled and held together while the general reaction spreads through it.

Radiation

26 Considerable research has been and continues to be undertaken in the UK and in many other countries to identify all the possible effects of exposure to radiation, including not only the high doses which may be received in a short time as in an accident, but also the doses which may be accumulated slowly over long periods of time. As a result, the Health and Safety Executive consider that radiation is perhaps better understood than the possible effects of conventional energy sources.

27 Everything and everybody is irradiated to some extent. Most of the radiation occurs naturally, either from the earth or the sun, as is shown by the following diagram:

Annual effective dose equivalent to the UK population



NB Rounded to nearest 0.05%

National Radiological Protection Board

28 International recommendations for the protection from man -made radiation are made by the International Commission on Radiological Protection (ICRP). Formed in 1928, the ICRP is made up of scientists elected each year on the basis of their individual reputations and their independence and as such, it is independent of governments. Its recommendations are accepted by all major countries, including the UK. In the UK, the National Radiological Protection Board is responsible for advising the Government and industry on the standards recommended by the ICRP and is an authoritative point of reference on radiological protection.

29 The effects of radiation on man are counted by a unit of radiation dose called a rem or a millirem (mrem), one thousandth of a rem. The two main radiation dose limits are: for radiation workers 5 rems in a year; and for members of the public 0.5 rems in a year, with a long term restriction to an average of 0.1 rems in a year. These limits are in addition to background radiation which exceeds 0.5 rems/in some parts of the world. Other examples of radiation doses received by the public are:

per year

one chest X ray	50 - 200 mrem
natural background radiation for a person living in the UK per year	105 mrem
additional natural radiation from granite buildings received by a person living in Aberdeen per year	40 mrem
the average radiation dose received by a person resulting from the activities of the nuclear industry per year	0.2 mrem

Operators are obliged to reduce exposure to radiation to the lowest possible level. As a result the average radiation dose received by radiation workers is for example 0.3 rems a year at the CEGB and is just over 1 rem a year at BNFL, compared to the maximum upper limit of 5 rems for each year of a full working life.

Waste Disposal

30 The burning of nuclear fuel in power stations and the reprocessing of spent fuel gives rise to three broad levels of activity of nuclear waste: low, intermediate and high. Within each broad category however, there are short and long lived isotopes. Low level wastes are discharged from nuclear power stations and from BNFL establishments into the atomosphere, the sea or, in the case of Trawsfynydd power station, into a fresh water lake. These and all other discharges are subject to strict control and are carefully monitored. Stringent limits for the radioactivity that may be discharged are based on the ICRP recommendations that the maximum radiation dose to any member of the public from all man made sources shall be as low as reasonably achievable and shall not exceed a maximum of 0.5 rem per year regardless of cost. Some low level solid wastes are packed in concrete filled steel drums and sunk in the deep ocean under international supervision while intermediate level solid wastes are stored, under supervision, at nuclear sites.

31 Only 3% of the waste remaining after the reprocessing of spent fuel is highly active. Since reprocessing began in 1952, BNFL has reprocessed over 19,000 tonnes of spent fuel, resulting in less than 800 cubic metres of highly active wastes - about the size of a four - bedroomed house. These are safely stored in high integrity stainless steel cooling tanks.

32 A method of converting highly active wastes into a glass solid has been developed and proven on a pilot scale in the UK. A full scale demonstration plant is expected to be operational in the late 1980s. In France, glassification has already reached the stage where it is being operated on a semi-industrial scale. Glassification reduces many of the problems of radioactive waste management. It substantially reduces the bulk of waste and makes it safer and easier to handle. Also there can be no danger of the waste itself leaking while in storage.

33 A large scale research programme is in progress to find an acceptable way to dispose of these wastes permanently. Three options for the disposal of containers of the glassified waste are being considered: in deep underground stable formations on land; on the bed of the deep ocean; and under the ocean bed. All three are technically feasible. No particular option is preferred at this stage and research into all three is being carried out in this country and abroad. Any decision to dispose of highly active waste by any of these routes would be taken only after the fullest consideration of all the safety and environmental issues and the results of the extensive research programmes. It is not expected that actual disposal will commence until the beginning of the next century at the earliest. Until then the high level wastes, in glass form, will be placed in cooled stores under appropriate supervision.

34 Radioactive wastes have a finite half life and in time decay away. Some non-radioactive wastes which may be toxic and dangerous, for example those containing metals such as cadmium and lead, do not break down as such, although they may change their chemical form.

Transport of Nuclear Materials

35 Nuclear fuel assemblies, irradiated fuel elements and nuclear materials are carried, whether by land, sea or air, in specially designed containers. The containers are designed, assessed, certified and transported in accordance with stringent internationally accepted safety standards laid down by the International Atomic Energy Agency. These standards ensure that the containers would withstand a severe accident, for example, a high speed collision followed by a prolonged fire, without posing a significant hazard to the public. For instance, the flasks used by the UK Generating Boards to carry irradiated fuel are massively constructed of steel some 14" thick. They weigh around 50 tons each. The Generating Boards have been moving this fuel mainly by rail for some 17 years and over 9,000 tons have been moved to

Windscale in this way. Although there have been a few minor instances of derailment, none of these has resulted in damage to a flask and release of radioactivity. However, detailed national emergency procedures exist in case of accidents involving the transport of all radioactive materials. These procedures encompass the police and the emergency services. The Generating Boards operate, in conjunction with British Railways, a national emergency plan tailored to fuel flask movements.

Emergency Arrangements at Nuclear Sites

36 The possibility of a serious accident involving a release of radioactivity capable of affecting the nearby population is considered extremely remote. Nevertheless, it is prudent to have measures for the protection of the local community ready against such an eventuality. The operators of nuclear installations are therefore required by the conditions of the nuclear site licences to make preparations for dealing with emergencies. Sites operated by the AEA and by Government departments are required to meet the same standards as are imposed on the operators of licensed sites.

37 Emergency arrangements are set out in a site emergency plan which each licensed operator is required to submit to the Health and Safety Executive. The plan covers: (a) on site organisation and arrangements; (b) off site arrangements in an emergency, for example, the evacuation of the neighbouring pipulation, and the monitoring of radioactive levels; and (c) arrangements with outside bodies, such as local authorities, emergency services and Government departments. The local emergency services would be able to call on such national bodies as the National Radiological Protection Board and the Health and Safety Executive for help and advice. Naturally, as in the case of any other emergency, assistance would be forthcoming from wider national resources, if circumstances required it.

38 Details of these plans are discussed with the Local Liaison Committee and are made available to the local communities, for instance, through public libraries. These Committees comprise representatives from the local community, local authorities and other public bodies including Government departments and emergency services. The Committees provide a channel through which local people are kept in touch with emergency arrangements and provide general information about the operation of nuclear installations.

Siting of Nuclear Stations

39 Planning applications for power station sites are made by the Electricity Boards to the Government. These applications are decided by the Government rather than by local planning authorities, but normal planning procedures apply. Everything is done to take into account the views of those concerned, whether local authorities or residents or other objectors, and public inquiries are held when necessary.

40 The main safeguard for the public from any hazard arising from nuclear installations is provided by high standards of design, construction and operation. But it is also prudent to site them in such a way as to limit the extent of the emergency on the public in the unlikely event of an escape of radioactivity.

41 Early nuclear power stations in this country were built on remote sites. But in 1968, after a review by the Nuclear Safety Advisory Committee (NSAC), it was found possible to relax this policy to some extent, and the AGRs were cleared for construction on semi-urban sites such as Heysham and Hartlepool. The Nuclear Installation Inspectorate would, however, still require the first few stations of any type of reactor new to commercial operation in the UK to be built on remote sites.

Security of Nuclear Installations

42 Because of the special security needs of nuclear installations the Atomic Energy Authority operates a Constabulary to guard certain sites and to protect certain nuclear material in transit. The Constabulary was established under the Atomic Energy Act 1954 and organised as a disciplined police force along lines similar to

/ regular ...

regular police forces, with a Chief Constable responsible to the UKAEA. In common with other police forces, AEA police have access to firearms, which are only carried when the officers concerned are on duties directly related to guarding fissile materials. Their Standing Orders, which are closely modelled on those of other police forces, set out clearly the circumstances in which firearms may be used. The Constabulary numbers about 500 at present. Security surveillance precautions are taken at all UK nuclear power stations.

World Nuclear Programmes

43 In 1978, the members of the International Energy Agency - which includes all the developed Western countries except France - consumed 33 million barrels of oil a day, of which two-thirds, 23 million barrels a day, was imported. By 1990, projected oil consumption could have increased to some 45 million barrels a day of which about two-thirds would still be imported. Even if sufficient oil supplies exist, it cannot be assumed, as the situation in Iran has shown, that the oil will in fact be available to import. The need for substantial and secure sources of energy other than oil is appreciated by all countries dependent on oil imports.

44 Nuclear power already makes a significant contribution to world energy supplies. Total installed nuclear capacity throughout the non-Communist world in 1978 was over 110 GW, compared with 10 GW ten years before. For the future, nuclear power occupies a key role in the long term energy plans of most industrialised, and several developing, countries. Thus, minimum nuclear requirements for IEA countries for 1985 and 1990 have been estimated at 201 GW and 332 GW (6 and 10 million barrels of oil a day) respectively. At present, 23 countries have nuclear generating capacity and by 1985 it is expected to increase to 34.

45 The Commission of the European Communities has made the following assessment of current and projected nuclear capacity for those Member States with major nuclear programmes:

/ GW ...

	GW	
	at end 1977	at end 1985
Belgium	1.4	5.1
France	4.6	38.5
Italy	0.6	7.4
West Germany	5.6	24.0
U.K.	5.9	9.4

46 World leaders at both the Tokyo summit and in the European Council have endorsed the development of nuclear energy under conditions guaranteeing the safety of the population. Without further growth of nuclear capacity, the European Council considers that no economic growth will be possible.

International Regulation and Non-Proliferation

47 It has been recognised, since the earliest days of nuclear power, that the spread of nuclear technology might increase the possibilities for other countries to obtain nuclear weapons. The proliferation of nuclear weapons is a risk that should be balanced against the benefits of the peaceful use of nuclear power. The aim of the international community is to reduce these risks to the minimum. They cannot, however, be completely eliminated even if there were to be no nuclear power. Considerable international effort has been and continues to be devoted to minimising the risks of proliferation, and to finding ways to reduce them. The UK continues to play a full part in these efforts.

48 Principal among the international organisations working in this field is the International Atomic Energy Agency. The Agency was set up in 1957 to assist less developed countries to acquire the benefits of nuclear power and, through a detailed system of inspection called "safeguards", to detect the misuse of nuclear facilities or materials. The safeguards system applies to all signatories of the Non-Proliferation Treaty and to those countries which have otherwise accepted them. Safeguards are designed to monitor, through accounting of all nuclear materials and other means, the use of such materials in all civil fuel cycle activities. The aim of safeguards is to rapidly detect the diversion of any materials from their declared use and to notify any such diversion to the United Nations. The ability of safeguards to give the international community timely warning of any diversion provides

/ an ...

an effective deterrent against any misuse. Safeguards are administered by an international team of IAEA inspectors.

49 The Non-Proliferation Treaty was agreed in 1968 and came into force in 1970. It has now been signed and ratified by over 100 states. Nuclear Weapons States agree not to transfer, and Non-Nuclear Weapons States agree not to develop or acquire nuclear explosives. Parties also agree to work towards nuclear disarmament, to promote the exchange of nuclear equipment and technology for peaceful purposes, and to accept and promote IAEA safeguards.

50 The Nuclear Suppliers Group was set up in 1975 by the principal suppliers of nuclear materials and technology and is chaired by the UK. It has established guidelines placing controls on the export of sensitive nuclear materials and technology.

51 When the UK entered the EEC, it also became a member of Euratom, which operates a system of safeguards similar to that of the IAEA. Euratom inspectors have the right of access to all places, data and persons concerned with management of nuclear material to the extent necessary to ensure that the material is not diverted from its intended use.

IAEA Safeguards Arrangements in the UK

52 Although the UK is a nuclear weapon state and therefore under no international obligation to accept safeguards, we have voluntarily submitted all our civil facilities to international safeguards. Our reason for doing this was to avoid putting the nuclear industries in non-nuclear weapons states at a commercial disadvantage. Safeguards impose a significant cost on the industry, and to encourage all countries to submit to them, we are prepared to accept a similar cost burden on our own industry. The Americans also accept this principle.

53 All civil nuclear activities in the UK are therefore subject to both Euratom safeguards arrangements and, in the very near future, to IAEA safeguards as well. The procedures require that all users of these materials for civil purposes must maintain and produce for the safeguards authorities detailed operating and accounting records, submit reports of movements, stocks and use

/ of ...

of materials on a monthly basis, and allow both Euratom and IAEA inspectors to verify compliance. IAEA inspectors will be present continuously at large facilities holding plutonium.

INFCE

54 The International Nuclear Fuel Cycle Evaluation (INFCE) was launched in October 1977. 56 countries and 8 international organisations are participating. The programme of work is due to be completed in February 1980. The evaluation covers every stage of the fuel cycle from uranium mining right through to waste disposal, and assesses the economic and environmental aspects of various different fuel cycles. It also examines the risks of misuse of civil fuel cycles to manufacture nuclear weapons and the ways in which those risks can be reduced. The INFCE reports are expected to be released at the end of February.

Uranium Supplies

55 As with other sources of fuel, there are uncertainties in the long term projections of uranium supply and demand. There will be political and environmental constraints on the availability of uranium as well as physical constraints. Demand will be affected by the future size and type of world civil nuclear reactor programmes and by the price of uranium. However, it seems likely that there is sufficient uranium in the ground in currently known low extraction cost deposits (i.e. below $130 per kgU or $50 per lb U_3O_8) to meet the lifetime requirements of all nuclear reactors likely to be installed in the non-Communist world by the end of the century (provided that planned reprocessing and recycling of recovered uranium take place). Estimates of non-Communist world production capacity vary around 80,000 to 130,000 tonnes of uranium per annum in 1990 and 120,000 to 200,000 tonnes of uranium per annum in 2000. Total UK requirements are currently about 2,000 tonnes of uranium per annum; these could rise to some 4,000 tonnes per annum in 1990 and might reach around 10,000 tonnes per annum by the end of the century. There are also exploration and development programmes in many parts of the world which, with more fuel efficient reactor designs, should add to known reserves.

11 December 1979

DEPARTMENT OF TRADE 1 VICTORIA STREET LONDON SW1H 0ET Telephone 01-215 7877

cc A. Duguid

NBPM
MS

CONFIDENTIAL

From the Secretary of State

The Rt Hon David Howell MP
Secretary of State for Energy
Thames House South
Millbank
SW1

11. December 1979

Dear David

STATEMENT ABOUT NUCLEAR POWER

In your letter to Michael Heseltine of 28 November you drew attention to my interest in the timing of your statement about the Nuclear Power Programme, in view of the Westinghouse law suit against RTZ. The Appeal Court in Chicago has now held its oral hearing but there is no indication of when we can expect a decision. The Court can be expected to be having a good deal of difficulty with the case and I do not feel able to ask you to hold up an announcement until the result is known.

I had hoped that despite the uncertainty in the Courts we might have been able to engineer negotiations between the parties, and clearly continued uncertainty for Westinghouse about the licence with the National Nuclear Corporation could only have been helpful in that connection. Unfortunately, we now have the Guardian story with its explicit reference to the temporary delay while the RTZ case is sorted out and I do not think the card is worth a great deal any more. While I would obviously welcome any further delay, I do not think I can realistically ask you to hold up the statement on this account.

From the Secretary of State

It would however be helpful if you could find a way of avoiding any reference to Westinghouse in your statement to the House and if, in any supplementary about Westinghouse's assault on RTZ you could point out that under the provisions of the Protection of Trading Interests Bill, now before the House, RTZ will receive a measure of help in the event of a decision against them in the US Courts. My officials will be happy to supply yours with further briefing on this aspect.

I am copying this letter to the Prime Minister, other members of E Committee and Sir Robert Armstrong.

Yours ever

John

JOHN NOTT

Sir A. COTTRELL

10 DOWNING STREET

From the Private Secretary

Papers now with Dept Energy 11/1

MR. VILE
CABINET OFFICE

I enclose a letter to the Prime Minister from Sir Alan Cottrell, about the choice of nuclear reactor.

I would be grateful if you could arrange for a draft reply to be submitted.

Ringing back 18/1

M. A. PATTISON

Chase Energy again pls. on 24/1
Ringing back. 24/1. BK.

Chase?

Yes pl

10 December 1979

cc Mr Ingham

CONFIDENTIAL

PA MS PRIME MINISTER

Mr Howell wants to make the attached statement later this week, perhaps - depending on progress on Rhodesia - on Wednesday. It is all "low profile", and I have sidelined a few passages. What do you think? MS

PRIME MINISTER

Do we need to do this?

NUCLEAR POWER POLICY AND THE NUCLEAR INDUSTRY

Following discussion of our nuclear programme in E Committee on 23 October, I have consulted the Secretaries of State for the Environment and Trade and key parties in the industries and have prepared the attached statement setting out our policies.

In view of recent leaks in the press I would like to make the statement in the House as soon as possible, and seek your agreement to this.

Careful presentation of the nuclear programme is of course still very important. The statement makes clear our position on the first PWR but leaves open the question of thermal reactor choice beyond that, as we agreed. It also indicates in general terms the size of the ordering programme which we have in mind, without quantifying it. In view of the leaks, however, I think I am bound to confirm in answering supplementaries that the overall total underlying this is of the order of 15GW of new nuclear capacity installed by the end of the century, setting this figure in the perspective of our long-term energy needs and of programmes in other countries.

If our policies are to be successful we shall need to make early progress with appointments to the National Nuclear Corporation. The first step is to find a new chairman to replace Lord Aldington, and, as you know I am following this up urgently.

It would be helpful if the appointment of a new chairman could be announced as part of my statement and I hope that it will be possible for me to put a firm recommendation to you in time to do so.

I am copying this to other members of E Committee, Sir Robert Armstrong and Sir Kenneth Berrill.

DH.

SECRETARY OF STATE FOR ENERGY

10 DECEMBER 1979

CONFIDENTIAL

DRAFT STATEMENT ON NUCLEAR POWER POLICY AND THE NUCLEAR INDUSTRY

With permission, Mr Speaker, I wish to make a statement.

2. Safe nuclear power and a strong nuclear industry are essential to this country's energy policy. On present prospects, supplies of North Sea oil and gas will be declining in the 1990s. Even with full exploitation of coal and conservation, and with great efforts on renewable energy sources, it will be difficult to meet this country's long-term energy needs without a sizeable contribution from nuclear power.

impossible ?

3. The British nuclear power programme has been in decline over the last decade and the structure of the nuclear industry has been under review for nearly two years. If we are to reverse this trend and ensure that industry is on a sound footing we must act now.

4. The Government have therefore held urgent consultations with ~~the main parties~~. those most directly concerned?

?

5. We believe that there must be continuing nuclear power station orders if our long-term energy supplies are to be secured and current industrial uncertainties are to be resolved.

6. The last Government authorised the Central Electricity Generating Board and the South of Scotland Electricity Board 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.

7. The last Government also endorsed the intention of the CEGB to order a Pressurised Water Reactor station provided design work was satisfactorily completed and all necessary Government and other consents and safety clearances had been obtained. We have made clear to the industries our wish that they should implement this decision and that this should be the next nuclear power station order, the aim being to start construction in 1982. With the approval of the Government, the CEGB have endorsed the National Nuclear Corporation's selection of Westinghouse as licensor for the PWR, and will shortly issue a letter of intent to NNC to authorise the design and, subject to the necessary approvals, manufacture of a PWR. In consultation with the CEGB, the NNC will prepare the safety case for the Board to consider and submit

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is this sufficiently reassuring about safety? Does it sound as if safety approval will be automatic?

to our Nuclear Installations Inspectorate. Statutory consent will also be needed and an inquiry will be held in due course.

8. We attach overriding importance to the safety of nuclear power and will want to ensure that the lessons of events at the Three Mile Island station in the United States have been learnt. I am today publishing preliminary assessments of the Kemeny Report on this incident provided to my by the NII and other authorities in the UK.

9. Looking ahead, the electricity supply industry have advised that on a wide range of assumptions they would need to order at least one new nuclear power station a year in the decade from 1982. The precise level of future ordering will depend upon the development of electricity demand and the performance of the industry, but we consider this a reasonable prospect against which the nuclear and power plant industries can plan. Decisions about the choice of reactor for later orders will be taken in due course.

10. The Government attach importance to the steady evolution of the NNC into a strong and independent design and construction company, fully able to supply nuclear power stations at home and abroad efficiently.

11. The Boards of NNC and of its operating subsidiary, the Nuclear Power Company will be brought together into a single-tier structure with full responsibility for the affairs of the company. The supervisory management agreement between the NNC and the General Electric Company will be terminated. The management of the NNC will be built up to suit the needs of our nuclear programme.

12. Lord Aldington, chairman of the NNC, has told me that he now wishes to retire. I pay tribute to his efforts on industry's behalf during six years' service. I am glad to say that , Chairman of , has agreed to take over from him.

13. The immediate task of the NNC is to carry forward their work on the AGR programme including early commissioning of the first AGRs, and to complete the design of the PWR. In addition it is our clear wish that the Company should take on total project management responsibility for the first PWR, drawing on whatever resources it may need to support it in this role. We recognise that the Company may also

wish to consider moving into some areas of manufacturing in due course.

14. The future success of our nuclear industry is of great importance to the prosperity of this country. I ask all concerned to give their active support to the decisions which I have announced.

CONFIDENTIAL

Energy

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(2)

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

Prime Minister

Tim Lankester Esq
PS/Prime Minister
10 Downing Street
LONDON SW1

7 December 1979

Dear Tim,

IEA Ministerial Meeting, Monday 10 December 1979

You will wish to know that my Secretary of State received, as expected, a further telephone call from the US Secretary of State for Energy, Mr Duncan this afternoon.

My Secretary of State made it clear that it was not possible to negotiate the substance of the meeting over the telephone, but that we saw the key to the problem as consumption rather than a revision of import targets. Mr Duncan maintained that he had spoken to Count Lambsdorff (the German Ministerial representative and Chairman of the meeting), who was agreeable to the concept of a further meeting early next year which would agree downward adjustments to the targets on the basis of a formula or criteria. The US would prefer that these should be devised on Monday and that they should be regarded as binding commitments on all member countries. My Secretary of State did not give an undertaking on this point but reiterated that we did not want to re-open the existing targets, as this would put us under pressure to make more North Sea oil available to the EEC. This had already been a problem, as the Americans know. If more had to be done at some future date we believed it should be by way of cuts in consumption, in which we would be prepared to play our proper part so long as others did too. Mr Duncan said that he very much shared my Secretary of State's concern about the treatment of North Sea oil and did not return to the question of reducing import targets.

I am copying to Paul Lever in the Foreign and Commonwealth Office and Tony Battishill, Peter Mason, Stuart Hampson and Martin Vile in Sir Robert Armstrong's office.

Yours ever

Denis Walker

pp W J Burroughs
Private Secretary

Original in G/R
cc DW

CF to note

10 DOWNING STREET

THE PRIME MINISTER

7 December 1979

Dear Ralph,

Thank you for your letter of 9 November enclosing one from Mr. E.W. Young about nuclear power.

The Government believe that nuclear power has a vital role to play in energy policy and that orders for nuclear stations will need to continue if we are to have a realistic policy for meeting Britain's long term energy needs.

It is quite true, as Mr. Young points out, that the first AGR programme suffered serious setbacks, but two of the stations have now been commissioned and the two more recent AGR orders, which we have confirmed, show the confidence of the generating boards in this type of reactor. The CEGB has also said that it intends to order a PWR, subject to full safety clearances being obtained.

Our nuclear industry has suffered from a long period of uncertainty and from an absence of orders during most of the 1970s. It will take time to build up its skills and capacities, and I agree with Mr. Young that we cannot rely on nuclear power alone to meet the 'energy gap' that we expect to develop as North Sea oil and gas supplies begin to decline in the 1990s. But it would be equally wrong to suppose that we could do without a nuclear contribution. The Department of Energy's projections suggest that even with a major programme of nuclear expansion, and after allowing for substantial savings from energy conservation as well as major investment in long life economic coal production capacity, we will still have a substantial energy import requirement by the year 2000.

/I am not sure

I am not sure what Mr. Young has in mind when he says that nuclear stations built now would soon be obsolescent. Magnox stations that were built more than ten or fifteen years ago are still providing our cheapest electricity, and there is no reason to suppose that nuclear stations now planned or under construction will not have full working lives.

There have of course been technical problems at some nuclear reactors in the UK but many of them have good records of reliable operation and, for instance, the Magnox reactor at Hunterston has achieved a lifetime load factor of 85%; better than any other nuclear station in the Western world.

Safety considerations must always be of overriding importance in our nuclear policy and it is essential that we should learn the lessons of the Three Mile Island nuclear accident. The Secretary of State for Energy has asked the Health and Safety Executive and the CEGB to assess its significance for the UK and it is his intention to publish their reports.

However, I think Mr. Young is wrong to dismiss the outstanding safety record of nuclear power in this country as meaningless. The annual radiation exposure to the UK population from all the activities of the nuclear industry is less than half of one per cent of the total radiation exposure from all natural and man-made sources, and there is no evidence that any injury has been caused by radiation from a nuclear power station in the UK.

Mr. Young also raised the question of the de-commissioning of nuclear stations. Although it will be several years before this will need to take place the CEGB expects it to be done in several stages. The first step would include shutting down the reactor, removing the fuel, and making the site secure. The next, to follow as soon as practicable, would involve dismantling all the plant and buildings outside the reactor's biological shield. The reactor occupies a relatively small part of the site, which would then be free for re-use for new generating plant. It would be secured and kept under surveillance for 25-75 years until it too was removed. Because of the decay of radioactivity this delay would ease the problems of waste management.

/Turning to

Turning to alternative sources of energy mentioned by Mr. Young, nuclear fusion, if it can be harnessed, offers a source of energy of considerable potential. The Joint European Torus experiment which is already under construction at Culham is expected to cost a total of £125 million, and the construction should be completed by 1983. The task of achieving nuclear fusion is of immense technical difficulty and there is no guarantee that it will finally be commercially viable. As Mr. Young points out, it is in any case not expected to contribute to commercial electricity supply until well into the next century.

I very much agree with Mr. Young on the importance of using energy as efficiently as possible, and energy conservation has a central place in the Government's energy policy. One aspect of this is the Department of the Environment's Homes Insulation Scheme which gives positive encouragement to householders to insulate their homes by offering grants of 66% of the cost of installing basic insulation subject to a maximum payment of £50. This scheme has recently been extended to make public sector tenants eligible for grants. Another aspect of conservation is the example set by Government's use of energy - in the last few years 30% of energy consumption has been saved in Government buildings and 19% in National Health Service buildings. However, the role of the individual is vital and it is up to everyone to contribute to national savings in energy consumption by themselves using energy efficiently and without waste.

I also agree that we must develop alternative sources of energy. Government expenditure on research and development on renewable sources such as wind, waves and sun, has increased year by year. The programmes on all these sources are now well established and the Department of Energy's expenditure on the current financial year is estimated at about £7 million. This may seem fairly modest but progress on research of this nature depends less on the amount of money being spent than on the state of the technology itself, and it is not expected that renewable sources will make a significant contribution before the end of the century.

/I hope these

I hope these comments will be of value to Mr. Young. The Government do not regard nuclear power as an end in itself. We are very conscious that we must have a balanced energy policy drawing on every one of the resources available to us, and that safety must be paramount. But we cannot have such a policy without a substantial nuclear element.

Yours ever

Margaret

Ralph Howell, Esq., MP.

SUBJECT

Energy/

CONFIDENTIAL

10 DOWNING STREET

From the Private Secretary

7 December 1979

Dear Bill

I enclose a note of this morning's meeting on International Oil Policy.

I am sending copies of this letter and enclosure to Tony Battishill (HM Treasury), Stuart Hampson (Department of Trade), George Walden (Foreign and Commonwealth Office) and Martin Vile (Cabinet Office).

Yours sincerely

Mike Pattison

pp Tim Lankester

Bill Burroughs, Esq.,
Department of Energy.

CONFIDENTIAL

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cc MasterSet

NOTE OF A MEETING HELD AT 10 DOWNING STREET ON 7 DECEMBER 1979 AT 1100 HOURS

Present: Prime Minister
Foreign and Commonwealth Secretary
Chancellor of the Exchequer
Secretary of State for Trade
Secretary of State for Energy
Sir Robert Armstrong
Sir Kenneth Berrill

* * * * * * * * * *

International Oil Policy

Ministers considered a letter from the Private Secretary to the Secretary of State for Energy to the Private Secretary to the Prime Minister enclosing three papers on the International Oil Situation, the Implications of Changes in the World Oil Market and our approach to the IEA Ministerial Meeting on 10 December.

The Secretary of State for Energy said that the paper on the IEA Ministerial Meeting had been overtaken by two telephone conversations he had had during the night with Mr. Duncan, the United States Secretary of Energy. During the first call Mr. Duncan had argued that the IEA Ministerial Meeting scheduled for 10 December might as well not be held if the European members of the IEA did not respond to the gravity of the international energy situation by agreeing to co-operate in further reducing national oil import targets in 1980. This was needed as a clear signal to the OPEC producers meeting at Caracas the following week, as some OPEC countries were planning major new cuts in production. The Americans would therefore be proposing that IEA members should agree to cut oil imports in 1980 by one million barrels a day, which would amount annually to 50 million tonnes; the UK share of this cut back would be between 2 and 3 million tonnes. If there was unwillingness to agree cuts in 1980 imports, the American fallback position would be that the IEA should agree to draw up contingency plans for cutting back imports to deal with a sub-crisis situation in which the trigger point for IEA emergency allocation had not been reached.

Mr. Duncan had said that the President agreed with his view that, unless the IEA could agree on at least the last option, his attendance at the IEA meeting would be a waste of time. In the second call, half an hour later, Mr. Duncan told him of a modification in the fall back position made after further consultation with the President, namely that IEA should agree a date within the following three months by which IEA Ministerial agreement on contingency plans for a "sub-crisis" situation would have been reached. There were obvious dangers in the American proposal. As soon as the painfully agreed import targets for 1980 were opened up, we should come under strong pressure to increase UK production of North Sea Oil in order to assist our Community partners agree reduced imported levels for the Community. There would be an intensification of the pressure exerted at the Dublin European Council and at the Energy Council earlier in the week. At present, the Germans were as disinclined as ourselves to agree to reduction in 1980 import targets, but they could not be relied upon to resist American pressure. On the other hand if it was thought we must not be too unhelpful to the Americans in their current difficulties, there was a little flexibility in the UK position. Our national net import target for next year was 12 million tonnes, but latest estimates of UK production and consumption revealed that we might in fact need to be net importers of only 7 million tonnes.

After the Energy Secretary had spoken, he received a message from the Americans amplifying what Mr. Duncan had said to him regarding the fallback position. The Americans said that they wanted agreement by a certain date next year to plans for reduced import targets; to the same degree of commitment as there had been for the 1980 targets; and some statement of principle regarding allocation among individual countries.

In disucssion it was argued that the American emphasis on import targets was wrong and contrary to our interests. It was a replay of the pressures which had been brought to bear on the Prime Minister at the Tokyo Summit. The Government should refuse to reopen the Tokyo agreements. Consumption was the principal problem, and in this respect the Americans were still the worst

/offenders

offenders. As long as they continued to maintain a domestic price level for oil well below the world price, they were on weak ground in pressing Britain to reduce imports. Pressure on imports was an indirect means of pressing Britain to increase production levels of North Sea oil and would be exploited as such by our European partners. It was in the long term interests of the British economy that the Government should maintain unfettered control over national depletion policy. Britain must not become the milch cow of Europe as regards oil. It was a resource which needed to be husbanded if Britain was to get her economy on to the right footing. Only enough oil should be produced to achieve net self-sufficiency. Moreover the Americans were exaggerating the impact that any signal sent by the IEA Meeting would have on the OPEC meeting at Caracas. It was quite possible that no consensus would be established at the OPEC meeting either on cuts in production or on prices. The Americans were over-reacting to Saudi attempts to reduce the role of the American oil majors in their country as conveyed to the US Secretary of the Treasury during his recent visit to Saudi-Arabia. It was the wrong time to hold an IEA meeting. It would have been much better held in February. It would not be a matter of too much concern if the meeting was not a success. What was important was to safeguard the British Government's control over production of North Sea Oil.

On the other hand it was argued that it was not in British interests to be identified by the Americans and our partners in the Community as the principal cause of the failure of the IEA meeting by an obdurate refusal to discuss import targets. The Americans were in a highly brittle mood as a result of the situation in Iran. Although their attempt to set pre-conditions for their attendance at the IEA meeting was unacceptable, it would be wrong to adopt a position of inflexible opposition to their proposals. The Government should be ready to discuss their ideas both at the meeting and beforehand if the Americans were able to stop in London en route. There was a little leeway in the net 12 million tonnes import target for 1980, and if a slight movement on import targets would help to get more effective IEA action on consumption it would perhaps be worth the price. The Americans had indicated that there was now a growing realisation in the USA of the need for action on domestic oil prices and that

/agreement

agreement by IEA member states on import targets would be helpful to them in their attempts to secure domestic action on prices. It was suggested that it might be worth making action on prices a precondition for acceptance of reduced import targets.

In further discussion of the international oil situation it was noted that Iran had informed BP and Shell that they would only be able to purchase supplies in 1980 if they bought certain quantities at spot prices and the balance at government administered prices plus a premium. The role of the international oil companies in the oil market was crumbling. Government to government deals were more and more coming to the fore. Our European partners such as France were already very active in securing supplies and early consideration needed to be given to whether the UK should not also participate in this activity. It was also desirable to arrange an early meeting between producers and consumers to discuss joint means of coping with crisis situations where one major producer ceased to produce for the market. On the other hand it would be necessary to move circumspectly to set up such a dialogue, as the producers were likely to seek to establish links with other North/South issues such as commodity agreements, aid etc: another CIEC type negotiation was not to be desired. Some Eastern European states, who were having difficulties in securing oil supplies from the Soviet Union, had recently suggested that there might be a joint meeting between the Western industrialised nations and the Eastern European countries with the oil producers. This proposal should not be rejected out of hand. It was not impossible that some of the Arab producers might agree to such a meeting.

The Prime Minister, summing up the discussion, said that the Government could not accept preconditions by the Americans for their attendance at the IEA Ministerial Meeting. They could be told that we should be ready to discuss their proposals at the meeting, and with them beforehand if they were able to visit London en route. We thought, however, that the emphasis placed by the Americans on further reduction in import targets was wrong. The main problem was consumption, and the Secretary of State for Energy should attempt to focus IEA discussion on this aspect. In so doing he should draw attention to the importance of national

/price

price policies as an instrument for restraining consumption: an area where US policy was deficient. He should not agree to any reduction in our net import target of 12 million tonnes next year except pro rata to net imports and subject to the co-operation of all our European partners. He should make it clear that, while we should always be ready to engage in discussion on the oil situation in the IEA and elsewhere, we could not agree to commit ourselves to contingency planning predicated on restrictions on imports rather than consumption. In view of the disturbed condition of the oil market it was desirable to investigate further the possibilities of a consumer/producer dialogue. A discussion of UK participation in direct purchasing arrangements with OPEC governments should be arranged for the following week.

The meeting took note, with approval, of the Prime Minister's summing up of the discussion and invited the Secretary of State for Energy to be guided accordingly.

7 December 1979

Ref. A0880

PRIME MINISTER

INFORMAL MEETING ON OIL POLICY

(Letter of 5 December from the Private Secretary to the Secretary of State for Energy to your Private Secretary and enclosures)

BACKGROUND

The International Energy Agency (IEA) is due to meet at Ministerial level next Monday. Mr Howell will represent the United Kingdom. The main business before the meeting (which takes place a week before that of OPEC, at Caracas, which will set the 1980 OPEC prices) is to respond to a series of United States proposals for improving the stance of oil consumers in a difficult and uncertain oil market. The third paper attached to Mr Howell's Private Secretary's letter deals expressly with this. The other two papers - dealing respectively with the "international oil situation" and the "implications of changes in the world oil market" - both set the general scene and seek broad policy orientations as background to the IEA discussion.

2. The prime purpose of your meeting is to provide operational guidance for the IEA meeting. If it were also to prove possible to endorse the other papers, this would both help Mr Howell (who is visiting the Middle East during the Christmas recess and would be better able to operate against an agreed policy background) and enable further work to be put in hand (notably on the recommendation in paragraph 5(a) of the second paper that "officials should urgently evaluate the scope for and relative merits of, establishing direct purchasing arrangements with OPEC governments through BNOC, especially created subsidiaries of BP or Shell, or major UK industrial oil consumers". Clearance is needed before the necessary consultations can begin.

3. Although much of the substance of Mr Howell's recommendations stems from an inter-departmental report by officials (attached to his second paper) it cannot be assumed that colleagues will be prepared fully to endorse his approach without a wider discussion in, say, E. The Foreign Secretary, for example, may be seeking a European "gesture" in the follow-up to Dublin, and other ideas may emerge which supplement or cut across Mr Howell's own approach. Unfortunately, on present plans, it is likely to be difficult to fit in an in-depths discussion on oil policy - in E or elsewhere - before Christmas. The alternative might be to ask Mr Howell tomorrow to say which of his recommendations, other than those relating to the IEA, he needs operationally before Christmas and see whether agreement can be reached on those. A full discussion of oil policy could then follow early in January.

4. Although the issues for discussion do not include Iran, the events in that country cast a long shadow. You should know that a small interdepartmental group under Cabinet Office Chairmanship is currently considering the questions which would arise, eg. from any U.S. requests for assistance. The CCU is also reviewing separately our contingency plans against any interruption in oil supplies to the U.K.

HANDLING

5. You might invite colleagues to concentrate first on the IEA issues and then ask Mr Howell to introduce his proposals. You might then take colleagues through the line he proposes to take - set out in paragraphs 7, 11 and Annex C of the paper on the IEA - with a view to collective endorsement.

6. Essentially the proposals amount to:-

a. Paragraph 7(a): Argue against any scaling down of the existing targets for 1980 at this stage.

b. Paragraph 7(b): Argue for breaking down group to national targets and for more vigorous monitoring.

c. Paragraph (c): Agree to review targets - without commitment - during 1980.

d. Paragraph 11: Avoid commitment to a consumer cartel.

e. Annex C (i): Preserve national discretion to choose measures to meet targets.

f. Annex C (ii): Preserve freedom to protect our national interests in a sub-crisis situation.

g. Annex C (iii): Accept study, without commitment, of means to control oil company activities.

h. Annex C(iv): Remit suggestions for the holding of oil stocks above present commitments for further study.

7. None of these recommendations is likely to invoke strong opposition from other colleagues. You will wish to make sure that the Foreign Secretary is content with what is proposed from the point of view of relations with the EEC: where we can do so without damage to our own interests and without upsetting the rest of the IEA we should be considering possibilities of giving preference to our EEC partners.

8. If time allows you might then turn to Mr Howell's other two papers. In the first (the 'international oil situation') he seeks general endorsement of an approach to international oil policy set out in paragraph 6 of the paper. You might simply work through this and invite comments. The sticky question is whether by accepting Mr Howell's line we consciously forgo the alternative policy - described as "a less virtuous path" - set out in paragraph 7 of the paper. This alternative policy - of maximising our returns from the North Sea by concentrating sales as far as possible on the spot market - would infuriate our partners but earn us a lot of money. A decision to follow this path could not be taken without a general discussion in Cabinet.

9. Thereafter, you might take colleagues through Mr Howell's second paper ('implications of changes in the world oil market'). The recommendations are in paragraph 5. If time is short you might concentrate on the points (probably only paragraph 5(a)) where there is an operational need for an early decision.

CONCLUSIONS

10. Three conclusions are possible -

i. An endorsement, or modification, of the line Mr Howell proposes to take in the IEA next Monday.

ii. Authority for Mr Howell to begin discussions with oil companies and others "with a view to evaluating the scope for and relative merits of, direct purchasing arrangements with OPEC governments".

iii. Either blanket endorsement of Mr Howell's other proposals or an instruction to him to bring them to E at the earliest convenient opportunity (recognising thatthis may have to be after Christmas).

for ROBERT ARMSTRONG

6 December 1979

10 DOWNING STREET

From the Private Secretary

6 December, 1979.

I am writing to acknowledge your letter of 4 December to the Prime Minister. I will of course bring this to her attention immediately.

M. A. PATTISON

Sir Alan Cottrell, F.R.S.

TCR

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

12.

CONFIDENTIAL

M. Alexander Esq
Private Secretary to the Prime Minister
No 10 Downing Street
LONDON SW1

5 December 1979

Dear Mike,

AD HOC MEETING OF MINISTERS ON OIL POLICY ISSUES, FRIDAY 7 DECEMBER

I understand that the Prime Minister is to chair an ad hoc meeting of ministers on 7 December on oil policy issues.

I am attaching three papers for discussion at this meeting which have been approved by my Secretary of State. These papers consider the International Oil Situation, the Implications of Changes in the World Oil Market and our approach to the IEA Ministerial Meeting on 10 December.

I am copying this minute and its attachments to Martin Hall (Treasury), Stuart Hampson (Trade), Peter Mason (Industry), Paul Lever (FCO), and to Martin Vile (Cabinet Office).

Yours ever,

Denis

DENIS WALKER
PRIVATE SECRETARY

10 DOWNING STREET

PRIME MINISTER

Here is a letter from Sir Alan Cottrell, formerly Chief Scientific Adviser, about the choice of nuclear reactor, a subject in which he was closely involved in the past.

I have acknowledged the letter. If you would like to reply in detail, I am inclined to ask for a draft from the Cabinet Office rather than Mr. Howell's Department.

Yes please
MT.

6 December, 1979.

from the Master
Sir Alan Cottrell, F.R.S.

THE MASTER'S LODGE
JESUS COLLEGE
CAMBRIDGE CB5 8BL

Telephone: (0223) 53310

AHC/IMM

4th December 1979

CC6/12

The Rt Hon. Mrs Margaret Thatcher,
Prime Minister to H.M. Government,
House of Commons,
London SW1.

Dear Prime Minister, PR

Nuclear Reactors

In view of the possibility that your Government may now be considering the choice of nuclear reactors for the next phase of the power programme, I feel that I ought to write - as I did previously in the days when I was Chief Scientific Adviser - to give my views on reactors and in particular to express my apprehensions about the pressurised light water reactor.

My concern about this type of reactor stems from the choice of cooling system used: a large chamber of water at a temperature far above its normal boiling-point, kept liquid by high pressure exerted through an exceptionally thick and massive steel vessel and pressure circuit. This basic design feature leads to several major and not evidently soluble problems, of which I would particularly emphasise three, i.e. vaporization of the coolant, cracking in the steel pressure circuit, and difficulties of maintenance and repair.

The importance of the first problem, vaporization, is demonstrated now in the damaged PWR at Harrisburg. At the bottom of this reactor sits a large heap of disintegrated nuclear fuel, self-heated to a high temperature by its own radioactivity and, no doubt, surrounded by a jacket of steam through which it continues to heat the chamber of water to a temperature above normal boiling-point. As a result the reactor, although disabled, has to be maintained at high pressure and may thereby leak radioactivity through its valves and joints. This state of affairs can continue for a few years, in fact so long as the self-heating remains fully active. There is practically nothing that can be done about it. The 'dead' reactor may thus continue as a radioactive hazard to its surroundings for a long time. All this is a direct consequence of its having a large water chamber for its cooling system; and any reactor with this feature is liable to end up in a similar state after a serious accident.

Small cracks, not easy to detect, are particularly serious in thick, hard, highly-stressed steel such as necessarily has to be used in PWR pressure vessels and circuits. I have already explained the reasons for this /Select Committee on Science and Technology: Report on Choice of a Reactor System. Session 1973-74/. A UKAEA

/Study .....

Study under Dr W. Marshall (1976) has proposed various measures to improve the safety of such pressure vessels from fracture due to cracks. I feel confident that if the Marshall recommendations were to be rigorously applied no dangerous cracks would escape detection. But this is only a part of the problem. There would still remain the difficulty of deciding what to do if dangerous cracks became apparent after the reactor had come into operation and its interior was no longer accessible to workmen. For technical reasons, to do with the growth of cracks in service, this is possible, quite apart from the more human possibility of the late discovery of cracks that were missed during earlier inspections. Indeed, the French appear to be in precisely this position now, with their PWRs. Because of the massive welded-up structure of the pressure vessel and circuit, and because of the high radioactivity in an operational reactor, it is virtually impossible to dismantle the defective parts of the circuit and replace them with new ones. As a result, in such circumstances, a Government would become faced with a choice between two very unhappy alternatives: either to order the shut-down of the reactor after only a short life, so incurring economic penalties and disrupting the electric supply programme; or to risk operating the reactor knowing that it is no longer assuredly safe. I beg you not to enter upon a course which might eventually force such a decision upon you or your successors.

May I say finally that the combination of problems I have discussed above is specific to the pressurised light water reactor system. Our AGR system is gas-cooled, so that there is no vaporization problem, and it uses a reinforced concrete pressure vessel. The Canadian CANDU system is water-cooled, but this cooling is done in numerous separate pressure tubes, the failure of any one of which can be detected long before it becomes unsafe, and which can be easily removed and replaced. Our FBR system is cooled by liquid sodium. The boiling point of this is so high that the reactor is not required to run under pressure; and experiments have proved that even after a failure of the cooling pumps the natural convection of the liquid sodium would be sufficient to cool the reactor.

I am copying this letter to the Secretary of State for Energy.

Yours sincerely,

Alan C Hall

Energy

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

R 4/12

The Rt Hon John Biffen MP
Chief Secretary of the Treasury
Treasury Chambers
Parliament Street
London SW1P 3AG

4th December 1979

Dear John.

ROYALTY IN KIND

In June, Geoffrey Howe expressed the hope that, unless there was a substantial change in the world oil market, we should continue to take royalty in kind until March 1981. A final decision on this matter must, of course, be subject to my considering representations from the licensees involved, but I can now tell you that I have done so and, on David Howell's behalf, have confirmed the decision and authorised the issue of final Notices to the licensees of all the fields now in production except Argyll, Auk, and Buchan (I shall keep Buchan's position under review). The Notices have been drafted so that once they come into force they continue indefinitely, unless we give six months' notice of our intention to revert to taking royalty in money.

I am copying this letter to the Prime Minister, members of E Committee and Sir Robert Armstrong.

Yours ever

Hamish

INTERNATIONAL OIL SITUATION

Note by the Secretary of State for Energy.

The Western world now faces an increasingly critical oil situation. North Sea oil puts us in a better position to face that situation than many of our partners, but it in no way insulates us from its consequences. I have in recent weeks put to my colleagues papers on a number of aspects of oil policy - the future of the British National Oil Corporation (BNOC) (E(79)67), depletion policy (E(79)58), the possibility of further help to our Community partners (OD(E)(79)39), and the BNOC/BP negotiations (OD(E)(79)43. I shall be bringing forward further papers on such subjects as the implications for us of changes now taking place in the structure of the oil market, and the line to be taken at the Ministerial Meeting of the International Energy Agency (IEA) on 10 December. But we need to consider individual items in the context of the wider scene and our strategy for dealing with it. This paper is intended to set that context.

The Oil Outlook

2. The main features are:-

a) The world oil market should be slacker in 1980 than in 1979. Demand for OPEC oil is estimated to fall by up to 3 million barrels per day (mbpd) as a result of economic recession and measures to reduce demand. A reduction in the output of the OPEC countries is also likely.

They have talked individually about cuts totalling over 3mbpd but in practice I would expect them to be rather less unless the market is very slack. (Annex A)

b) After 1980 and 1981 the market may tighten with economic recovery. At best it seems likely to be in broad balance to 1985 with demand for OPEC oil around 33 mbpd compared with 31 mbpd this year.

c) Decisions on the level of output are made by the rulers of a few desert Arab states who are taking a more conservationist approach than in the past. And there are major risks any of which could disrupt oil supplies:- political upheavals in one or more important producing countries; a renewed Arab/Israel war; worsening relations between the Arab producers and the West; loss of confidence in the dollar and other western currencies. Current events in Iran highlight these risks.

d) Important changes are taking place in the structure of the world oil market. That market has never been a free market. It has previously been controlled by the major international oil companies who have now lost up to a quarter of the oil available to them. In consequence they have drastically reduced sales to third party customers particularly Japan. There has been a big increase in the number of purchasers of OPEC oil and in government to government deals. This increase in the number of companies handling oil has helped push up prices which despite the easier oil market are now more than 65% above their level at the beginning of the year.

e) The world oil market now has a four tier price structure. Companies buying crude oil may be asked to pay

i. the official price,

ii. the official price plus a premium of between $2 - $10 per bbl. used for term contracts,

iii. Rotterdam spot prices in the range $35 - 40,

iv. the "administered spot price" - typically "key money" to secure term contracts for 1980 (eg. Iran) or prices paid by contractual offtake. Administered spot prices are at or above Rotterdam levels.

The increasing amount of oil that is being sold at administered spot prices is the most dangerous development on oil pricing.

A fuller analysis of the present situation in the oil market is contained in a report by officials on current market developments and their implications which I am circulating under Flag A .

UK Position and Objectives

3. The UK's position as the one major OECD country which for most of the 1980s is expected to be net self-sufficient in oil both presents us with opportunities and exposes us to risks. The opportunities arise from the fact that we should be able to insulate ourselves from the worst effects of the international oil situation if we are prepared to exercise greater control over the disposal of our North Sea oil; that North Sea oil could then be a useful card in political and trade negotiations; and that we could be well placed to act as a bridge between the OECD and OPEC countries. The risks arise from the fact that we may be seen by our OECD partners as siding with the producers and by the OPEC countries as parasitic producers who benefit from higher prices while appearing to criticise them. Our position is further complicated by the facts that we have a major interest in the health of two multinational oil companies - BP and Shell - and that we may get blamed for their decisions and those of BNOC.

4. The oil available at term prices to both BP and Shell is insufficient to meet their world supply commitments. However, BP uniquely among the UK refining companies have UKCS production in excess of their UK refining requirements. It is clearly in the UK's interest that that excess, or part of it, should be retained within the UK at term prices for use by other UK refiners. This will increase the dependence of BP's overseas affiliates on oil from other sources, some

of it at spot prices. But it is to our political advantage, too, that the purchases necessarily made by BP to fill its supply gap are made on behalf of customers in foreign countries. It would then be for those governments to decide whether they wished to object to BP's purchases at the expense of their own supply.

5. In this situation our main objectives should be to:-

a) maintain oil supplies to the UK;

b) work with our partners in the IEA and EEC to stabilise the world oil market and avoid sharp fluctuations which seriously damage the world economy;

c) develop close relations with the OPEC countries;

d) protect the interests of BP and to a lesser extent Shell.

These objectives may often conflict. It will then be necessary to strike a balance between them. As a major trading nation we shall suffer badly from the consequences of a continued international scramble for supplies and rapidly rising prices. But our ability to influence the world market through our access to oil is limited and there is no guarantee that Western Governments will succeed in any conbined effort to bring the situation under control. The maintenance of secure oil supplies for the UK must therefore be our first objective.

Main Lines of Policy

6. Achievement of our main objectives requires the development of coherent policies over a wide area. The main ones are:-

a) an exploration and depletion policy in the North Sea which in the interests of security of supply will replace dwindling production from existing finds and stretch out our limited resources;

b) a disposal policy which has as its first priority the maintenance of as secure supplies as possible to the UK particularly in a sub crisis; and which otherwise as under the present guidelines gives priority to supplies to our IEA and EEC partners.

c) a pricing policy which ensures that we get the benefits of higher prices but which also seeks to silence criticism - indeed, to gain credit, by in general charging the going term rather than spot prices and by making it clear that we are following and not leading the market. (An alternative, but in my view undesirable alternative strategy to this is given below).

d) policies which will ensure that we are not left behind in the competition for government to government purchases from the OPEC countries, while at the same time doing what we can to protect the interests of BP and Shell.

e) co-operate with our IEA and EEC partners to stabilise the oil market and continued co-operation in plans for the international allocation in a full scale emergency.

f) development of much closer relations with those responsible for oil policy in the OPEC countries and other producing countries such as Norway and Mexico.

g) development of closer contacts with the Soviet Union and other Eastern Bloc countries in the energy field. The Soviet Union is the largest oil producer in the world. Changes in her position could have as big an impact on the market as the sort of cut in production from the OPEC countries we are now talking about.

A less virtuous alternative path

7. There is a theoretical alternative strategy which would involve allowing UKCS producers to maximise their return by selling all their production at spot prices and removing all discouragement on them to do so. Were this achievable, it could create an immediate gain of some £2 billion pa to the balance of payments and an increase by perhaps one half in Petroleum Revenue Tax take. To the extent that the course resulted in increased exports of North Sea oil UK refiners might have to buy replacements on the spot market. However, the additional income would not all be in the hands of UK refiners so could not be used directly to offset their costs in buying spot crude. And

though UKCS production is small in world terms, such a policy would infuriate our partners in the EEC and IEA and certainly be cited as a precedent by OPEC producers. I do not recommend such a course, but colleagues ought to be aware that it could be followed if we were prepared for the intended consequences.

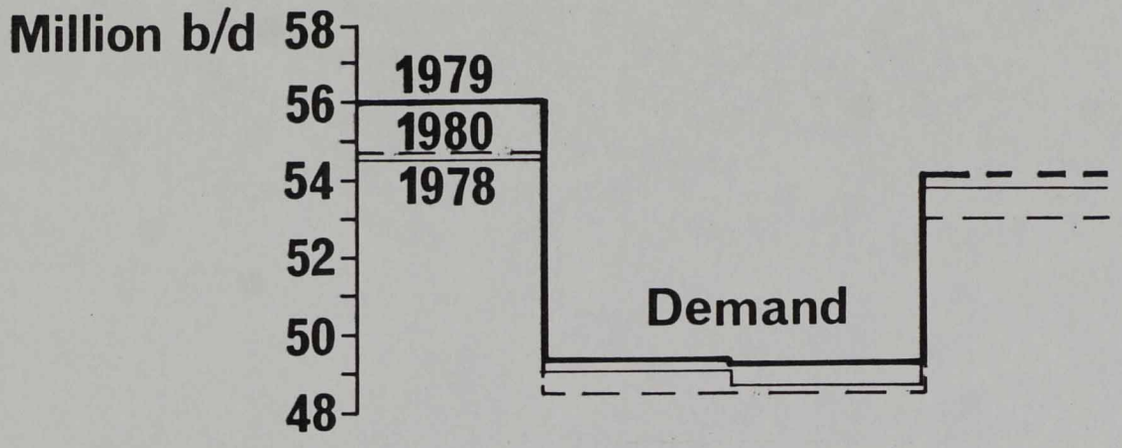
The Next Steps

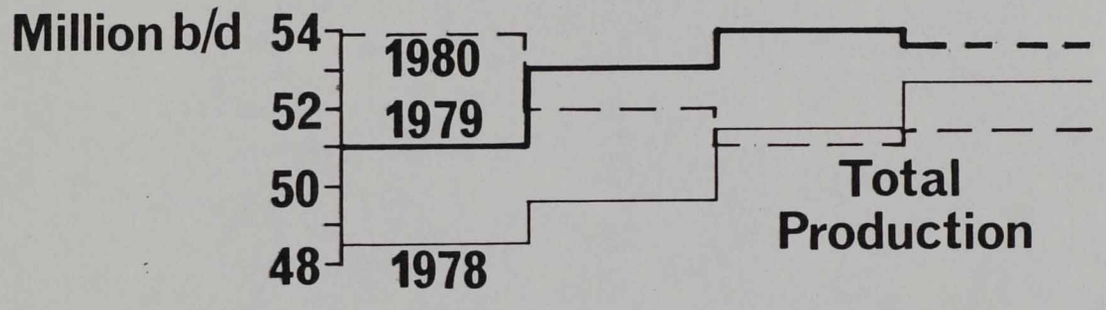
8. Implementation of the policies outlined in para. 6 will require a sustained effort by Ministers and officials through work in international organisations; in explaining our policies to our friends; in developing better relations with the other oil producers including the Soviet Union; and in both economic and political analysis of the oil situation and the intentions of the OPEC countries. We shall need to respond flexibly to a changing situation while keeping our main objectives firmly in view. I shall be bringing forward papers as the need arises on various aspects of oil policy; but I hope we can deal with them all in the general framework I have described.

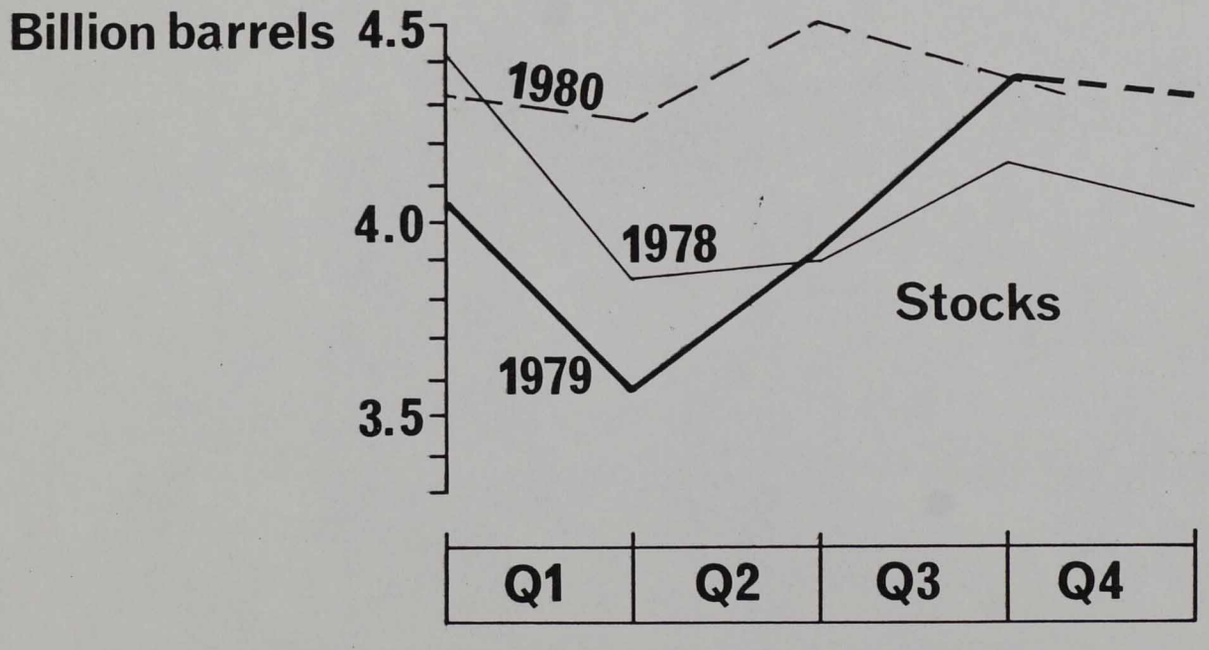
CONCLUSIONS

9. I ask my colleagues to endorse the general approach to international oil policy set out in this paper.

4 December 1979







Comparison of Oil Demand, Production and Stocks for 1978 and 1979 with projection, based on a phased decrease in OPEC production from present levels, for 1980

CONFIDENTIAL

IMPLICATIONS OF CHANGES IN THE WORLD OIL MARKET

Note by the Secretary of State for Energy.

My paper on the International Oil Situation set a policy framework for consideration of individual issues of international oil policy. I now attach an interdepartmental report by officials which examines at greater length some implications of changes in the World Oil Market (Annex A). Paragraphs 2 - 15 of the report are a summary of the whole.

Analysis of Events

2. The report considers the changes that have taken place in the oil market in 1979 following the crisis in Iran which precipitated not only shortages in oil supply and consequential increases in the price of oil, but also structural changes in the oil market. These changes have reduced the amount of oil available to major international companies, increased the total number of oil traders and led to an increasing number of Government to Government oil deals.

3. The report sets out the uncertainties surrounding future oil prospects. There is expected to be a persistent risk of imbalance between supply and demand as OPEC members attach greater weight to conservation of their oil resources and action on production levels as a means of influencing the real price of oil. They will also be influenced by wider aspirations - technical and political.

Policy Implications

4. This analysis brings into focus two major policy issues for the UK:

i) how best to safeguard our interests through the diversification of our sources of oil supply (paras. 35 - 41): and

ii) the policy stance which the UK should take in international discussions of oil issues both with our IEA partners and with members of OPEC (paras. 42 - 57).

Recommendations

5. Specific recommendations which I invite colleagues to endorse are:

a) that officials should urgently evaluate the scope for, and relative merits of, establishing direct purchasing arrangements with OPEC governments through BNOC, specially created subsidiaries of BP or Shell or major UK industrial oil consumers (para. 41):

b) that the UK should be ready to join constructively in international discussions of concerted action to combat excessive oil pricing, but without commitment and taking due account of the possible costs and probable impracticability of any such action (Paras. 44 - 47): (See also paras. 7 - 9 of my parallel paper on the forthcoming meeting of the International Energy Agency at Ministerial level

c) similarly, that the UK should approach constructively, though also without commitment, international discussion on the case for holding buffer oil stocks which could be used to try to moderate fluctuation in the international market (para. 50). (See also Annex C of my paper for the IEA Ministerial meeting):

d) that the UK should continue to pursue discussions - multilaterally and bilaterally - with oil producing countries designed especially to achieve better understanding of the impact of their actions on the world economy, recognition of the efforts being made by Western countries to reduce their demand and willingness on the part of OPEC to maintain production at levels that will

Contd/3.

keep demand and supply in balance (paras. 56 - 57).

3rd December 1979.

IMPLICATIONS OF CHANGES IN THE WORLD OIL MARKET

IMPLICATIONS OF CHANGES IN THE WORLD OIL MARKET

I INTRODUCTION

This interim report is the work of an informal interdepartmental Group on which the Department of Energy, FCO, Treasury and CPRS have been represented. Its remit is to consider the policy implications of the changes which have taken place in the oil market in 1979, or which are likely to occur in the early 1980's to make recommendations, and to indicate where further more detailed work is required. Because of the terms of this remit, the report does not consider whether existing contingency policies are sufficient to deal with a major interruption in oil supplies (eg as a result of a new Arab-Israel war or a revolution in Saudi Arabia) or whether they could usefully be strengthened. If Ministers wish a separate report could be prepared on this. The report concentrates on action in the field of oil policy. The implications of the changing oil situation for general UK energy policy are being taken into account in wider energy policy work.

II SUMMARY AND CONCLUSIONS

2. The two month break in Iranian oil production and its resumption at a lower level combined with the limited ability/ willingness of other producers to make up the gap, led to a substantial stock run-down in the early part of 1979, and some physical shortages. Oil savings by consumers have been less than expected. Nevertheless the shortages are now over and stocks are back to normal levels (paras 16-20).

3. Term prices for oil are up to around 65% so far this year and are still rising despite the better balance between supply and demand. This seems to be partly due to fear of a new cutback in Iranian production and partly due to major changes in the structure of the oil market. The international oil companies have lost up to a quarter of the oil supplies previously available to them. There has been a big increase in the total number of oil traders and the development of government to government deals.

Sales at spot or near spot prices may have increased from under 5% to about 10% of total business (paras. 21-26)

4 Although the prospects for 1980 are for a substantial fall in oil demand oil producers are anxious to reduce production . Barring a further major disruption in supplies from Iran, an easier market seems probable in 1980, but it is unlikely to become as slack as after the last oil crisis in 1973/74. After 1980 the market is likely to tighten again as the world economy recovers, and will remain very vulnerable to further disruption from whatever cause (paras. 27-28).

5 The OPEC producers are now more conscious of the need to conserve their depletable resources. There is talk of action to prevent another fall in the real oil price. There is some doubt about the future attitude of Saudi Arabia. It also seems unlikely that the producers will allow the international oil companies to recover much of the ground they have lost this year (paras 29-32).

6 It seems likely that some consumer governments will persist with interventionist oil policies aimed at securing their oil supplies through direct deals (para. 33).

7 This analysis suggests that there are two major policy issues for the UK - what more can be done to safeguard UK interests by diversifying our sources of oil supply; and what policy stance should the UK adopt in international discussion of oil issues both with our partners in the International Energy Agency (IEA) and in discussions with OPEC. (para 34).

8 North Sea oil means that we have not been under the same pressure as some countries to conclude government to government deals. But the UK cannot afford to ignore this trend. We expect to be net oil importers again in the 1990s and in the meantime we will have a gross import requirement of up to 1 mbd. Some direct purchases from OPEC governments would increase our security of supply and make more oil available under UK control to exploit the political or economic advantages of long term contracts. (paras 35-36)

9 Subject to any political considerations which Ministers may wish to take into account BNOC seems to us to be the most promising vehicle for diversifying our oil imports, but the other options should also be looked at and the difficulties should not be under-estimated. We recommend that officials should urgently, but without commitment, discuss

a) with BNOC the scope for their establishing purchasing arrangements with OPEC Governments.
b) with BP and Shell, the scope for their setting up subsidiaries to purchase oil specifically in support of their UK operations.
c) with the ICI and others, including the CEGB, the scope for their purchasing direct from OPEC countries.

The aim should be an initial report before Christmas so as to enable the Secretary of State for Energy to explore the possibilities during his January visit to the Middle East. (paras. 37-41).

10 Our dependence on world trade gives us a strong incentive to cooperate in any practical action by consumer governments to remedy the present difficult situation in the oil market. Market forces by themselves may not be sufficient to stabilise the market in the case of a commodity the output and price of which is largely determined by the governments of a few desert states and demand for which at least in the short run is relatively insensitive to price changes. Because of our position as an energy rich country it would however be imprudent for the UK to take the initiative (paras 42-43).

11 Some OPEC countries are able to sell some of their oil at prices well above the official ones because of the readiness of some western companies and governments to accept such terms in order to safeguard supplies. Concerted action by western governments against such practices would in theory be salutory. It is difficult to see what form such concerted action should take: but we should be prepared to consider in a positive way any practical proposals put forward by others (paras 44-45).

12 The change in the character of the spot market from a

marginal market to one in which a substantial proportion of international trade in crude oil takes place suggests that there may be a case for developing an oil exchange which would be self-regulated and operate openly and for other measures to make the market more transparent. A separate report is being prepared (paras 46-47).

13. The IEA and EEC lay down minimum levels of stocks as a strategic reserve against disruption of supply. There is a case for holding higher stocks some of which would be available in a period of supply difficulty short of a full scale disruption. The most radical approach would be an international buffer stock to be used to try and moderate violent fluctuations in the market. Despite the many difficulties we recommend that the UK should be ready without commitment to join constructively in international studies of stockpiling policy including the buffer stock proposal. (paras 48-50).

14. Discussions with the OPEC countries are the natural counterpart of action by consumers. While bilateral discussions may have some effect, experience so far suggests that multilateral discussions are unlikely to be productive unless consumer countries are prepared to make substantial and costly concessions notably in the context of the so called New International Economic Order (NIEO). We recommend that, we should continue our efforts both bilaterally and multilaterally to have (meaningful) discussions with the oil producers with the objective of securing a better understanding by them of the impact of their actions on the world economy. We should need to show that we are taking effective conservation measures and, if we do get into the detailed negotiations, we may need to reappraise our attitudes towards OPEC access to Western markets for refined petroleum and petrochemicals although the costs of doing so have not yet been estimated. The Secretary of State for Energy's visit in January to Saudi Arabia, Kuwait and Adu Dhabi should provide a useful opportunity to develop bilateral contacts there (paras 51-57).

15. Other issues which can, if Ministers wish, be covered in

further reports are the implications of current changes in the structure of the oil market for the future of BP and for the details of the IEA Emergency Oil Allocation Scheme (para . 58).

III ANALYSIS OF THE EVENTS OF 1979

(i) The Oil Shortage

16 The disruptions to Iranian oil production which began in the autumn of 1978 and culminated in a two month break in oil production from Christmas to February 1979 came at a time when the international oil market had passed through a period of relative stability after the upheavals of 1973/74 and real oil prices had declined by about 20% (see Annex 1). It was generally thought that further pressure on supplies and prices was not likely before the mid or late 1980s. The Iranian revolution has chan ged that. Iranian exports which before the revolution were above 5 million barrels per day (mbpd) fell to zero from 25 December 1978 to 5 March 1979. They have subsequently been restored to around 3 mbpd although the precise figure is uncertain. The other OPEC countries were not immediately able to make up for the whole of this loss and some of them were, in any case, unwilling to increase production to the maximum; but for 1979 as a whole total OPEC production has been higher than in 1978. There have been minor increases in production in Venezuela, Nigeria, and Kuwait and a rather larger increase in Iraqi production. But Abu Dhabi, despite considerable surplus capacity, has refused to allow any increase. Saudi Arabia allowed ARAMCO to raise production briefly by nearly two mbd above its normal 8.5 mbd ceiling, but then re ined back so that 2nd Quarter production (by when Iran was producing again at between 3.5 and 4 mbd) was once more 8.5 mbd. Third and fourth quarter production is expected to be 9.5 mbd, but again only on a temporary basis.

17 The initial result of the production shortfalls was a sharp run-down of stocks in the first quarter of 1979. In the US the problem was exacerbated by increased requirements for lead free gasoline, and by a cumbersome allocation scheme, so that gasoline queues began to appear nationwide. More localised

shortages began to appear in Europe, including the UK, during the second quarter. In the IEA member countries agreed at the beginning of March to take action to reduce their demand for oil on world markets by 2 mbd or 5% of IEA consumption, this being the anticipated shortfall over the year as a whole with due allowance for the replenishment of stocks. This commitment was later developed into a separate EEC commitment to restrict 1979 oil consumption to 500 million tons, and the targets were further elaborated in the June Tokyo Communique and in subsequent international work.

18 The oil saving efforts so far are not impressive. Only the US expects to meet the target in full (partly because of the severity of the physical shortfall there and the onset of recession). Overall savings in the IEA countries as compared with anticipated consumption appear to be around 3%.

19 Latest estimates of UK oil consumption in 1979 lie in the range 92.3-93.9m tonnes, with 93m tonnes the most likely figure. This is 0.1 m tonnes above the IEA reference forecast and 3.1 m tonnes above our EEC target. Latest consumption figures suggest however that we may reduce our consumption to about 3% below the equivalent period in 1978 by the end of the year. This achievement is around the middle of the IEA league table.

20 Nevertheless, such savings as have been made, combined with what is now a relatively high level of OPEC production, have eased the shortages and enabled a substantial stockbuild, to a point where supplies and stocks worldwide are now back to normal levels. UK and US stocks are in fact now higher than this time last year (75 days forward demand, as compared with 69 days last year in the UK case). Stockbuilding by the companies, a reflection of their concern about future supplies, is part of the explanation of why upward pressure on oil prices has nevertheless continued.

(ii) Price Rises

21 The price rises in 1979 have in many ways been more serious

than the supply shortages. The December 1978 OPEC price increases were moderate, involving four quarterly increases averaging 10% over 1979 as a whole. But spiralling spot prices soon made Government selling prices look much too low and a series of leapfrogging increases took place which, despite formal increases in the Government selling prices in March and June, are still in progress. The average term cost of OPEC crude has now increased by some 65% with African (and North Sea) crudes now well over $26 a barrel. Spot prices range up to $45 a barrel. It is not yet clear where the process will end, but another large increase in the price of the Saudi market crudes, still only $18 a barrel, seems almost inevitable when OPEC meet again at Caracas next month. The year's developments are shown in chart form at Annexes 2 and 3, and described in more detail in Annex 4.

(iii) Structural changes in the oil market

22 A worrying feature of the most recent increases in prices is that they have taken place despite the better balance achieved between supply and demand since June. This is in part due to continuing fears of a further disruption in Iranian supplies this winter. But it may also to some extent be a short term effect of major structural changes in the oil market. Before the 1973/74 crisis about 70% of oil trading was on the basis of long term contracts between the oil producers and the international oil companies, who were in most cases also concessionnaires. With the oil shortage of the autumn of 1973 came an increase in government to government deals (including a UK purchase of 7m tons of oil from Iran). However the re-emergence of a slack oil market enabled the international oil companies to recover much of the lost ground, although the process of phasing out their concessionary privileges continued. In 1978 the seven "Majors" still handled some 21.8 mbd or about two thirds of internationally traded oil.

23 This year the position has altered dramatically. When Iran returned to production the Majors secured a lower percentage of a lower production level, with a total loss of crude estimated at 2.4 mbd. Other producers such as Libya, Algeria, Iraq, Qatar and Dubai have sought excuses to trim back contracts with

the Majors in order to sell at inflated prices to new buyers. Iran has gone further and told companies that their supply contracts in 1980 will depend in part on the amount of crude they have bought at spot prices. Even some of the increased liftings of the Saudi Arabian state oil company Petromin are thought to have ended up as spot sales. Up to 1 mbd is thought to have been siphoned off in this way, although in some cases the companies have been invited to buy the same crude back at near spot prices. Total spot or near spot volumes are thought by some commentators to have increased from 2-5% to 10% or even 20% of international oil sales, thus effectively creating a new tier of oil prices $10-20 per barrel above the underpriced Saudi crudes and the other higher Government Selling Prices. The Majors have lost up to 25% of their total crude availability. Third party contracts have had to be reduced by about 2 mbd. All except Texaco have been forced to the spot market for part of their normal refining requirements.

24 Within the Majors BP has been particularly badly affected, losing over 900,000 bpd in Iran alone. Events in Nigeria, culminating in the nationalisation of their assets at the beginning of August have cost them a further 340,000 bpd, and they are almost certain to suffer a major reduction in their Kuwaiti contract next year. The effect is that in the course of 12 months BP have gone from the position of a company with about twice as much crude as it required to meet the needs of its own refineries to one of major deficit. The long term implications for BP are to be the subject of separate discussions on which a report will be submitted in due course. Agreement in principle has been reached between BNOC and BP to provide the latter with assistance in the short term.

25 The decline in the role of the Majors and in particular their shedding of third party contracts in favour of their affiliate companies has been accompanied by a large increase in the total number of oil traders and the development of Government to Government deals. For instance the Iranian consortium liftings have been replaced by at least 33 separate contracts, of which 11 are with Japanese companies who are no doubt acting for the Japanese Government. Similarly, Saudi Arabia, Iraq, Kuwait and Nigeria are all known to have greatly increased the number of

their sales contracts. A number of these additional contracts are with state oil companies, both from within and from outside the OPEC countries. Annex 5 analyses the evidence we have of government to government deals and purchases by independents. Including Japanese direct purchases the former now amount to nearly 7 mbpd all told, or 21% of internationally traded crude oil.

26 The overall effect in the short term of this fragmentation of the market may have been to put further upward pressure on prices. The failure of oil to flow along previously well established market channels has created great uncertainty among buyers as to whether they will be able to secure adequate supplies. This is true not only of the Majors but even more so of their former third party customers who are now obliged to purchase more of their oil directly; the latter being less experienced in crude oil trading are more likely than the former to be easily gripped by the current psychology of crisis. Thus the structural change in the market has tended to create a belief that there is still an oil shortage at a time when supply is almost certainly adequate to cover the underlying level of consumption. This together with concern about the possibility of further supply "accidents" has made crude buyers unwilling to resist the increases in oil prices demanded by the producers and the spot traders.

IV PROSPECTS FOR 1980 AND BEYOND

(i) Supply and Demand

27 Our latest supply and demand forecasts are set out in Annex 6. The immediate prospect is for a substantial fall in demand for OPEC oil as a slow down in world economic activity (with negative growth in the US and UK) is combined with rising oil production outside OPEC. The Government's latest forecasts in the World Economic Prospects exercise suggest in 1980 a fall in demand for OPEC oil of about 3 mbd after allowing for this year's stockbuilding. Unfortunately a number of OPEC producers including Saudi Arabia, Kuwait, Iraq, Abu Dhabi and Venezuela have made it clear that they would like or plan to reduce production. Iran's ability or willingness to maintain her stated/

also
objective of 4 mbd must/be increasingly open to question. If all these reductions in production were to take place simultaneously they could add up to 4 mbd or more.
In practice short of a further major disruption in Iranian production we doubt if the worst scenario will be realised. In that event the production cuts would probably not be on a scale which would prevent the emergence of a relatively slack oil market in 1980.

28 Economic activity is expected to pick up again after 1980. If the OPEC countries do not allow production to increase in line with increased demand, tighter market conditions could reappear within the following year or two. Thereafter, the most recent longer term forecast that we have done for 1985 suggests a balanced market at the present real oil price i.e. on the assumption that from now on, oil prices will rise at the same rate as the prices of manufactures (see Annex 1). The demand for OPEC oil in that year is calculated at 32-33 mbpd which would be consistent with some OPEC countries producing a little below their likely production ceilings. Some other forecasts, notably those of the US Central Intelligence Agency (CIA), are more gloomy. The differences largely reflect different assumptions about the willingness of major producers to increase production and to act in concert to restrict supply so as to maintain pressure on the price. Clearly there are great uncertainties here. In any case the world's oil market will be vulnerable to any further supply disruption or a sudden surge in demand. Historically there have been a whole series of disruptions - 1956, 1967, 1973 and 1979. The Middle East remains an inherently unstable area, particularly while the Arab/Israel problem is unresolved. The situation appears to be fundamentally different from 1973/74 in that some 2 mbd appears to have been permanently lost to the system from Iran and the margin of spare OPEC capacity to cope with another crisis is likely to be either non-existent or relatively small. Moreover the supply side is critically dependent on the Saudi Government being prepared to allow some increase in

production above present levels, which commentators like the CIA do not believe will happen

(ii) OPEC Attitudes

29 The medium term prospects for oil supplies and prices will also be affected by the changing attitudes of the OPEC producers. All those with surplus capacity, including Saudi Arabia, are now more interested than they were in conservation of their depletable resources. There has been some discussion in OPEC circles (eg the recent Vienna seminar) of the need to take concerted action to avoid another fall in real oil prices comparable to the 20% fall between 1974 and 1978; and of the inability of the West to curb oil consumption except under duress. On the other hand OPEC has never acted as a perfect cartel as some of its members have (as now) increased prices above agreed levels in tight markets and reduced prices below agreed levels in weak markets. It is therefore difficult to judge what will happen when the market slackens. It can also be argued that, just as a greater number of buyers in the market is now forcing prices up so it will tend to exert greater downward pressure in an easier market.

30 We do know that some producers, like Kuwait, now want to hold down oil production for domestic policy reasons. Others like Nigeria, Algeria and Indonesia, who badly need cash will wish to see what combination of production and price is likely to produce maximise their cash returns, but are likely to continue at near capacity. The key country will of course continue to be Saudi Arabia. Between 1974 and 1978 Saudi Arabia consistently opposed price increases, with some success. During 1979 they have found that their increased production has been quite insufficient to stem the tide of rising prices. As the oil market weakens Saudi Arabia should recover some of its ability to control events and it would certainly have the ability and financial strength to prevent real oil prices falling back. There may be a difference of view in Saudi Arabia between those who consider that in future Saudi policy should be to work for regular moderate increases in real oil prices and those within the regime

who are said to advocate a much lower level of production (say 4 mpbd). Sheikh Yamani has been at pains to warn the West that they should not rely on the continuance of Saudi oil production at existing levels. There is in addition considerable uncertainty about the level of production needed to maintain Saudi economic growth; lower production might well mean much higher prices. In the last analysis production and price decisions in Saudi Arabia are still taken - and may be for a long time yet - by a small group of Princes whose thinking is chiefly determined by political factors. This suggests that Saudi policy may move towards conservation as the ruling family become increasingly sceptical of the political advantages of supporting the United States.

31 On balance the best judgement we can make is that, in an easier market, the OPEC countries will work together rather more effectively than in the years after 1974 when the real oil price fell because they did not coordinate production cuts; but we doubt whether OPEC will be able to achieve complete harmonisation of production policy in the years ahead.

32 It is also an open question how OPEC attitudes towards the Majors will develop. Sheikh Yamani of Saudi Arabia told the Chairman of the IEA Governing Board, Ersboell, in September (and has also mentioned to the Americans) that it was Saudi policy to phase out the multinational oil companies as the main buyers of oil. It is not clear whether this phasing out would relate to the operations of the Majors as a whole, or just their purchases for onward sales to third parties. He has also given warnings that Governments who want secure supplies must set up government to government deals, which should include in return for a secure supply of oil, political concessions or arrangements for the transfer of technology. On the other hand the international oil companies, with their fully integrated systems, have acted as a buffer between the producers and market forces. There is a possibility that some producers, particularly those who badly need the cash, will find uncoordinated cancellations of contracts in face of declining demand acutely embarrassing,

and may therefore be inclined to return to the Majors as more reliable customers than the new companies trading in the oil market. But for the reasons already mentioned it seems unlikely that the markets will become as slack as in 1974, or that, therefore, the Majors will recover all the ground that they have lost. Most producer countries will probably try to maintain a mix of sales to the Majors, sales to state oil companies and independents and sales on the spot market at higher prices if they can get them. They may also be under pressure to continue to give preferential access to the less developed countries.

(iii) Attitudes of Consumer Governments

33 Faced with the uncertainty about supplies and prices described above it seems likely that individual consumer governments too, particularly those with very limited indigenous energy resources like France or Japan, will persist with interventionist oil policies aimed at securing their own supplies (see para 25 and Annex 5).

In 1974 it was seriously believed in parts of the US Administration that the real oil price would fall again; everyone is now convinced that the long term trend of real oil prices is upwards, with the likelihood of further supply disruptions along the way. Governments will have seen the ill effects which result from a scramble for oil supplies, which international action has, so far, not been able to prevent. At the same time they have been tempted to join it. Direct deals with the producers linked on occasion to agreements on technical aid and industrial development, therefore seem likely to continue.

V POLICY IMPLICATIONS FOR THE UK

34 The analysis in the preceding sections suggests that there are two issues:

(i) What can be done to safeguard UK interests in a difficult and uncertain world by diversifying our sources of oil supply.

(ii) What policy stance should the UK adopt in international discussions of oil issues, both with our partners in the IEA and the EEC and in discussions with OPEC.

The remainder of this report examines these two questions and the possibilities for action. Different timescales apply to these possibilities. The most urgent - if Ministers decide on action - are the proposals for diversifying UK sources of oil supply and on stockpiling policy. On the other hand many of the proposals for developing contacts with OPEC countries are of a long term and continuing character.

(i) Protection of UK Interests

35 North Sea oil in itself does not protect the UK from the vagaries of the international oil market. All UK refiners except BP have equity UKCS crude volumes far short of their UK crude requirement and most private sector companies without UK downstream interests export their crude, particularly to the US. (see Annex 7). Furthermore, for technical and economic reasons it is in our interests to trade North Sea oil for cheaper heavier imported crudes.

36 BNOC, which has untrammelled access to about a quarter of UKCS crude has demonstrated this year its ability to increase supplies to the UK to some extent either directly or indirectly But the UK cannot be insulated from oil imports, which in gross terms are expected to amount to some 1 mbpd through the 1980s rising thereafter. The UK needs to continue to seek improved insurance against short term shortfalls and prepare for the longer term return to growing dependence on imports.

37 North Sea oil has reduced the pressure on us to conclude government to government deals with the oil producers such as those being negotiated by France and Japan. Ideally we would wish to discourage others, from going down this path. Direct deals increase the likelihood of difficulties for individual countries who fall out with their supplier, and may limit the ability of the IEA to act effectively in an emergency because of destination restrictions and political difficulties in sharing government acquired oil. However, as discussed in paragraphs 32 and 33 above, we do not believe that the trend to more government to government deals will be reversed. That being so we cannot afford to ignore it. Otherwise we could find in a period of renewed supply difficulty like that experienced this year that other countries had their direct deals whereas the Internationals with their equality of misery philosophy did not have enough oil at their disposal to meet our requirements. We would doubtless hope to divert some additional

oil to the UK from BNOC but as this year's experience showed this takes time when there is a framework of contracts which cannot be breached without grave commercial damage and perhaps wider political repercussions. Moreover an increase in the amount of oil under UK control would give us better opportunities than the very limited ones which now exist to exploit in suitable cases the political or economic advantages of allowing North Sea producers to enter into some long term contracts for the supply of oil overseas.

The main possibilities for diversification, which are not mutually exclusive are:

(a) Purchases of OPEC Oil by BNOC

The Government's statement of 26 July recognised the need for a continuing trading role for BNOC (though with private sector participation in upstream activities). BNOC is in fact already negotiating for oil supplies from Kuwait and has some hopes for supplies from Saudi Arabia. A number of the OPEC Governments have said that they would like to deal with state oil companies, which makes BNOC an obvious choice though its lack of refining interests may be a disqualification in the eyes of OPEC. Shell and BP would probably not welcome what they would see as a further undermining of their position. The Government would certainly need to be consulted by BNOC over its purchasing policy to ensure that there was minimal interference with BP's and Shell's normal channels of supply and to ensure that the oil went to the right recipients. Possibly some informal coordination machinery would be necessary. However, if for instance, BNOC were to secure Saudi oil and were to then sell it to UK refiners, including Shell and BP, who do not at present have access to Saudi oil, this could actually be of some advantage to them, so that a conflict of interest should not be assumed to be inevitable. It has to be recognised that Shell and BP along with the other majors may now

be regarded by some OPEC countries as unattractive customers whose requests for additional oil should not readily be met.

(b) Use of BP or Shell Subsidiaries

Another or additional possibility would be to encourage BP and Shell to set up subsidiaries which would channel oil to their UK downstream operations without it going through their crude trading organisations and therefore becoming subject to equality of misery provisions in the event of supply difficulties. We would have to discuss further with the companies the practicability of such an arrangement. It is also uncertain how OPEC would view it. If their objection is to dealing with the international companies as such they would presumably not regard Shell or BP as an acceptable vehicle for a direct deal. If on the other hand they wish, as the Kuwaitis have said, to restrict supplies to companies who will refine the oil rather than trade in it as BP used to do, this might be a way forward.

(c) Other Purchasers

A further possibility would be to do as the Japanese appear to do with their big trading houses and encourage a dozen or so British companies to purchase and transport oil to the UK. Some, like ICI, might already have major fuel requirements. Others might not. The CEGB should not be ruled out as a possible vehicle, although its present interest is of course basically in fuel oil rather than crude. The problem about this approach is that, apart from the possible unwillingness of companies to participate, it would involve complex negotiations with UK refiners about markets for the crude, from which it would be difficult for HMG to stand aside having encouraged the process.

38 Certain general problems arise on all these possibilities. The most important is the risk of financial loss to the Government. In the case of BNOC any loss incurred in the purchase of oil from OPEC countries would necessarily fall on public expenditure and the PSBR. Companies which do not normally buy oil direct ((c) above) might well ask the Government to guarantee them against any losses incurred through purchases of OPEC oil undertaken with Government encouragement. Proposal (b) above is less likely to involve a Government financial commitment: but even in this case the possibility of a request for Government underwriting cannot be ruled out.

39 Further complications could arise if, as is very possible, OPEC producers wanted a specific quid pro quo in exchange for sales of oil dedicated to the UK. It is difficult to come to any view on this in advance of the event. Some likely OPEC concerns, such as that the oil should not be passed to other countries or companies, might, subject to any complications under the Treaty of Rome, pose no problem. Other conditions, such as that the oil should be carried in tankers owned by the exporting country, or that it should only be made available in exchange for technical assistance of one sort or another, could be more onerous. The Government would simply have to look at the merits of the case and see where the advantages lay. But the leverage which we already have through our North Sea oil and the likelihood that, even though no longer self sufficient, we would be much better off than most industrialised countries through to 2000 suggests that we should not be prepared to pay as high a price in order to open new sources of supply as the Japanese or French might be.

40 We would not in any event wish to cover more than a limited proportion of our import requirements from direct deals. If we became heavily dependent on one particular source we could be very exposed in the event of a supply interruption from that source, and subject to political pressures. The object of the exercise would be to diversify

our imports to a point where we were no longer completely dependent on the equality-of-misery schemes of the international oil companies nor without hope of increased supplies from them in the event of difficulties with one of our direct dealers. Together with the leverage given by North Sea oil we might then hope to do considerably better than average in any further minor shortage situation.

41 BNOC seems to be the most promising vehicle for such a policy of diversification. Ministers may wish to consider whether there are any general political objections to developing its role in this way. In any case, other options should also be looked at. We therefore recommend that officials should, as a matter of urgency but without commitment, discuss:

(a) with BNOC the scope for their establishing purchasing arrangements with OPEC Governments in such a way as minimises damage to traditional sources of supply.

(b) with BP and Shell the scope for their setting up subsidiaries to purchase oil specifically in support of their operations.

(c) with ICI and others, including the CEGB, the scope for their purchasing direct from OPEC countries.

The aim should be an initial report before Christmas so as to enable the Secretary of State for Energy to explore the possibilities during his January visit to the Middle East.

(ii) International Action

42 The UK has a major interest in the restoration and maintenance of [redacted] stability in the oil market. Because of the dependence of our economy on the level of world trade, North Sea oil will not insulate us from the effects of the slower economic growth or world recession which are the likely outcome of further oil supply disruptions and price

jumps. This raises the question whether there is any action that we as a consumer can take, either alone or with other consumers, to affect the operation of the market in a manner favourable to us.

43 At the same time the UKs ambivalent position as an energy rich consumer country for the time being net self sufficient in oil makes it necessary for us to act with great care. Our possession of North Sea oil tends to engender suspicion of our motives among our partners. Initiatives by us could well lead to demands for a greater UK commitment on North Sea production and guaranteed supplies which would limit the Government's freedom of action and might involve a heavy loss to the economy. In general therefore we should avoid initiatives particularly on issues involving prices and the state of the oil market. But others are likely to press for action - for example at the meeting of the IEA Governing Board at Ministerial level on 10 December. We believe that it would be right for the UK while in general avoiding initiatives to take part in a positive way in the examination of proposals put forward by others which appear realistic and which are consistent with our own interests. It is against this background that the following paragraphs examine the main possibilities.

(a) Resistance to Price Increases from some OPEC Countries

44 As explained in para 23 above, some OPEC countries are forcing up the general level of prices by selling some of their oil well above the official selling price and by making the supply of oil at the official price conditional on the purchase of some oil at these higher prices. The countries concerned are able to do this because of the readiness of some Western companies and Governments to accept such terms in order to safeguard their own oil supplies. In theory, concerted action by Western Governments to resist such demands would have a salutory effect on the general level of prices. It is however difficult to see what practical form such concerted action could take, or to be confident that all, e.g. Japan,

France, FRG would participate wholeheartedly. The most direct approach would be an agreement by Western Governments to forbid their nationals to buy oil on terms of this kind. This would be almost impossible to enforce. To be acceptable to the main importing countries it would have to be accompanied by agreement to operate an international allocation system to safeguard any country whose supplies are seriously disrupted by observance of the agreement on prices. Many Western governments would not be willing to face the political difficulties of getting their public opinion to accept such measures in the absence of an obvious crisis. In the UK case any system of allocation would be likely to mean a diversion of some oil to our partners with consequent economic costs. A more limited approach would be to lift anti-trust restrictions which hinder cooperation between the major oil companies. But, apart from the obvious political difficulties of such a step for the US Government, it is doubtful if the major oil companies would be able to cooperate with each other in the way they have in past crisis, or if they now control a large enough proportion of the oil distributed to influence effectively the policy of the OPEC governments concerned.

45 Nevertheless, for the reasons set out in paragraphs 42-43 we believe that we should be prepared to consider any proposals which others may put forward in a positive way, taking due account of their practicability and the likely costs and benefits.

(b) <u>The "Spot" Market</u>

46 Another area which has been the subject of much Governmental concern this year has been the spot market. The French put forward a batch of proposals for regulating the spot market and indeed oil transactions generally. The Tokyo Summit agreed on the registration of oil imports (schemes for which are now being implemented within the IEA and EEC), and that there should be further study of the possibility of demanding documents indicating the purchase price as certified by the producer. There have also been further proposals for the advance reporting of unusual transactions. But it seems most

unlikely that any of these ideas will have much effect on the basic problems of supply and price. High spot prices are a symptom not the cause of problems in the oil market.

47 The change in the character and size of the spot market described in paragraph 23 suggests however, that there is a case for considering the possibility of developing an oil exchange which would be self regulated and operate openly. Other measures to make the position of the market more transparent could also be desirable. Development on these lines raises many technical problems. A separate report on these issues is being prepared.

(c) Stockpiling Policy

48 Member Governments of the EEC and IEA have obligations to hold, or require the oil companies to hold mimimum stocks of oil. (see Annex 8). These stocks are intended as a strategic reserve against disruption of supply. The events of this year suggest that there is now a prima facie case for higher stock levels, some of which could be used in a period of supply difficulty like that encountered this year, as well as a full crisis and the companies are themselves anxious to increase their stockholding. The costs would certainly be high - eg the interest costs on purchasing and holding additional IEA stocks of 40 million tons or 10% of current levels could be of the order of £500m per annum. One practical approach might be to raise the minimum stockholding obligation on companies, but to agree that it could be reduced to a given figure in times of shortage. This should help in sub-crisis situations. It would of course not be sensible to impose further stockholding obligations until the oil market has slackened.

49 A more radical approach would involve the creation of an international buffer stock under the control of a suitable stock manager. Had such a stock existed in 1979, it might,by releasing oil on the market have been possible to moderate the rise in

spot prices, and the resultant increase in OPEC prices. However buffer stocks elsewhere have tended to run into serious problems and that for copper has proved to be prohibitively expensive. We should certainly wish to ensure that the substantial costs are financed by a levy on the oil companies (which would be passed on to consumers) and not by an increase in public expenditure. It would also be necessary - and not easy - to reach agreement on the circumstances in which the buffer stock manager should buy and sell.

50 Despite these difficulties we recommend that the UK should be ready without commitment to join constructively in detailed studies of stockpiling policy including the buffer stock proposal in the IEA (where the Secretariat has already initiated work) and the EEC. The work should include a detailed assessment of the costs and benefits of the various options including costs and benefits to the UK itself. If the idea of a buffer stock becomes more than a theoretical possibility special attention would need to be paid to presentation to the OPEC countries. Although a joint producer/consumer stock would almost certainly be unacceptable to OPEC it might nevertheless be floated as a way of preempting complaints that a stock operated by the consumer countries alone would be confrontational.

(d) Relations with OPEC

51 Attempts to secure discussions with the oil producers are the natural counterpart of the possible action by consumers discussed above.

52 OPEC's formal position on this subject was set out in the communique after their Ministerial Conference in June. They expressed willingness to discuss energy matters along with other problems of concern to the developing world but rejected categorically "any dialogue which did not look into the various problems faced by the World Community and especially the developing countries, taking into account the problems of development, the acquisition of advanced technology, the financial monetary reforms, world trade and raw materials, along

with the various aspects of the energy problem." OPEC Ministers rejected the Venezuelan initiative for an OPEC/non OPEC Meeting on energy matters because it did not propose wider discussions of North/South issues. OPEC have taken the lead in pushing the G77 proposals for global negotiations linking energy to North/South issues; and have criticised the Mexican proposals for a purely energy related discussion.

53 OPEC's demands that discussion of energy be linked to North/South issues stems from their wish to avoid criticism of the effect of their actions on non-oil ldc's by appearing to maintain common cause with the developing world, and thereby to put off any need for concessions by them. But some of the oil importing developing countries, although they believe that global negotiations are important, are becoming increasingly impatient for action on energy. OPEC may therefore in future come under increasing pressure from that quarter to take part in an energy dialogue. In any case bilateral contacts between Western and OPEC Governments will continue to provide an opportunity to try to influence the thinking of OPEC countries. The Secretary of State for Energy's visit to Saudi Arabia, Kuwait and Abu Dhabi in January should provide a useful opportunity for discussion.

54 As far as oil supply and demand is concerned we should, both in bilateral and multilateral discussions, seek to persuade the producers of the case for increasing production if necessary to cope with any new "accidents" like the crisis in Iran and for avoiding production cuts likely to have a sharp effect on prices, which deal a heavy blow to the world economy.

55 The West would not be likely to get very far by attempting to raise the question of oil prices directly. The OPEC countries regard price as their prerogative and have in the past refused to discuss it with the West in any formal way. In any case, once the level of production has been decided, the spot market price will be determined by the pressure of demand on supply and, if that price rises significantly above the prevailing official price, the OPEC governments will find it

difficult to resist an increase in the official price to bring it more closely into line.

56 The positive points that we believe could be made in any such discussions are:

(i) The world economy has not yet absorbed the effects of the 65% increase in the nominal term price which has taken place in 1979 and raised the real price of oil to 21% above its previous peak in 1975 and to 50% above the level at the end of 1978. The idea that the real price of oil should be maintained and even possibly slowly increased has much to commend it in principle but the world economy needs a bit of time to adjust to the sharp increase that has just taken place.

(ii) Those taking policy decisions affecting oil production need to look ahead to what will happen when growth revives after the present recession. If the oil producers cut back production in 1980 and hold it at the new lower level when demand revives, it is probable that they will cause another escalation in oil prices which would give a further boost to the world inflation followed, very probably, by a new recession. Such results would not be in OPEC's interests - they are deeply concerned about the effects of inflation in consuming countries on the price of their imports and they are anxious to develop world markets for their new industries.

It may be possible to deploy some of these arguments in any informal discussions we have with OPEC governments before their meeting in Caracas in December. Because we are ourselves oil exporters we may have a better chance of being listened to than some other countries.

57 The West will need to consider what it could offer the OPEC governments to help secure their cooperation. Apart from political action, which is outside the scope of this report, (e.g. modification of US policy towards Israel

and Palestine) [redacted] the possibilities are:

(i) Clear proof of effective action by the consuming countries on energy conservation and development of new sources of supply. The Tokyo Summit targets on oil imports and follow up work are a help in this respect.

(ii) A more forthcoming attitude towards OPEC aspirations for the development of her oil refinery and petrochemical industries. Our policy objective so far, eg in the Euro-Arab Dialogue, has been to avoid concessions, which could be particularly damaging to the UK refining and petrochemical industry, whilst not appearing to be totally negative. If we do get into discussions with the oil producers some modification of this stance is likely to be necessary if there is to be any progress. We have however not yet attempted to quantify the costs of such a modification or weighed them against the expected benefits.

OPEC will also be looking for concessions in other areas eg transfer of technology, indexing of financial assets.

58 VI OTHER ISSUES

The change in the structure of the oil market discussed in Sections II and IV of this report raise a number of other issues. The most important is the implication for the future of BP. We understand that this question is being examined within the company but that they are not yet ready to discuss it with the Government. Another is the implication for the IEA Emergency Oil Allocation Scheme which currently depends on the control of the bulk of the oil market by about 30 major oil companies. There is no reason to suppose that the scheme would become unworkable but some technical changes may be needed. If Ministers agree we will produce a further report on these and other issues.

16 November 1979

Annex 1

INDICES OF THE PRICE OF OIL: 1973(1) = 100[2]

Year	$ Price	Index of $ Price	The Real Price[1]	Year	$ Price	Index of $ Price	Index of Real Price[1]
1960	1.50	71.1	101.5	1970	1.30	61.6	75.6
1961	1.45	68.7	97.1	1971	1.65	78.2	90.3
1962	1.42	67.3	95.3	1972	1.90	90	95.3
1963	1.40	66.4	93.4	1973	2.70	128	116.7
1964	1.33	63.0	87.4	1974	9.76	462.6	346.1
1965	1.33	63.0	86.0	1975	10.72	508.1	337.6
1966	1.33	63.0	84.4	1976	11.51	545.5	360.5
1967	1.33	63.0	83.8	1977	12.60	596.9	364
1968	1.30	61.6	82.2	1978	12.70	601.9	320
1969	1.28	60.7	78.2	1979	17.66	836.6	401
1973(1)	2.11	100	100	1977(1)	12.49	591.9	371.1
(2)	2.41	114.2	106.8	(2)	12.49	591.9	367.6
(3)	2.77	131.3	113.6	(3)	12.70	601.9	363.6
(4)	3.51	166.4	143.2	(4)	12.70	601.9	353.9
1974(1)	9.22	437	366.7	1978(1)	12.70	601.9	336.1
(2)	9.63	456.4	343.3	(2)	12.70	601.9	327.8
(3)	9.82	465.4	337.5	(3)	12.70	601.9	314.9
(4)	10.38	491.9	340.4	(4)	12.70	601.9	303
1975(1)	10.46	495.7	321	1979(1)	13.54	641.7	315.9
(2)	10.46	495.7	319.3	(2)	16.60	786.7	387.2
(3)	10.46	495.7	337.3	(3)	19.77	937.0	444.7
(4)	11.51	545.5	375.4	(4)	20.70	981.0	452.7
1976(1)	11.51	545.5	371.1				
(2)	11.51	545.5	369.1				
(3)	11.51	545.5	357.1				
(4)	11.51	545.5	345.9				

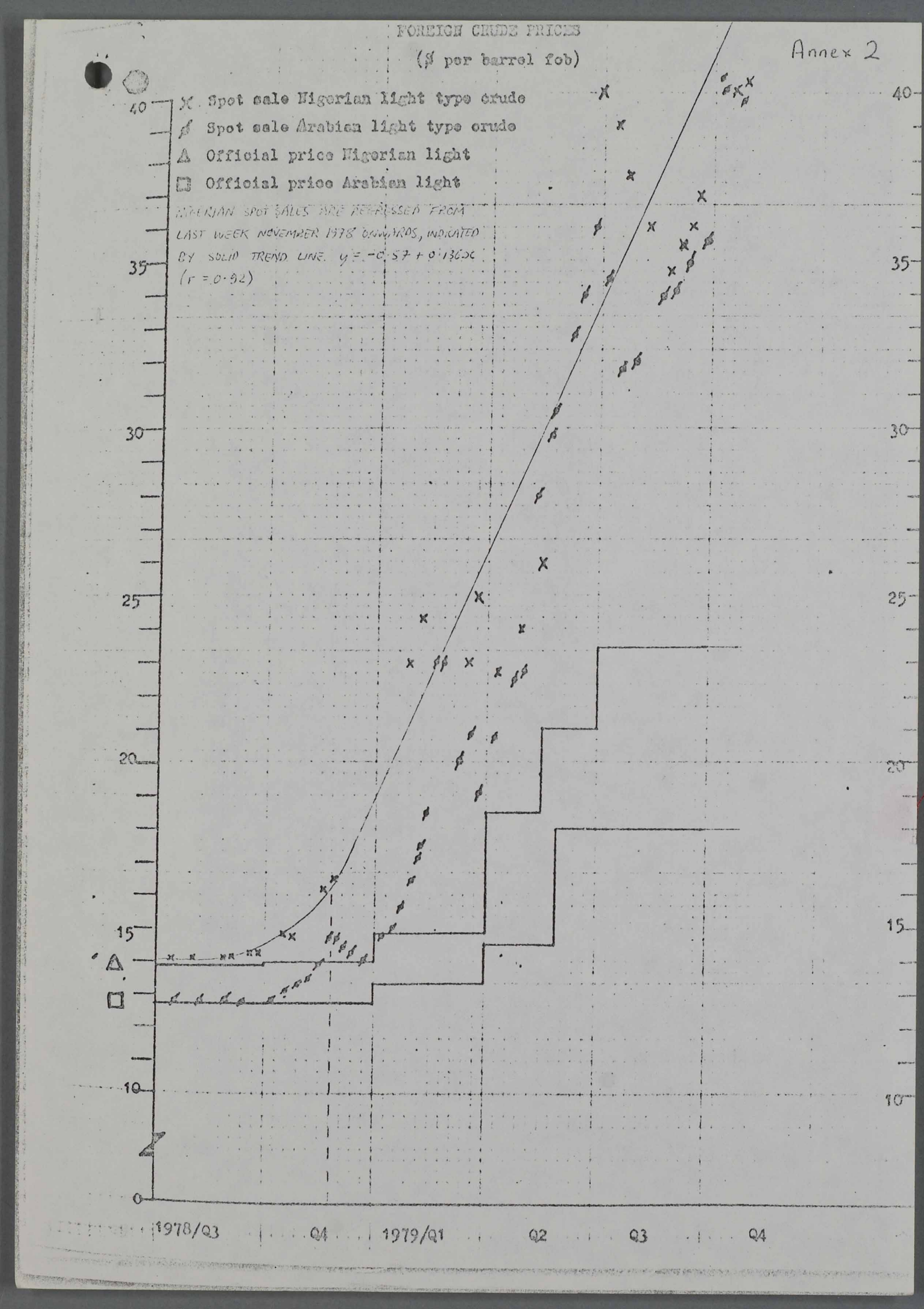
[1]The $ Oil Price Deflated by the $ price of OECD manufactures exports.

[2]Saudi Arabia Ras Tanura - Light Marker Crude. In 1977 Q1 and Q2 and in 1979 an allowance is made for the fact that OPEC members other than Saudi Arabia (and UAE in 1977) were selling at higher prices. The Saudi price was $12.09 in the first two quarters of 1977. The source for this series is IFS.

Annex 2

FOREIGN CRUDE PRICES

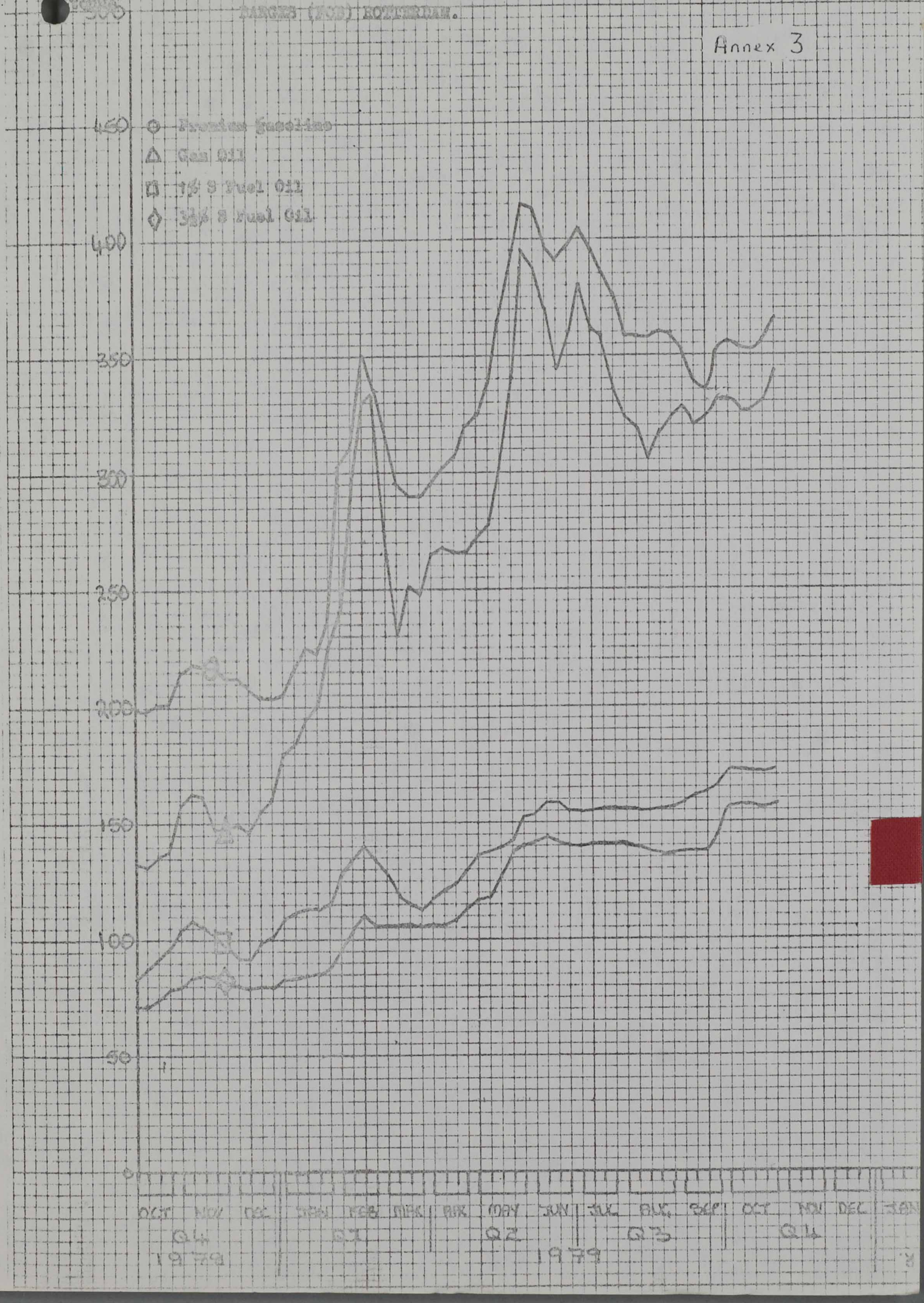
($ per barrel fob)



Annex 3

PRICE

PRODUCT PRICES: WEEKLY AVERAGES
RANGES (FOB) ROTTERDAM.



DESCRIPTION OF 1979 PRICE DEVELOPMENTS ANNEX 4

Spot Prices for crude and products, which in normal times are at or below equivalent Government Selling Prices, were already rising when the Iranian disruptions began last October and increased rapidly thereafter. Neverthelss the decision at the OPEC pricing conference at Abu Dhabi in December 1978 was a moderate one - to increase prices by four quarterly stages, or an average of 10% for a year as a whole. The intial increases, on 1 January 1978, was of 5%, bring the marker Saudi Arabian Light and crude from $ 12.70 to $ 13.34. However the spiralling spot market encouraged Governments to apply surcharges or premia.

2. On 1 April, in an attempt to rationalise the upward price pressure, OPEC brought forward the price level previously anticipated for the fourth quarter to have immediate effect. This put a Saudi Marker at $ 14.54 per barrel, (14.5% above the 1978 price). But it was agreed that countries could continue to add premia to reflect market scarcity and all Member Countries except Saudi Arabia immediately did so, with Iranian Light at $ 16.57 per barrel and African crudes at $ 18 per barrel.

3. Uncertainty and the need to replenish low stocks continued to drive up the market, with spot prices over $ 30 a barrel. Premia progressively increased and towards the end of June, another OPEC meeting was held to try to rationalise the market once again. The Marker crude was now fixed at $ 18 bbl, and a ceiling of $ 23.50 a barrel was established for all crudes. Saudi Light was now 42% up on December 1978. However, although spot prices had decreased slightly, they were still high enough to encourage most producers other than Saudi Arabia to crowd round the $23.50 ceiling. In addition, OPEC countries began to markedly extend the volume of exports as "pseudo-spot" prices, that is sales to new buyers or to term offtakes in respect of volumes in excess of their contracted volumes at prices related to spot prices.

4. In October a new series of leapfrogging increases began, supposedly inspired by eroded Kuwait differentials. Kuwait, Iran, Iraq, Libya, Algeria and Nigeria have all moved up, the latter three going through the OPEC ceiling. Top prices are now $ 26.27 bbl. North Sea prices have also moved up in line with African crudes, which are now 85-90% above last December's levels. Spot prices are climbing and a sale at $ 45 a barrel has been recorded. Further leapfrogging is possible. A further major increase in the price of Saudi crude - still at $ 18 a

barrel at the OPEC meeting at Caracas next month seems inevitable.

5. A Table of the main crude oil prices, showing the increases over the year, is attached.

CRUDE OIL PRICES DECEMBER 1978 TO NOVEMBER 1979

OPEC	QTY mb/d	DEC 31 1978	JAN 1 1979	APR 1 1979	END OF MAY 1979	JUNE 1 1979	JULY 1 1979	OCT 1 1979	OCT 20 1979	OCT 24 1979	NOV 5 1979	NOV 6 1979	Present Price 8 Nov	% Increase over Dec 31 1979
Arabian Light	6.3	12.70	13.34	14.54	14.54	18.00	18.00						18.00	42%
Arabian Medium	1.1	12.32	12.89	14.05	14.05	17.54	17.54						17.54	42%
Arabian Heavy	1.6	12.01	12.51	13.64	13.64	17.17	17.17						17.17	43%
Iranian Light	1.7	12.81	13.45	16.57	17.17	18.47	22.00	23.50					23.50	86%
Iranian Heavy	1.7	12.49	13.06	16.04	16.64	17.74	19.90	22.77					22.77	82%
Kuwait	2.0	12.22	12.83	15.80	16.40	19.00	19.49	21.43					21.43	75%
Iraq Bazrah Light	1.0	12.66	13.29	15.70	16.39	19.80	19.96		21.96				21.96	73%
Iraq Kirkuk	0.8	12.88	13.52	15.95	16.48	20.06	21.25	22.00**	22.18				22.18	72%
Algerian Saharan	0.9	14.10	14.81	18.55	21.00	21.00	23.50			26.27			26.27	86%
Libya Es Sider	0.74	13.68	14.52	18.08	18.78	21.09	23.28		26.05*				26.05	90%
Nigeria Forcados	0.6	13.72	14.46	18.12	20.62	20.62	20.62					25.82	25.82	88%
Nigeria Bonny	0.5	14.72	14.82	18.52	20.98	20.98	20.98					26.19	26.19	78%
Indonesian Light	0.7	13.55	13.90	15.65	16.15	18.25*	21.12*						21.12	56%

NON OPEC	QTY mb/d	DEC 31 1978	JAN 1 1979	APR 1 1979	END OF MAY 1979	JUNE 1 1979	JULY 1 1979	OCT 1 1979	OCT 20 1979	OCT 24 1979	NOV 5 1979	NOV 6 1979	Present Price 8 Nov	% Increase over Dec 31 1979
Mexico Isthmus		13.10					22.60	24.60					24.60	88%
USSR Black Sea		13.16					21.86	23.86					23.86	81%
UK Forties	0.5	14.00	15.50	18.30	18.30	20.70	23.20				25.97		25.97	86%
UK Flotta	0.4	13.50	15.00	17.60	17.60	20.00	22.50				25.27		25.27	87%
Ekofisk	0.4	14.20	15.85	18.75	21.00	21.00	23.50				26.27	..	26.27	85%

* On the 15th of the month

** On August 11th

ANNEX 5

OPEC DEALS WITH STATE OIL CORPORATIONS LDC'S, AND INDEPENDENTS SINCE THE IRANIAN CRISIS

1. There is not sufficient information to form a complete picture of all OPEC's new contracts with State Oil Corporations, Ldc's and independents since the Iranian crisis. But the following preliminary assessment, based on recent IEA work, information PIW and MEES, and work done by Shell, indicates that some 4.57 mbpd could be involved; the Libyans have said that they will earmark a further 150,000 bpd for government to government deals for 1 January 1980.

IRAN

2. Shell estimate that Iran could be allocating 35% of total exports (ie1mbpd) to government to government deals: Japan is thought to be taking about 500,000 bpd; Europe 100,000 bpd; other non Communist areas outside North America about 300,000 bpd; and CPE's about 100,000 bpd. New contracts with independents and ldc's could account for a further 900,00 bpd. From PIW and work done by the IEA the following contracts have been identified:-

6	identified State Oil Corporations (Rumania, Brazil, Philippines, Finland, Portugal, Bangladesh)	270,000
20	Unspecificed companies but presumed to be State companies (from India, Spain, Sweden, FRG, Ceylon, Italy CPE's)	700,000
21	Independents (from Belgium, Switzerland, FRG France, US and Japan)	950,000
TOTAL		1,920,000

SAUDI ARABIA

3. Thought by Shell to be allocating 8% of total exports to State-State deals (ie 0.8 mbpd of which about 50,000 bpd go to Japan). Petromin's direct off-take now risen from 600,000 bpd in 1978 to 1.2 - 1.4 mbpd. Some recent contracts include:-

4	State Companies (including France, Italy)	480,000
5	Ldc's (including Thailand, India, Pakistan, Bangladesh)	190,000
	Independents	65,000
TOTAL		735,000

IRAQ

4. Thought by Shell to be allocating 74% of total exports ie 2.2 mbpd to government to government deals. But Iraq has always allocated more oil to such deals than other OPEC producers. They have concluded number of new expanded supply contracts with State Corporations and ldc's recently. These include:-

6	State Corporations (including Ireland, Argentina, Greece, Sweden)	328,000
3	Ldc's	175,000
1	CPE	44,000
	Independents	55,000
TOTAL		602,000

KUWAIT

5. Shell estimate Kuwait is allocating 1.1% of output to government to government deals (about 300,000 bpd). Kuwaitis have hitherto sold back to Arabian Oil Corporation (Japanese) the Kuwaiti share of 120,000 bpd of the total 400,000 bpd production. In third quarter they withheld 70,000 bpd and in fourth quarter the full 120,000 bpd. Have earmarked the 120,000 bpd for direct sales to Ldc's. Also selling to State Corporations in Morocco, Taiwan, South Yemen and Brazil. Total amount involved in new contracts at least 300,000 bpd.

LIBYA

6. Shell estimate they now allocate 28% of production (ie 600,000 bpd) to government to government deals. Oil Minister has said they will cut back on existing

contracts from 1 January 1980 possibly by as much as 25% and that about 150,000 bpd of the oil thus saved will be directed to government to government deals, mainly with the West.

NIGERIA

7. Shell estimate they are now allocating 9% of output ie 200,000 bpd to government to government deals. Increase in participation oil from 55 to 60% and BP nationalisation gives Nigeria about 350,000 bpd additional crude for direct sales. Recent contracts include:-

		bpd
10+	State Corporations	170,000
4	Ldc's	92,000
2	CPE's	25,000
?	Independents	63,000
TOTAL		350,000

8. We do not have information on other OPEC members. Countries other than Nigeria, Saudi Arabia, Iraq and Iran have not however had the capacity or the wish to increase production since the beginning of this year and we would not expect therefore that they will have had access to significant quantities of extra crude to divert into direct sales.

9. Japan has been the main beneficiary from this trend. In Q III 1979 Japan secured 30% (ie 1.72 mbpd) of its oil imports through state to state deals as against 18% (ie 0.97 mbpd) in Q III 1978.

10. Europe as a whole increased the percentage of its crude imports on state to state terms from12% in Q III 1978 (ie 1.5 mbpd) to 18% (ie 2.5 mbpd) in Q III 1979: the main changes within Europe were Spain (35 -55%), France (30 - 40%) and Italy (15 - 25%). Other WOCANA increased from 33% to 46% over the same period: the main changes were India (50 - 90%) and Brazil (60 - 85%).

ANNEX 6

WORLD OIL SUPPLY AND DEMAND PROJECTIONS

Our short term estimates in the World Economic Prospects exercises suggest a fall in demand for OPEC oil in 1980 of around 2 mbd from the 1979 level of 30 mbpd ie just under 7%. They assume an average price for Saudi marker crude at the beginning of next year of $21.40 per barrel, which is probably too low in view of current prices escalation, implying still lower demand. (A 10% increase in the real oil price is believed to reduce world economic activity by ½% and oil demand, after a time lag, by 1%) However estimates vary. A comparison of our figures for WOCA (the world outside Communist areas) with those of the IEA and Shell is at Appendix 6.1. Both show a rather smaller fall. But the IEA figures do not take account of OECD's own latest estimates of next year's growth in the OECD of only 1-1½% and are therefore probably optimistic.

2. On the supply side a number of OPEC producers have made it clear that they would like or intend to reduce production as follows:

a) Saudi Arabia by 1 mbd, down to its normal ceiling.
b) Kuwait by 700,000 bd from either 1 January or 1 April.
c) The Oil Minister of Iraq has said that he would like to reduce production to about 60% of long-run capacity, which might imply a fall of about 1.1 mbd on current output of 3.5 mbd.
d) Venezuela has spoken of cutbacks of around 200,000 bd.

In addition it is clear that the stated Iranian production objective of 4 mbd is unlikely to be met and may be formally reduced, and that in the event of further civil disturbances production could be very much lower.

3. If all these cutbacks took place together they would wipe out the effects of all but a very substantial fall in demand. However in practice as some of the cuts can be expected to take place in response to easier market conditions, rather than as in an attempt to prevent a slacker market emerging.

4. Our latest longer term forecasts for 1985 oil demand and supply are set out at Appendix 6.2. These suggest a balanced market at the present real oil price on fairly optimistic supply assumptions. Again, forecasts from different organisations differ and those of the IEA show a small excess of demand over supply. However their assumed OECD economic growth rate of 3.7% pa is almost certainly too high. CIA forecasts on the other hand suggest an excess of demand arising from lower production levels. The key element is estimated likely Saudi production.

5. Even our forecasts suggest that the world oil market will continue to be vulnerable to any further supply disruption or a sudden surge in demand.

COMPARISON OF WOCA OIL SUPPLY/DEMAND PROJECTIONS SEPTEMBER/OCTOBER 1979

MBPD

	1978				1979				1980		
	WEP	SHELL	IEA		WEP	SHELL	IEA		WEP	SHELL	IEA
WOCA OIL DEMAND	51.7	51.9	51.4		52.1	52.5	52.1		51.2	51.1	52.1
(OF WHICH IEA)		38.4	38.4			38.4	38.7			36.9	38.2
WOCA NON OPEC SUPPLY	18.8	18.8	18.8		20.4	20.2	20.1		21.6	21.4	20.8
CPE NET EXPORTS	1.5	1.5	1.3		1.5	1.4	1.1		1.6	1.1	1.0
DEMAND ON OPEC	31.4	31.6	31.3		30.2	30.9	30.4		28.0	28.9	29.8
OPEC SUPPLY	30.2	30.3	30.1		31.0	31.3	31.2		28.3	29.0	30.0
STOCKBUILD/(DRAFT)	(1.2)	(1.3)	(1.2)		0.8	0.4	0.8		0.3	0.4	0.2

+ WEP September

Shell early October

IEA: September (from IEA/CB (79)52)

NOTE: IEA supply figures exclude net processing gain from refining in N. America, because this is a projection of crude oil supply/demand. The resulting IEA assessment is zero stock change this year which is consistent with other papers they have put forward. This could be altered by substituting the pessimistic views on other WOCA production and CPE exports. The variations in conclusion are within the margin of event of such an exercise.

APPENDIX 6.2

DEMAND FOR OPEC OIL IN 1985 (MBPD)

Developed Countries	
Demand	90.5
Supply	61.0
Net Imports	29.5
Non OPEC LDCs	
Demand	16.2
Supply	14.8
Net Imports	1.4
CPE net imports	0.4
OPEC demand	5.6
OPEC non oil Supply	4.4
Net Balance	1.2
Required OPEC production	32.5
Willing OPEC production	33.8

ANNEX 7

Protection of UK interests

1. North Sea oil, while immensely valuable, does not solve all our problems. During the 1980s we are expected to be net self-sufficient in crude oil. But net sufficiency is a statistical concept: it does not mean that the UK can count upon dedication of all UKCS production to the UK. UKCS crude cannot in fact meet the specification of all the feedstock requirements of UK refineries. For example the manufacture of certain specialised oil products currently depends upon access to foreign crudes. These foreign crudes could theoretically be secured indirectly by making UKCS exports conditional upon swap arrangements. The oil in the hands of private sector UKCS producers is not subject to any statutory control over disposal which would enable us to impose such a requirement. Furthermore nearly a quarter of UKCS production is owned by companies having no UK downstream interest, most of whom export the crude or exchange it for crude delivered elsewhere, particularly in the USA. All UK refining companies except BP have equity UKCS crude volumes which fall far short of their UK crude requirements (Appendix 7.1), and in some cases their supply to the UK is also subject to world-wide allocation by the parent company in the event of a corporate shortage of supply.

2. Various measures have been taken to improve UK security of supply. Largely as a result of Participation Agreements BNOC has untrammelled access to about a quarter of the UKCS crude produced - but subject to outstanding trading commitments. BNOC has demonstrated this year that it could use its trading position to claw back crude for UK use in times of short-fall in supply and has also been able to make additional crude supply commitments to some UK refining companies conditional on their treating the supply outside their international allocation system. As a result of the new arrangments recently concluded in principle with BNOC, BP, with 19% of UK refining throughput, will have a secure UKCS based supply for all its needs and a commitment to contribute to other UK requirments in times of shortfall.* Together, these arrangements represent a substantial improvement in UK security of supply; but they do not insulate the UK from dependence on oil imports, which in gross terms are expected to amount to some 1 mbd through the 1980s, rising thereafter. The UK needs to continue to seek improved insurance against short-term shortfalls - even a small percentage shortfall can cause marked disruption and political trouble - and to prepare for the longer term return to growing dependence on imports.

3./

Footnote: * OD(E) will consider next week a paper by the Secretary of State for Energy on ways of minimising the EEC risks attached to the BP-BNOC deal, particularly clawback.

3. The 1976 Energy Act does, of course, give the Government substantial powers to direct the production and supply of crude oil from the UKCS in the case of an actual or threatened emergency affecting fuel supplies.

APPENDIX 7.1

1980 UK CRUDE OIL BALANCE (000 BARRELS/DAY)

COMPANY	ESTIMATED UK REFINERY THROUGHPUT	ESTIMATED UKCS AVAILABILITY (INCLUDING SALE-BACK OF ROYALTY AND PARTICIPATION CRUDE IF APPLICABLE)		SECURE UK SUPPLIES
BNOC	-		500*	400*
NON-Refiners	-		400	-
Refiners:				
BP	380	500 secure		
Shell	380	120** secure		
Esso	340	120** internationally allocated		
Total + Petrofina	160	-		
Mobil	150	50 internationally allocated		
Texaco	150	10 internationally allocated		
Phillips	40	-		
ICI	40	40 secure		
Gulf	80	15 internationally allocated		
Conoco	80	15 internationally allocated		
Amoco	80	5 internationally allocated		
Burmah	25	10 secure		
TOTAL REFINERS	1905	885	885**	670*
TOTALS	1905		1785**	1070*

**Assumes that Brent production will be limited to 100,000 barrels/day by flaring restrictions.

*BNOC's total availabilities including foreign crudes and royalty oil are 800,000 barrels/day, of which 600,000 will be disposed securely in UK: Net of royalty oil this is approximately 400,000. Refiners own supplies (including royalty oil) secure to the UK are 670,000 barrels/day if BNOC's claw-back from BP is agreed.

STOCKPILING OBLIGATIONS ANNEX 8

1. EEC Directive 68/414 (as amended by Directive 72/425) requires Member States to maintain stocks of the 3 product categories (motor spirit and aviation fuel; gas oil, diesel and Kerosene; fuel oil) at a level of 90 days based on inland deliveries in the previous calendar year. Fom this a reduction of up to 15% is allowed for the consumption of products derived from indigenous production. Therefore, the obligation for the UK is 76½ days.

2. The UK has also acquired stocking obligations under the International Energy Programme. These levels are based on the net import requirement of each participating country the required level of stocks for the UK on this basis was until this year 70 days. It is to rise to 90 days on 1 January 1980. In order to smooth the transition the IEA recommended that we should reach 88 days during the course of 1979.

PAPER FOR MINISTERIAL COMMITTEE: MINISTERIAL MEETING OF THE INTERNATIONAL ENERGY AGENCY, 10 DECEMBER 1979

The Governing Board of the International Energy Agency (IEA) is to meet at Ministerial level on December 10, at the request of the US. This paper seeks approval for line I propose to take.

THE ISSUES

2. The meeting will be a week before the meeting of OPEC Ministers at Caracas which will set 1980 prices. It is important if we can give a clear signal to moderates in OPEC that consumer countries are doing what they reasonably can though this may make little difference in practice.

3. The Ministerial meeting seems likely to have to consider a broad package of proposals on the following lines;

a) the adoption of national import oil import targets for 1980, but with an additional US proposal that they should be scaled down to meet "likely supply availability" next year.

b) national oil import targets for 1985 and a reduction of the IEA's Group objective.

c) greater government control over stock building activities.

d) a re-iteration of the Tokyo commitment to moderate spot market transactions, and further studies on the evolution of the oil market generally.

4. The most difficult issue is likely to be the 1980 targets. The US have proposed that the targets for the Tokyo and EEC countries should be scaled down individually by at least 4% (=1mbd overall). They say that the moderate Gulf oil producers are demanding further action. A proposal that the IEA should state its determination to undershoot the 1980 global target by at least 1 mbd does not appear to be an acceptable substitute. The Americans also propose that the targets should be backed up by changes in the IEA's emergency oil allocation system which would take account of each country's performance

in meeting its target. (The allocation system takes effect semi-automatically if supply falls by more than 7% below consumption in the previous 12 months).

LIKELY ATTITUDE OF OTHER COUNTRIES

5. The Summit and Community countries will be very reluctant to reopen the laboriously negotiated Tokyo and Strasbourg targets. Some of the nine non Community non Summit members of the IEA have shown reluctance to agree to national targets, but seem likely to come round, with the possible exception of Switzerland. There will be recognition of the problems caused by "administered spot prices" (see paragraph 9 below) but doubts about the practicality of strengthening the Tokyo commitment.

UK POSITION

(i) 1980 import targets

6. The UK has indicated in both Community and IEA discussions that we are prepared to accept a net import target of 12 m tonnes for 1980 (compared with net imports of 41 million tonnes in the base year 1978). With expected consumption next year at 95 m tons and North Sea oil production at 87 m tons there should not - if things go well - be much difficulty in acheiving this target: but it leaves us with little room for manoeuvre and little scope for tightening restrictions on gas flaring. Depending on whether the proposed 4% reduction is divided between countries in proportion to their imports or their consumption the US proposal would mean a reduction in the UK target of ½ to 2.6 million tonnes (See Annex A for details). The latter is clearly unacceptable to us; but others will not accept that targets should be reduced pro rata to imports - it is too obviously advantageous to the IEA oil producing countries.

7. The line I propose to take is therefore:-

a) argue against any scaling down of the existing targets at this stage. I would argue that it would be premature to agree to cuts in the targets at this stage on the basis of forecasts of production which are necessarily uncertain. Although because of general nervousness about the supply position prices are still rising, stocks are now at record levels and OPEC production is high. (An assessment of the 1980 supply/demand outlook is at Annex 6 to the note by officials circulated under cover of my

Private Secretary's letter of 4 December). Indeed it might encourage those OPEC countries who are considering cuts in production to put them into effect:

b) argue that the breakdown of group targets into national targets (already accepted by us at Tokyo) is the next logical and necessary step in implementation by all IEA members of the Tokyo commitments and that the monitoring process should be rigorous. This, taken with much reduced economic growth next year for most countries, should ensure that actual consumption is below the sum of the target figures:

c) agree that the targets should be kept under review in the light of the supply situation but with no commitment now to automatic downward revision during 1980. If IEA nations agree during the course of 1980 that the supply prospect has deteriorated Ministers should meet again to consider the position further.

8. To go further than this and accept now either import targets below the Tokyo levels or a commitment to automatic downward revision during 1980 would be to accept a radical change in our approach to the oil market outside an emergency situation. Given the limitations of voluntary demand restraint measures, even the failure of North Sea oil production to live up to expectations could commit the UK to the introduction of import licensing, necessarily backed by an oil allocation scheme, (though, hopefully, not petrol rationing, see Annex B). It would then be only a small step in a situation of deteriorating world oil supply, to a commitment to supply guarantees to the worse hit countries, such as Japan. Even apart from the potential erosion of our national strength as a producer, there would be formidable practical problems in a world in which the supply channels of the international oil companies are disintegrating. Quite apart from the major political shift involved in this course, there has been no adequate analysis of these practical implications. I am clear that we should not agree to these further steps on the 10th December.

(ii) The Tokyo Commitment to moderate spot transactions

9. As I explain in para. 2e of my note on the international oil situation there are now two main types of transaction at prices significantly

above the official OPEC Government prices - genuine spot market transaction and purchases from some OPEC Governments (eg. Iran, Iraq) of some oil at very high prices. The latter is the more pressing problem. We know that BP and Shell have agreed to spot purchases from the Iranians at above $40 a barrel (compared with the official price at $23.50 a barrel) in order to improve their chances of obtaining additional supplies of crude at normal government selling prices: and that the German company Veba have made forward cash payments to the Iraqis equivalent to a forward premium of $10 a barrel. We believe that Japanese companies have made similar deals. Every further transaction at these levels increases the upward pressure on government selling prices and encourages the producers to reduce still further the amount they sell at "official" prices.

10. Political action to deal with this problem would certainly be desirable. Effective prohibition on oil companies buying crude at above the official OPEC Government price would in theory, if production were maintained at expected levels, bring the price spiral to a halt. But there are severe difficulties:

a) faced with consumer cartel action of this kind some OPEC countries might be provoked into raising their Government selling prices and reducing production. The result would be a battle of wills which we could not be sure of winning;

b) while the battle of wills was being waged, particular companies and countries would be likely to suffer a disproportionate loss of supply. There is a high risk that BP and Shell would be prominent amongst these, while the Aramco partners in Saudi Arabia would enjoy unabated liftings;

c) even if such a confrontation eventually achieved the desired end, British companies which had remained faithful to the consumer cartel might well be denied future contracts, in favour of burgeoning direct Government to Government sales;

d) it is doubtful whether all countries, eg. the Japanese, would really be prepared to enforce a self-denying ordinance;

e) there is endless scope for evasion through the creation of offshore companies in non-IEA states and supplementary payments to producers through unorthodox channels;

f) the UK would come under particularly heavy pressure to support crude short participants in the consumer cartel with UKCS oil;

g) any attempt at enforcement would be likely to create a need for a full-scale international allocation scheme which would deny us any selective benefit from UKCS oil.

11. The extent of these problems and the current absence of practicable proposals for their solution indicates that it would be folly to enter next week into any commitment to a consumer cartel. While, therefore, I propose to acknowledge the gravity of the problem and indicate our readiness to join in an international solution provided the practical problems can be overcome, I shall also expose the hazards of an ill-prepared confrontation. So far as possible, I shall avoid taking a lead, but there inevitably remain risks that we shall be charged with selfish disregard of the wider Western interest. We should not be tempted, on that score, into any greater degree of rash commitment.

(iii) Other issues

12. These are discussed in Annex C. There are no problems.

Conclusion

13. I ask my colleagues to agree that at the IEA Ministerial meeting on December 10 I should take the line in paras. 7 and 11 above and in Annex C.

4 December 1979

ANNEX A

THE UK 1980 TARGET

I

1. The currently proposed UK net import target is 12 m tonnes. Our estimated consumption for 1980 is 95 tonnes, including bunkers. Our net import target therefore implies forecast production of 83 m tonnes.

2. This production figure is in fact about 4 m tonnes lower than our best estimate of production, which is about 87 m tonnes and takes into account 5 m tonnes loss of potential production due to restrictions on gas flaring, mainly at Brent. But if, as a result of further instructions we might wish to issue on gas flaring and reinjection, the Brent field were to close down completely, production would be further reduced by about 8 m tonnes. There is also the possibility of loss of production due to accidents. Our apparent latitude of 4 m tonnes may therefore in practice be severely limited.

II

3. The US propose that IEA countries should scale down their import targets for 1980 so that overall IEA demand for OPEC oil does not exceed estimates of OPEC supply. The targets currently under discussion imply an OPEC production of 31.3 mbd; the US agree with the IEA Secretariat estimate of 30 mbd but also consider the risks of further supply interruption very high. They believe that the targets of Tokyo and EEC countries are now out of date and too high, whereas the proposed targets for the non-Tokyo, non-EEC countries are appropriate because they are more recent.

4. The US proposal is therefore that a total of at least 1 mbd be deducted from the targets of the Tokyo and EEC countries. This could be distributed in proportion either to imports or to consumption. Depending on which course were followed the effect on the UK net import target of 12 m tonnes would be:

on a net import basis	11.5 m tonnes
on a consumption basis	9.38 m tonnes

5. If the UK were to agree to consider a scaling down in its import target it would clearly be preferable for the proportionate cuts to be applied to net import targets rather than consumption.

ANNEX B

I POSSIBLE DEMAND RESTRAINT MEASURES OTHER THAN FORMAL ALLOCATION/ RATIONING MEASURES

1. Of the many possible measures which have been considered, the following have been adopted as possible reserve measures:

2. ADMINISTRATIVE

(a) Exhortation

This covers the launching of an oil saving campaign by the Government. Its effectiveness would be very limited, because there is already a continuing energy saving campaign, with availability of free or subsidised technical advice and financial assistance with economy measures. At best, a possible further 1 per cent saving.

(b) Extra Coal Burn in Electricity Generation

The scope of this is limited by the degree of flexibility in the electricity industry as to fuel used; and may also be limited by the availability of coal in stock or production. Maximum likely saving over the year less than 2 per cent, with very little over the winter.

3. OIL INDUSTRY MEASURES

In a situation of moderate shortage up to about 5 per cent the oil industry can, in the short term, impose allocations on its customers. This situation, however, causes considerable problems in supply to non-contracted customers, and to those supplied by companies whose access to oil may be much more limited than the average. It would have to be replaced in a matter of weeks by a Government-sanctioned or Government-imposed formal allocation scheme.

4. GOVERNMENT MEASURES

(a) Restricted Hours and Weekend Closures at Filling Stations

At its most severe, this measure might restrain demand for petrol by up to ten per cent.

(b) Reduction in Space Heating Temperatures

This measure could be applied only to industrial and commercial premises, and is difficult to enforce. The scope for reduction is limited, as workers' production rates are very sensitive to lowering of ambient temperatures, even if workers agree to continue working, and because in many cases any new limit imposed would be little or no less than current operating temperatures. At best, some 3 per cent saving might be achieved.

(c) Other Government Measures

Many other possible measures, such as alternate driving days for motorists, have been considered but discarded as unlikely to achieve savings additional to those achieved by the above measures, which have been selected as the easiest to apply in practice.

5. It can be seen from the above that measures short of formal allocation cannot produce more than small savings overall, and cannot be regarded as suitable for the longer term.

/part II

II THE USE OF IMPORT/EXPORT CONTROLS

Legal Background

6. Community Authority Import licensing would normally require prior EEC authority and would require the UK to conform with GATT procedures. Licensing for exports would also need to conform with GATT and for exports to the Community we shall need the authority of the Commission under Council Decision 77/186 for crude oil and most categories of petroleum products; and would in practice normally inform them of all export controls. Licensing for exports to non-Community countries would not require EEC authority except in the case of Greece and Turkey, with whom the Community has bilateral arrangements. In the context of general agreement in the IEA for import licensing, the necessary EEC approvals should be forthcoming.

7. UK Legislation Import and export licensing would be implemented under the Import, Export and Customs Powers (Defence) Act 1939. The position is that exports of goods are permitted unless specifically excluded by Order. It would therefore be necessary for the Secretary of State for Trade to make the necessary Order. The situation with regard to imports is that no goods can be imported unless specifically permitted by Order. It would be necessary therefore for the Secretary of State for Trade to make the appropriate addition to the exclusions now in the existing Open General Licence.

Operation of Import/Export Licensing

8. In all cases traders would have to apply to the Department of Trade for a licence. Department of Trade would refer all requests to Department of Energy for approval, and any policy issues arising would have to be dealt with by Department of Energy. Separate licences for individual consignments are not usually issued, but since the EEC Decision requires each consignment to be licensed this procedure would probably be used for licensing to and from all destinations.

Balancing Controls

9. In order to control net imports it is necessary to control export

and import levels to achieve the right balance. In the case of exports the aim would be to ensure that the predicted pattern was in fact occurring. Where our IEA and EEC trading partners are also implementing import licensing we should need to co-ordinate our export patterns with them as far as possible.

Staffing

10. It is estimated that about 300 export licences a month would be issued. There is no historical base to obtain a figure for import licences but it is reasonable to assume that it will be of the same order. The routine processing of licences in Department of Energy would require about 6 additional staff mainly at HEO/EO level. Similar numbers of additional staff may be required in Department of Trade. No additional staff are needed by Customs and Excise.

III FORMAL ALLOCATION

11. A formal allocation scheme for petroleum products (other than motor fuel) would comprise either

(a) a scheme imposed by the industry but endorsed by Government by means of a General Authority for the oil companies to disregard their contractual obligations in applying it.

(b) A system imposed by Government by means of an Order or Directions to oil suppliers. In the short term suppliers would be instructed to reduce deliveries to consumers, other than those on a priority list, by a given percentage of their past consumption. If the supply shortage continued, it would be necessary in the long term to introduce a more detailed scheme under which consumers would register applications for oil and these would be assessed on the basis of their future needs. This would require the setting up of Regional Petroleum Offices throughout the UK, with an estimated total staff of 200.

ANNEX C

THE OTHER ISSUES

Other issues likely to be discussed on December 10 are as follows:-

i. The types of measures which individual countries might adopt to achieve their targets.

We have submitted an illustrative list, as requested, which refers to the possible further development of oil and gas resources, switching between fuels, intensification of coal use more generally and the further promotion of energy conservation. The Secretariat documentation is likely to include an additional list of measures, such as action on domestic energy prices, strengthened conservation policies etc, together with suggestions for each country. But this material will carry no commitment and is not expected to be published. Our line, for use as necessary, will be that it must be for the discretion of governments to choose those measures which they consider most appropriate in both the general circumstances and the circumstances of the individual country.

ii. Allocation in a sub-crisis situation

Although we are prepared to obey the rules for allocation in a full crisis situation, we shall ensure that in other situations we are left free to ensure that the national interest is as fully protected as possible. We should resist any system of contingency planning which reduces our national room for manoeuvre, unless we are satisfied that our domestic supplies are adequate. Proposals for such contingency planning are however not likely to be pressed.

iii. Increased control of oil company activities

This could involve a register of oil trading entities, codes of conduct, rapid price reporting, a register of product transactions, etc. Our general stance is that further detailed intervention of this kind would not be productive but we would not wish to oppose further study of the issues.

iv. Stock Piling questions

The Secretariat believe that there should be greater government control over company stock building activities and that there might be a tactical stock over and above the 90 day requirement already imposed. These issues require detailed and careful consideration and we shall take the line that they be remitted by Ministers for further study.

Health & Safety Executive

Regina House
259 Old Marylebone Road
London NW1 5RR

Telephone 01-723 1262
(after 5.30 pm 01-723 4307
Telex 25683

M

Your reference

Our reference

Date 30 November 1979

D A R Howell Esq., MP
Secretary of State for Energy
Thames House South
Millbank
London SW1P 4QJ

Dear Mr Howell,

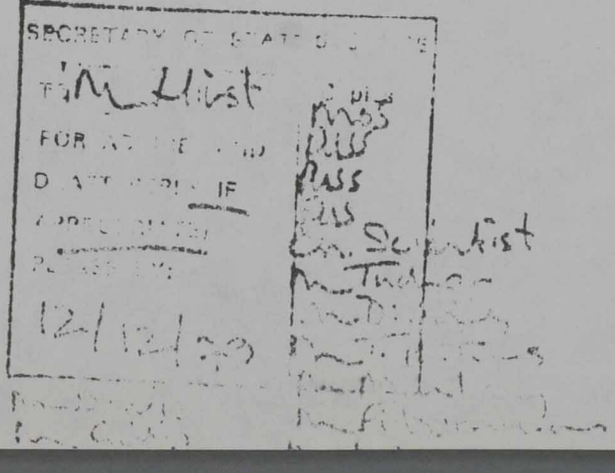
The Health & Safety Executive has asked me to send you their report prepared in response to your letter to the Chairman of the Health & Safety Commission dated 9 November 1979. The Executive plans to have copies of the report available for publication early in the week beginning 10 December. If an earlier publication date is needed I should be grateful for an early telephone call from your office.

I am sending a copy of this letter and the report to Mr Younger and copies of the report to your department. Subject to your views I have no objection to its going, in confidence, to the other recipients of your letter of 9 November.

Yours sincerely

H J DUNSTER
DIRECTOR OF NUCLEAR SAFETY

cc. Rt. Hon G Younger
Mr B G Tucker
Mr W Simpson
Mr J F Locke
Dr K P Duncan
Mr R Causden



A

MEMBERS IN CONFIDENCE

HSC/79/132

HEALTH AND SAFETY COMMISSION

A Report to the Secretary of State for Energy on the Three Mile Island Incident.

Note for Information

Members of the Commission will be aware of the accident which occurred in March this year at the Three Mile Island site in America involving a Pressurised Water Reactor.

Because this class of power reactor is being considered for adoption for use in this country this accident and the subsequent investigations are of particular interest. Foremost among these investigations is the work of a Presidential Commission set up shortly after the event; the report of that Commission has now been published.

The principal conclusion to be reached both from the findings of the Presidential Commission and the study of much additional material is that the underlying causes of the accident are attributable to weaknesses and failings within the US Regulatory Body and the Nuclear Industry. Such conditions would not be expected to arise in the UK because of the substantially different nature of the respective institutions. No evidence has been produced as a result of these investigations of any fundamental weaknesses in the pressurised water reactor concept or its engineering.

In a letter dated the 9th November 1979 the Secretary of State for Energy wrote to the Chairman of the Health and Safety Commission asking for a report on the accident which could be published. The attached document is the report which has been produced in response to that request.

Nuclear Installations Inspectorate

30 November 1979

THE ACCIDENT AT THREE MILE ISLAND

COMMENTS BY THE HEALTH AND SAFETY EXECUTIVE

1 On 28th March 1979 there was an accident on Nuclear Power Plant No. 2 at Three Mile Island (TMI) in Pennsylvania, USA. The reactor core suffered considerable damage, the full extent of which has still to be ascertained, but the release of radioactivity to the environment and the radiation doses received by workers and members of the public were small.

2 It has always been recognised that there is a possibility of accidents occuring in nuclear reactors and causing damage to the fuel. The reactors and their safety systems have been designed to minimise the consequences of such damage, should it occur. The accident at Three Mile Island was not the first to involve fuel damage but it is certainly the one which has attracted most attention.

3 The accident has been the subject of many reports of which the most authoritative have been those of the Nuclear Regulatory Commission (1, 2, 3) the Electrical Power Research Institute (4) and, most recently, the President's Commission (5). These reports, supplemented by information obtained on individual visits to the United States, have been under review by the Executive's Nuclear Installations Inspectorate. Additional information is still coming forward and a major technical report is expected from the Nuclear Regulatory Commission in the New Year. However, with the publication of the report of the President's Commission, it is appropriate to provide an interim review of the situation to date. This report uses the report of the President's Commission - the Kemeny Report as a convenient framework for reviewing the principal issues raised by the accident.

THE VIEW OF THE HEALTH & SAFETY EXECUTIVE

4 In addition to the more detailed comments later in this report, the Executive has reached the following general conclusions.

1 In the light of all the information so far available, the Chief Inspector of Nuclear Installations and the Executive consider that the accident did not arise from any serious inherent weakness in the concept or design of the Pressurised Water Reactor. An accident of this kind was not "unforeseen", although the particular* sequence of events had not apparently been predicted. The accident has not therefore led to any change in the Executive's view, reported to the Secretary of State for Energy in July 1979 (6), that a Pressurised Water Reactor can be designed, constructed and operated in a way which would satisfy the Executive's conditions for a licence in Britain.

2 The organisational arrangements for licensing, constructing and operating power reactors in this country are already similar to those recommended in the Kemeny Report. The possible need for detailed changes is still being examined but no fundamental revisions are thought to be necessary.

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3 Human errors, training, and emergency plans all receive considerable attention in the Kemeny Report and there are detailed lessons to be learnt in this country. Emergency arrangements in the immediate vicinity of nuclear sites are already thoroughly prepared and exercised, but it now seems desirable for the Executive to establish & publicise more thoroughly co-ordinated arrangements at the national level.

4 Additional emphasis is needed on a range of detailed points including the performance of instruments in emergency conditions, the presentation of information to operators in reactor control rooms and communicationsin general in the period immediately following an accident.

5 The Executive will be taking account of the information and recommendations in the reports so far published and of additional information as it becomes available in the work on the licensing of future reactors and the continued inspection of existing ones.

THE ACCIDENT

5 The basic form of the accident to Reactor 2 at the Three Mile Island plant was simple - the details were extremely complicated. Essentially, the pumps providing feed water to the boilers stopped and the safety system operated to shut down the turbine. A relief valve in the reactor primary cooling circuit opened correctly and the reactor was automatically shut down. The second fault was the failure of the relief valve to close when the pressure fell. The control room instrument gave a false indication of successful closure. As the pressure continued to fall in the primary circuit, high-pressure emergency cooling water was automatically injected into the circuit. A few minutes later the operators substantially reduced this flow of cooling water in the mistaken belief that the reactor was too full of water. This belief stemmed from instrument readings which correctly showed that the water level in part of the system was abnormally high, but this was because water was being forced out of the core by the generation of steam. The water level in the core was not indicated in the control room. Steam is a much less effective coolant than water and eventually the residual release of energy from the fission products in the core caused severe damage to the fuel elements.

6 Steam and, at a later stage, fission products released from the damaged fuel left the reactor by the unclosed relief valve and the condensed water was retained in the containment building. This was designed to seal automatically in the event of a pressure rise, but this accident caused no such rise and it was four hours before the building was sealed. Meanwhile, moderate amounts of noble fission product gases such as krypton and xenon had escaped to atmosphere. These gave rise to the radiation exposure of members of the public. Further releases took place later as slightly contaminated waste water was discharged from the containment building. Hydrogen emitted from the chemical reaction of steam with the heated cladding material of the fuel elements caused a bubble inside the primary circuit. This resulted in confusion and some alarm but appeared to have had little real significance. Part of the hydrogen reached the containment building and there was at least one hydrogen explosion. The building withstood and contained this explosion as it had been designed to do.

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7 No member of the public was exposed to serious radiation doses as a result of the accident. A convenient yardstick for indicating the magnitude of these exposures is the radiation dose received by everyone as a result of the natural background of radiation and radioactivity in our bodies and in our environment. The average dose out to 50 miles from the site corresponded to about 3 days of natural background while the average dose out to 5 miles was no more than about one month of natural background. The highest exposure was well below one year of natural background. The overall effect of these exposures on the public is certainly negligible and may well be zero.

8 The Nuclear Installations Inspectorate has reviewed all the technical information so far available and has come to the conclusion that the accident was largely the result of organisational and human failures compounded by some detailed weaknesses in the design of the control room and its instrumentation. None of this information casts doubts on the basic concept or design of the Pressurised Water Reactor.

THE PRESIDENT'S COMMISSION

9 Two weeks after the accident, President Carter established a Commission to assess the causes and consequences of the accident and the implications for organisation and the provision of information to the public. The Commission, chaired by John G Kemeny, an outstanding mathematician, philosopher and academic administrator, comprised emminent people with a wide range of experience. It was supported by staff of over 150 and by more than 50 consultants. It produced its report - The Kemeny Report - in about six months.

THE KEMENY REPORT - GENERAL ISSUES

10 The Report was prepared in the context of the American system of government regulation and industrial organisation so that many of its findings and recommendations have little reference in Britain or more generally in the European Community. It is therefore appropriate first to identify particular issues relevant to this country and then to review the other principal recommendations of the report.

11 The Kemeny Commission state that their "findings do not, standing alone, require the conclusion that nuclear power is inherently too dangerous to permit it to continue and expand as a form of power generation". They also state "To prevent nuclear accidents as serious as Three Mile Island, fundamental changes will be necessary in the organisation, procedures, and practices - and above all - in the attitudes of the Nuclear Regulatory Commission and, to the extent that the institutions we investigated are typical, of the nuclear industry,"

12 One important aspect of the recommendation is that the nuclear industry should accept all responsibility for safety and reduce its dependence on compliance with detailed regulatory requirements. This would bring the US system much closer to that in Britain. Underlying the domestic organisational issues there are many comments which may have implications in the British context. These comments will need analysing in some detail even if the recommendations that stem from them are irrelevant to the needs of this country. The Health & Safety Executive is already reviewing ways in which some parts of the licensing procedure might be modified to give even greater emphasis than at present to the responsibilities of the licensee.

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13 Another general issue in the report is the importance of human factors and of training. Human failure is at the root of most accidents and much of the work on reactor safety is aimed at neutralising the effects of human error in design, operation and maintenance. The Kemeny Report gives additional impetus to this process. Training arrangements are already better in Britain than they were at Three Mile Island but the arrangements for training and for exercising emergency procedures are being examined, and can probably be improved.

14 The third general issue is that of siting. The Kemeny Report deals with siting in the context of the United States where there are large areas of low population density. The Report does not contain any assessment of the additional margin of safety that might be achieved by more remote siting than at present and does not consider the broader consequences of such a siting policy. The comments in the report are not relevant to the situation in Britain and Europe more generally and do not cast doubts on the validity of the choice of existing British sites. Meanwhile work has already started in Britain and in the Commission of European Communities on the possible need to improve and unify siting policy and emergency plans.

15 Finally, there is the problem of public information. At Three Mile Island the problem was grossly exacerbated by the confusion of local, State and Federal agencies and by the genuine lack of certainty about the facts. The provision of information to the public is already an important feature of emergency arrangements in this country, but further studies are in hand with the aim of avoiding a situation of the kind that occurred at Three Mile Island.

THE KEMENY REPORT - DETAILED ISSUES

16 The measures identified by the Kemeny Commission as being prime contributors to the incident arise mainly from the structural form of the industry: for example, the large number of separate power producing companies, the division of design responsibility between reactor plant engineers and suppliers and the architect-engineers and, finally and especially, the inherent nature of the regulatory process and manner in which the Nuclear Regulatory Commission discharged its responsibilities.

17 No comparable conditions exist in the UK either in respect of the industrial organisation or the regulatory philosophy. Nevertheless, where lessons can be learned from the accident and where risks can be further reduced, that should be done as far as reasonably practicable. The Kemeny Commission's recommendations have therefore approached in that light and are discussed in the rest of this section. A more detailed commentary on the recommendations has been prepared by the Executive's Nuclear Installations Inspectorate and is attached as Appendix A.

Regulatory arrangements

18 The remedy proposed by the Kemeny Commission for weaknesses discovered in the Nuclear Regulatory Commission is the abolition of the five man Commission with a view to providing stronger management with discretion to reorganise and redirect the activities of the regulatory staff. Other major structural changes are recommended with the objective of increasing the effectiveness of the regulatory operation. While the Kemeny Commission commented adversely on the body of regulations used by NRC in its formal licensing process, no recommendations were made which would fundamentally change this approach. The UK view, exemplified in the document entitled "Safety Assessment Principles for Nuclear Power Reactors" is that undue detail in formal regulatory requirements tends to be counter-productive and tends to reduce the responsibility of the licensee and industry for safety, a point emphasised by the Kemeny Commission and referred to below.

The power producing industry and its suppliers

19 The emphasis in this section of the recommendations is a strengthening of the responsibility of the licensee. This has always been a cornerstone of nuclear regulatory policy in the UK. Attention is drawn to the inadequacy of the arrangements for learning and sharing the lessons available from operating experience, for defining responsibilities, and for establishing and reviewing plant procedures. The structure of the British electricity industry makes it easier to deal with these problems, but the points made by the Kemeny Commission are being examined in the British context.

Operator training

20 The Kemeny Commission made a number of recommendations concerning the training of operators. Although a system of formal licensing based on examinations is a requirement under the regulations, the Commission found that the standards applied were inadequate in a number of ways. It is the lack of training, particularlly in respect of emergencies, that explains the confusion on the part of the operators at TMI. The Commission propose that the training of operators be substantially improved and that higher grade entrants be required.

21 No formal licensing process for operators is required in the UK but the quality of individual employed in this area is significantly higher than in the US. Recruitment and training is the responsibility of the licencee and the Inspectorate must be satisfied that a suitable standard of competence has been achieved. Emphasis must be placed on an understanding of the plant and a corresponding ability to diagnose conditions reliably. This requirement calls for persons of graduate or equivalent status, which is the standard currently required of nuclear plant operators in UK plant.

Technical assessment

22 The detailed recommendations made under this heading do not reveal any unease on the part of the Kemeny Commission concerning the fundamental concept of the Pressurised Water Reactor or its engineering in general. Some detailed comments are made concerning the provision of information to operators, certain design and maintenance inadequacies, and the use of probabilistic fault analysis as an aid to assessment, with greater attention being paid to the human element. In general, the implied standards are currently employed in UK nuclear plant and could readily be adopted for a PWR.

Worker and public health and safety

23 The Kemeny Commission recommends better and more co-ordinated research on the health effects of radiation and better inter-departmental arrangements for establishing public health policy. They also refer to the inadequacy of the professional response in the event of a serious emergency.

24 In this country there is already adequate co-ordination on the research side, and the National Radiological Protection Board has the role of advising on radiation protection policy. The arrangements in the UK for mitigating the consequences of accidents are also well laid and exercised. On the question of professional education, this too is adequately covered. Liaison arrangements established by the licencee at each nuclear site provide a route for communication between specialists on the site and those with health and safety responsibilities in the vicinity. The arrangements for the professional appraisal of emergency information at a national level still require further attention.

Emergency planning and response

25 Arrangements for emergency planning in the US rests with the State Governments. The NRC has no regulatory control over these arrangements but none the less informally reviews them. It had not endorsed the arrangements relating to the accident at Three Mile Island because they were considered inadequate.

26 Under a condition of the nuclear site licence, no nuclear power plant can operate in this country unless an emergency plan has been approved by the Nuclear Installation Inspectorate in respect of that plant. These emergency plans lay down actions including damage control, evacuation and, where appropriate, medication on and off the site. The involvement of appropriate local authorities is an important feature of each plan. It is believed that all the essential features of the Kemeny recommendations are accounted for in these arrangements. Information for the public is provided through the local liaison committees. More generally, the Health & Safety Executive will continue to publish and to encourage others to publish information concerning nuclear power. Nevertheless, it is clear that communication arrangements were seriously inadequate at Three Mile Island and the entire issue of communications is being reviewed in this country to ensure that adequate provision is made at all our nuclear power stations.

REFERENCES

1 NUREG 0585 - TMI - 2 Lessons Learnt Task Force - Final report
US Nuclear Regulatory Commission 1979

2 NUREG 0560 - Staff report on generic assessment of feed water transients in pressurised water reactors designed by Babcock & Wilcox Co.
US Nuclear Regulatory Commission 1979

3 NUREG 0600 - Investigation into the March 28 1979 Three Mile Island Accident by Office of Inspection and Enforcement
US Nuclear Regulatory Commission 1979

4 NASC 1 - Analysis of Three Mile Island - Unit 2 accident
Nuclear Safety Analysis Centre,
Electrical Power Research Institute 1979

5 The need for Change - The Legacy of TMI. Report of the President's Commission on the Accident at Three Mile Island

6 The Generic Safety Issues of Pressurised Water Reactors.
An account of the study carried out by the Nuclear Installations Inspectorate of the Health & Safety Executive. HSE 1977

7 Safety Assessment Principles for Nuclear Reactors.
HM Nuclear Installations Inspectorate, Health & Safety Executive 1979

Health & Safety Executive
London
29 November 1979

APPENDIX A

A Commentary on the Main Recommendations of the Kemeny Report prepared by HM Nuclear Installations Inspectorate

A.1 This Appendix presents the main recommendations of the Kemeny Report, together with any necessary background, and comments on their relevance to the UK. Where issues have been dealt with in sufficient detail in the main text, they are omitted here.

Regulatory arrangements

A.2 In addition to the recommendations regarding restructuring of the NRC (see main text, para 18), a number of more specific points concerning the regulatory approach are made in the report which are summarised below.

A.3 The NRC or its successor should

(i) be directed to employ a broader definition of matters relating to safety

(ii) review control room design

(iii) increase their safety research capacity

(iv) assess the need to introduce new safety improvements recommended in the report before issuing a new construction permit

(v) improve on performance in resolving generic and specific safety issues

(vi) define rule making procedures to provide a meaningful opportunity for participation by interested parties

(vii) conduct systematic reviews of operating plants to assess the need for retroactive application of new safety requirements

(viii) arrange for licensing procedures to foster early and meaningful resolution of safety issues before major financial commitments in construction can occur

(ix) arrange for the systematic assessment of experience in operating reactors

(x) locate nuclear power plants in areas remote from concentrations of populations

A.4 From consideration of these comments in the light of the UK approach to safety, the following observations can be made

(i) It has always been NII policy to adopt a broad approach to the consideration of nuclear reactor safety. NII staff are not constrained in their judgement by detailed rules.

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(ii) The essential aspect of control room design is that the presentation of information is arranged so as to be readily intelligible to the operator. It is also necessary to ensure a proper link between plant designers and operators so that interface problems are recognised and dealt with properly. Control rooms and information processing in UK nuclear power plant currently makes use of advanced technology. It is also the view of NII that the present industrial organisation is best suited to ensuring that machine/operator problems are dealt with and that the maximum use of actual plant experience is made available to those concerned with design. NII would require that the standards achieved in this area on recent gas cooled reactors, along with proven advances, be applied fully to any PWR installation in this country.

(iii) While NII sponsors a limited research effort for the information of its assessment staff, the main responsibility for demonstrating plant safety in the UK rests with the licensee and his suppliers who must sponsor such research as may be necessary.

(iv) This is essentially a US procedural issue. However, the engineering implications of the incident are well known and NII will evaluate any UK proposal with these issues in mind.

(v) This is a further feature of the US licensing procedures. NII is well aware of all outstanding generic issues and will take into account those relevant to any UK application to license a PWR.

(vi) This is yet another feature specific to US licensing procedures. In this country, the main opportunity for public participation in discussions of safety issues is the public enquiry.

(vii) As a matter of course and arising from its inspection and enforcement activities, NII conducts periodic reviews of operating plant. However, it is not always appropriate to apply new developments to existing plant.

(viii) It has for some years been the practice for NII to review proposed reactor types which might be employed in the UK long before a formal application is made for their use. This provides an opportunity for important safety issues to be raised with the design organisation before a commitment is made to substantial capital expenditure.

(ix) NII collects and analyses data arising from its inspection activities. The fact that the UK industrial organisation is simpler than in the US leads to greater assurance that experience from operation will be passed on and used. Arrangements are also being developed to improve the sharing of experience in the European Community and OECD.

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(x) Siting has always been a factor in nuclear power safety, but in the context of the population distribution in Europe it cannot be a major factor. The Kemeny Commission emphasised that siting determinations should be based on technical assessments of various classes of accident. NII does not expect such an assessment of any proposed PWR to lead to a need to revise current UK reactor siting policy.

The Power producing industry and its suppliers

A.5 The Commission recommends that the US nuclear industry "dramatically change its attitude toward safety":

(i) It must "set and police its own standards of excellence to ensure the effective management and safe operation of nuclear power plants".

(ii) It should establish a program that specifies appropriate standards.

(iii) There should be a systematic gathering, review and analysis of operating experience coupled with an industry-wide international communications network to facilitate the speedy flow of this information to affected parties.

(iv) Each nuclear power plant company should have a separate safety group that reports to high level management

(v) There must be a single accountable organisation with the requisite expertise to take responsibility for the integrated management of the design, construction, operation and emergency response functions and the organisational entities that carry them out.

(vi) Clearly defined roles and responsibilities for operating procedures and practices must be established to ensure accountability and smooth communication.

(vii) The licensee must be responsible for the management of the plant in normal operation and accident conditions and he must therefore prepare clear procedures defining management roles and responsibilities

(viii) Substantially more attention must be devoted to the writing, reviewing and monitoring of plant procedures

(ix) Management of both nuclear power plant companies and suppliers must insist on early diagnosis and resolution of safety questions that arise in plant operations.

A.6 The emphasis in this section of the recommendations is a strengthening of the responsibility of the licensee, which has always been a cornerstone of nuclear regulatory policy in the UK. Most of the recommendations above are a statement of long-standing established UK practice. They are needed because of the large number of power producing companies in the US. The weaknesses identified have also probably been encouraged by the nature of the US regulatory process which tended to relieve the operator of direct responsibility.

It is also clear that the industrial organisation and regulatory approach used in the UK would not encourage development of the conditions which led the Commission to make these recommendations.

Operator training

A.7 See main text, paras 20 and 21

Worker and public health and safety

A.8 The Kemeny Commission recommends:

(i) expansion and better co-ordination research on health-related radiation effects,

(ii) mandatory review and comment on NRC policy statements on this topic by the Department of Health and Human Services (previously the Department of Health, Education and Welfare),

(iii) an increased program for educating health professionals and emergency response personnel in the vicinity of nuclear power plants,

(iv) that power companies make advance preparation for the mitigation of emergencies.

A.9 These points have been discussed in the main text, paras 23 and 24.

Emergency planning and response

A.10 The Commission recommended that:

(i) Before a nuclear power plant company is granted an operating licence for a nuclear power plant, the State within which the plant is sited must have an emergency response plan reviewed and approved by the appropriate agency.

(ii) Emergency plans must be based on technical assessments of various classes of accident.

(iii) Plans should exist for protecting the public at radiation levels lower than those currently used in NRC-prescribed plans.

(iv) If the emergency planning and response is to be effective the public must be better informed about nuclear power. A program should be initiated to educate the public.

(v) Decision makers may have over-estimated the human costs, in injury and loss of life, in many mass evacuation situations. A study is recommended into the human costs of radiation-related mass evacuation and the extent to which the risks in these situations differ from those in other types of evacuation.

A.11 Most of these points have been dealt with in the main text, paras 25 and 26. In relation to item (iii), advice on emergency reference levels is given by the National Radiological Protection Board. The application of countermeasures at lower levels of exposure is a matter for local judgement at the time.

A.12 The Public's right to information

The right of the public to be promptly and accurately informed is an undisputed requirement in any emergency situation as it is in normal conditions. The Three Mile Island incident demonstrated that for this requirement to be properly met, advance planning is necessary. This should include clear definitions of responsibilities, adequate communication facilities, suitable provisions for briefing of the media and definition of the channels of communication with the media. While the local and state and governmental structures and responsibilities in the US lead to different detail in the communication arrangements, the importance of this issue is equally significant for the UK. One difficulty is in communicating information regarding an advanced technological industry to the layman in terms that allow a rational understanding of a situation which is inherently frightening and probably ill-defined. Furthermore, it is essential that the need to communicate does not distract unnecessarily those who have important responsibilities for the control of the incident. The entire issue of communication is being reviewed to ensure that adequate provision is indeed made at all UK Nuclear Power Stations.

Summary and Conclusion

A.13 Consideration of the detailed technical reports so far available on TMI accident and of the Kemeny Report leads to the firm conclusion that the underlying causes of the event were organisational rather than due to serious inherent weakness in the concept or design of the Pressurised Water Reactor.

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United Kingdom Atomic Energy Authority

11 Charles II Street
London SW1Y 4QP

From: Arnold Allen, C.B.E.
Member for Finance
and Administration

Telephone: 01-930 5454

30th November 1979

Dear Secretary of State,

You sent the Chairman of the Authority and BNFL a copy of your letter of the 9th November to the Chairman of the Health and Safety Commission and you said that he might wish to comment on the report of the Commission chaired by Professor Kemeny concerning the accident at Three Mile Island.

Sir John Hill discussed the matter with me, and as he has had to go to Germany before leaving for the IAEA Conference in New Delhi, asked me to reply.

Both the Authority and the Fuel Company have studied with the greatest care the stream of information arising from various sources about the accident at Three Mile Island. They have had the benefit of prompt transmission of large amounts of information from various organisations in the United States and have assessed it as it became available; their continuing dialogue with the other UK bodies concerned has also of course taken full account of this information. Now that the President's Commission has reported on its investigation of the accident, they have again taken stock of the situation.

The Commission's report is, of course, not a general study of pressurised water reactor safety but centres on an investigation - both technical and organisational - of the particular accident which was remitted for its consideration. While, therefore, the Commission's findings and recommendations are of considerable interest, the implications of them for the United Kingdom (where arrangements and practices differ in a number of ways) are necessarily indirect.

As far as institutional changes are concerned, the British position is in our view significantly different from that in the United States. The sites operated by the Authority and the Fuel Company are subject to the provisions of the Nuclear Installations Acts 1965 and 1969 and the Health and Safety at Work etc. Act 1974 (although Authority sites are exempt from formal licencing under the 1965 Act). Each site has a standing safety committee, established local emergency plans and the plants are operated by well experienced staff and backed by organisations having a thorough understanding of nuclear technology and potential accident situations.

What is said in the Kemeny Report is nevertheless being studied for each site and also generally. We have noted carefully the Committee's recommendations and findings on such matters as plant instrumentation, operator training,

The Rt. Hon. D.A.R. Howell, MP,
Secretary of State for Energy,
Thames House South,
Millbank, S.W.1.

emergency arrangements and communications. We believe that there are no major deficiencies but are fully aware of the crucial importance of continuing to exercise all possible care and to ensure that each detailed point arising from the Kemeny Commission's Report, as from all other studies of safety matters, is given careful thought.

You will appreciate that we have a policy of continuing research and development in the area of safety after plants go into operation. This research and development is under-pinned by a more basic safety research programme undertaken by the Authority. This general approach seems to be fully justified by the Commission's findings.

Yours sincerely

A M Allen

(A. M. Allen)

THE KEMENY COMMISSION REPORT

Comments by NNC

Actions Undertaken

1. Since the accident at Three Mile Island at the end of March 1979 NPC has co-operated with other parties in the UK in evaluating and interpreting the information which has become available. Also the Nuclear Division of the Westinghouse Company has been involved in activities related to the TMI accident. These have ranged from the provision of technical support for post-accident operations at the TMI site to responses on safety matters for other US PWR's to NRC requirements, and NPC has been provided with information and expert opinion from Westinghouse.

2. For its own purposes and on behalf of the Generating Boards, NPC safety engineers who are independent of the AGR project teams have carried out a preliminary investigation of the implications of the TMI accident for all UK AGR's. This has been discussed with the Boards to confirm which of the existing provisions and procedures are satisfactory and examine which, if any, could be given worthwhile improvement.

3. A parallel investigation has been made and discussed with CEGB of the implications of the TMI accident for the PWR design which is being proposed by NPC for construction in the UK.

4. The different approach to safety requirements and analysis in the UK results, by comparison with US practice, in the analysis of multiple plant faults, in a lesser reliance on operator action and in greater degrees of redundancy in safety equipment. Thus, in addition to some existing safety advantages which the Westinghouse Nuclear Steam Supply Systems possess when compared with corresponding plant at TMI, further safe-guards are provided in the UK adaptions of the Westinghouse design.

5. From the design and construction points of view NPC studies of the numerous reports issued by the NRC indicate that further investigation is required in the following main areas: a broader base of potential fault sequences than is called for by the current US NRC requirements; the role of operators in fault conditions; improved indication of plant state in the control room during faults; and design features to mitigate core damage and melt-down accidents. These aspects were already being given attention in the UK before the TMI accident. For example, for the new AGR's much discussion has taken place between NPC and the Generating Boards to agree the optimal role of the operators. The current position is that they will not be 'locked-out' completely but that they will be able to intervene in the automatic safety sequencing only in compliance with strict procedures which ensure that there is no prejudice to safety. Since TMI, NPC has increased the emphasis on design investigations to mitigate core damage and melt-down accidents in PWR.

Views on the recommendations of the President's Commission

6. Because much information already available from the US had been the subject of study in the UK, there is little in the report of the President's Commission which is unexpected. Two points from the report are worthy of comment before examining those of the recommendations which relate to the activities of NPC.

7. A quotation from the report puts the accident in context: "We are convinced that if the only problems were equipment problems the Presidential Commission would never have been created. The equipment was sufficiently good that, except for human failures, the major accident at Three Mile Island would have been a minor incident." Moreover, the investigation "centred on one accident at one nuclear power plant in the United States". Thus, insofar as the station design or construction was the source of the accident the conclusions relate to a particular design of PWR and not to all nuclear power stations. Insofar as the accident was attributable to human failure or the failure of institutions the conclusions relate to training, qualification and licensing practice in the USA generally.

8. Because the institutional arrangements in the UK are very different the problem of assessing the relevance of the Commission's comments to the UK is not one of direct translation but rather of an imaginative examination to see whether there are parallel but different criticisms of UK practice which might be made in similar circumstances. NPC believes it is correct to say that most of the institutional criticisms are not directly applicable here, but that the TMI accident and the Commission's conclusions should serve as a more general reminder of the need for regular critical examination of UK arrangements. We draw attention to the very significant difference in the approach to safety between the UK and the US: in the UK it is the role of the Generating Boards and NPC to agree appropriate safety design requirements and provisions and produce a comprehensive safety case which is then subjected to rigorous assessment by the NII. This procedure encourages a systematic approach to safety which, as noted by the President's Commission, is more productive than "a preoccupation with regulations".

9. In considering the recommendations in detail, NPC notes that those under the headings A, E, F and G are primarily the concerns of the NII and Generating Boards; they are therefore not discussed further in this note.

B. The Utility and its Suppliers

From the suppliers point of view the relevant points addressed are:-

"the industry must set and police its own standards of excellence"

"each nuclear power plant company should have a separate safety group that reports to higher level management"

"integration of management responsibility at all levels must be achieved consistently"

"it is critical that knowledge and expertise gained during design and construction of the plant be effectively transferred to those responsible for operating the plant"

"attention and care must be devoted to the writing, reviewing and monitoring of plant procedures"

The Commission notes that "these goals may be achieved at the design stage by (1) contracting for a "turnkey" plant in which the vendor or architect-engineer contracts to supply a fully operational plant and supervises all planning construction and modifications; or (2) assembling expertise capable of integrating the design process."

NPC believes that past practice in the UK has been in accordance with these recommendations. If future practice for AGR station construction involves a division of responsibilities both for design and site construction between the Generating Boards and NPC it will be important to ensure that these divisions are clearly defined and that they are associated with appropriate authority for the Board and NPC management involved.

C. Training of Operating Personnel

This is mainly a concern for the Generating Boards. From the NPC standpoint the main contribution is the writing of clear and concise Operating Instructions, the handing-over of experience to the Operating Staff during Station Commissioning and Raise-Power operations, and the provision to the Generating Boards of operational transient analyses. These are supplemented by lectures from NPC staff to Generating Board operators prior to the raising of power.

D. Technical Assessment

For NPC the relevant main points under this heading are:-

"providing information to operators to help them prevent accidents and to cope with accidents when they occur"

"equipment design and maintenance inadequacies noted at TMI should be reviewed from the point of view of mitigating the consequences of accidents"

"continuing in-depth studies should be initiated on the probabilities and consequences (on-site and off-site) of nuclear power plant accidents, including the consequences of melt-down"

For more than a decade in the UK computerised data processors have been included in nuclear power stations for data reduction and information display. The objective is to give clear and concise information to the operator, particularly in fault situations. The continued improvement of these facilities is part of the on-going design process.

The UK design safety requirements developed within the industry over the past decade and implemented in the design process for current projects include a requirement to carry out probability analyses of a wide range of potential fault sequences. The plant which is installed in UK nuclear stations has to be such that extremely low levels of probability of failure leading to radioactivity releases are achieved. This means that significantly higher degrees of redundancy and diversity of equipment are provided in the UK than in the US where "the single failure criterion" is applied.

NPC has been aware for some years of the need, noted by the Kemeny Commission, for more comprehensive small LOCA analysis and the dangers of over-emphasis of large LOCA analysis. Methods for examining this type of fault exist and NPC is involved in refining them and in applying them to the proposed UK design.

10. Concluding Remarks

While many of the relevant recommendations in the report of the President's Commission are already satisfied by UK practices for nuclear safety, and are being applied by NPC in their current programmes of work on AGR's and PWR's, it is of the utmost importance that complacent attitudes to safety are not allowed to develop. The accident at TMI and report of the Commission have provided a sharp reminder of the necessity to maintain unremitting vigilance in all aspects of design, construction and operation which are involved with the safety of the public and operators. NPC will continue to devote the effort necessary to take full account of any further lessons which may emerge from, for example, the announcement to be made by the US President on the Commission report and the NRC's own major investigation which is still in hand.

5 December 1979

CENTRAL ELECTRICITY GENERATING BOARD

THE KEMENY REPORT AND THE CEGB RESPONSE

Sudbury House
15 Newgate Street
EC1A 7AU

December 1979

CENTRAL ELECTRICITY GENERATING BOARD

THE KEMENY REPORT AND THE CEGB RESPONSE

1: INTRODUCTION

1 At the end of October 1979, the United States President's Commission on the Accident at Three Mile Island published its Report, subtitled "The Need for Change: The Legacy of TMI". The Commission Chairman was Professor John G. Kemeny, President of Dartmouth College, Hanover, New Hampshire and the Commission's report is therefore referred to as "the Kemeny Report".

2 This report, which has been prepared at the request of the Secretary of State for Energy, gives an account of the actions being taken by the CEGB in the light of their study of the TMI Accident, the Kemeny report and their review of safety procedures. It reflects predominantly the Board's interests and responsibilities as a large-scale operator of nuclear generating plant.

2: THE THREE MILE ISLAND ACCIDENT, MARCH 1979

General

3 On 28 March 1979, the Unit 2 Reactor at the Three Mile Island (TMI) nuclear power plant near Middletown, Pennsylvania U.S.A. suffered a serious accident which resulted in the complete shutdown of the Unit and also had widespread effects on a number of communities in the neighbourhood of the plant: the Kemeny Report describes it as "the worst accident in the history of commercial power generation" (page 1 of the Report).

4 Such an event was bound to be of deep concern to the CEGB and, from the outset when only preliminary reports were available, the Board consistently affirmed the intention to study the TMI accident to see what lessons could be learned and to ensure, in consultation with appropriate authorities, that they were applied to CEGB nuclear power stations, existing and projected.

5 The CEGB noted that, despite the severe damage to the core and equipment within the containment building, the safety provisions ensured that no significant harm was caused to any person at the power station or outside it. The official reports from competent authorities confirmed that the environmental impact of the accident was small. Despite the confusion and problems encountered, effective operational control of the plant

/was restored ...

was restored, and a decontamination and plant recovery programme began which will last for a long period of time. This assessment in no way minimises the seriousness of the situation but helps to illustrate the perspective for CEGB appraisal of TMI.

Studies prior to the Kemeny Report

6 In May 1979, the Generating Board's Director of Health and Safety and four CEGB specialists, together with representatives from other UK organisations, visited the USA to obtain first-hand information.

7 This visit, together with many published reports, provided an increasingly detailed appreciation of the sequence of events and the problems encountered at the TMI plant. Equally important, it was possible to study the off-site problems that arose, associated with the health physics surveys of the radioactivity released from the plant, the difficulties in providing accurate and comprehensive information to the public, the overwhelming of the telecommunications systems in the vicinity of the plant, and the inadequacy of emergency procedures. In the light of information obtained from various sources, the CEGB formed the view that the accident escalated because of a series of weaknesses in design, safety analysis, component performance and operator behaviour.

8 In advance of the Kemeny Commission's comprehensive investigation, it was not possible to reach conclusions on the underlying causes of, and contributory factors to, these weaknesses.

3: DIFFERENCES BETWEEN UK AND USA NUCLEAR PLANT AND REGULATORY SYSTEMS

9 Before commenting on the Kemeny Report itself it is necessary to clarify some major differences between the United Kingdom and the United States in relation to types of plant, basis of utility operation, and the respective regulatory arrangements.

Reactor systems

10 The CEGB is currently operating and constructing gas-cooled reactors, (16 reactors operating in 8 magnox stations, 2 reactors operating in an AGR station, and 6 AGR units under construction at three more stations). Because of the differences between gas-cooled and pressurised water reactor systems, an accident of the Three Mile Island type cannot occur in any CEGB

/existing station. ...

existing station. Nevertheless the CEGB has always stated that there is a remote possibility of an accident occurring at a nuclear station which could cause a release of radioactivity outside the station boundaries. Emergency plans for this contingency have been available and published to local communities since the first CEGB stations commenced operation in 1962. The CEGB is therefore directly and currently concerned with generic questions of safety related to any type of nuclear power station.

11 The CEGB has stated its intention of building a PWR station, provided the necessary safety clearances and consents are obtained, and has commissioned design studies for this purpose. Although not yet committed, the Board is therefore actively exploring the possibility of building a PWR station, provided that the necessary safety clearances and consents are obtained. Although in no way committed, the Board is therefore actively involved in PWR technical assessment and component improvement studies, which are being supplemented by the report of the American Electric Power Research Institute and the NRC "Lessons Learned" Reports (NUREG 0578 and NUREG 0585), and other technical investigations prompted by TMI.

Regulatory authorities and licensing practices

12 In comparing procedures and practices of the two countries it must be remembered that in the USA there are a large number of separate utilities, several major nuclear plant contractors and architect-engineers, and a complex interweaving of formal requirements, based on federal and individual state law. The objective of regulatory authorities everywhere is to ensure that acceptably high standards are achieved in all aspects of safety. It is inescapable that it is more difficult to obtain consistency throughout a large number of organisations, such as exist throughout the United States compared with the situation in the UK where there are two Generating Boards operating nuclear stations (CEGB and SSEB), one licensing authority (NII), and now one major nuclear plant contractor (NPC). Many of the findings and recommendations of the Report deal with regulatory procedures which are specific to the USA: they carry no implication that UK procedures are unsatisfactory. It is not yet known to what extent the recommendations will be accepted in the USA, but many regulatory issues have been raised which will stimulate discussion in the UK and internationally. From this some improvements of a detailed nature may emerge, but it is too early to speculate on this.

4: THE KEMENY REPORT AND CEGB RESPONSE

General

13 Following comprehensive study and investigation of the TMI accident in accordance with their terms of reference from the U.S. President, the Kemeny Commission has provided a full

/and impressive ...

and impressive analysis which will be regarded as the definitive account. The lessons to be learned are established, and are unlikely to be significantly altered in principle by other investigations.

14 The Generating Board has therefore considered what the implications, in principle, are in the context of the CEGB nuclear plant programme, accepting that many detailed differences exist between the situation of the CEGB and that of Metropolitan Edison, operators of the Babcock and Wilcox plant at Three Mile Island.

15 The Commission's outstanding general finding is the observation that the fundamental problems are people-related problems and not equipment problems, and that the "investigation has revealed problems with the 'system' *that manufactures, operates, and regulates nuclear power plants" (page 8). Consequently the theme of the Report is the need for an overhaul of the regulatory system and policy, which will place more importance on the utility for achieving safety. Coupled with this the Commission stresses the need to recognise "that regulations alone cannot assure safety", and that "it is an absorbing concern with safety that will bring about safety - not just the meeting of narrowly prescribed and complex regulations" (page 9).

16 The CEGB concurs with the Commission in those views, which are very much in line with UK practice established over two decades. The CEGB has always been statutorily responsible for safe operation of its nuclear plant, and CEGB policy is to ensure that management and staff at all levels are motivated towards safety and have a good appreciation of the safety characteristics of plant they are operating. This is done within a framework of Operating Rules, Safety Rules and Nuclear Site Licence Conditions. It has always been recognised that there was a significant difference between the US and UK approach to regulatory control. In the UK, the NII and the Generating Boards have always taken the view that it was more satisfactory to require the licensee to produce a comprehensive safety case that would stand up to rigorous assessment than to require him to meet a detailed set of regulations and criteria. It was thought that the latter approach might encourage an inflexible attitude to safety problems.

Issues of priority concern to the CEGB

17 As operators of nuclear power plant, the Generating Board's prime concern since April 1979 has been to examine issues, and where necessary initiate action in the following broad areas high-lighted by TMI:

(a) Utility safety policy;

(b) Training of operating personnel;

(c) Emergency planning and response;

and, so far as the UK is concerned, to a somewhat lesser extent

*Footnote 'system' is interpreted as meaning organisational arrangements.

/(d) ...

(d) Nuclear regulatory organisation.

18 Since June of this year, items (a), (b) and (c) have been under review. Current practice and procedures for emergency planning are being systematically compared against the Three Mile Island experience, in consultation with the NII and other UK reactor operating organisations, i.e. SSEB, BNFL, UKAEA. 'The section of the Kemeny Report entitled "Account of the Accident" (pages 81-149) is particularly valuable with regard to these matters and the roles played by leading personnel. Topics (a), (b), (c) and (d) are dealt with more extensively in Sections 5, 6, 7 and 8 of this Report.

5: UTILITY SAFETY POLICY

Organisation

19 In Section B of its Recommendations, entitled "The Utility and its Suppliers" (p. 68), the Commission recommends that the US nuclear industry should "dramatically change" its attitude towards safety.

20 If carried into effect, the detailed recommendations would represent a marked shift towards UK practice, where the utility has to accept full responsibility for the safety of its nuclear plant. This includes assessment of the design and construction of all safety-related equipment, the operation and maintenance of plant, and the control of all activities during fault conditions and emergencies. In its Generation Development and Construction Division, its Research Division, and other specialised Departments the Generating Board has engineering and research expertise and resources which provide support to the operating stations in many important areas such as fuel behaviour, reactor physics, pressure circuit integrity and associated technical fields and, equally important, expert resources can be quickly marshalled to deal with a wide variety of engineering and metallurgical problems. Furthermore the CEGB engineers who have been closely associated with the design phase are able to bring the knowledge gained during that period to assist in remedying plant defects which may arise during the service life of the plant.

21 Under the Nuclear Installations Act 1965, final responsibility for nuclear safety rests with the Board. For the day-to-day operation of each CEGB nuclear power station, authority is delegated through Regional management to the Station Manager, who therefore has immediate responsibility for the safe operation of a nuclear plant. In carrying out those duties, the Station Manager is obliged to ensure that operating procedures comply with Operating Rules, Radiological Safety Rules, Electrical and Mechanical Safety Rules, and with the conditions laid down in the formal Nuclear Site Licence issued by the Health and Safety

/Executive. ...

Executive. These are devised and prescribed by various authoritative bodies external to the station, and cannot be altered without reference back to them. For example, the Operating Rules designate reactor operating parameters that must be maintained and equipment that must be available in order to ensure that if faults occur, then the reactor is automatically shut down or reduced in power so that it continues to be in a safe state. The Radiological Safety Rules and the Electrical and Mechanical Safety Rules specify procedures for providing protection to operating staff, and precautions that have to be taken when working in radiation or contamination areas, or when working on electrical equipment. The Nuclear Site Licence conditions cover a wide variety of activities including maintenance and inspection procedures, plant modification procedures, reporting of incidents, storage and disposal of new and irradiated fuel, storage of radioactive waste, emergency arrangements and reporting of incidents.

22 CEGB experience has shown that to obtain the best results in a project, a good working relationship has to be established between the designer and the operator, who contributes a feedback from past operating and safety experience. The Commission recognises this need and also emphasises the need for a close relationship between the operator and the suppliers.

23 The Commission recommends that each nuclear power plant company should have a separate safety group that reports to high-level management. This has been established practice within the CEGB for the past 20 years, where there is a separate Health and Safety Department whose Director reports directly to the Chairman and Board Members. This Department has about 65 fully qualified engineers, scientists, health physicists and medical staff who carry out assessments and provide advice on all aspects of plant design and operation. Health and Safety Department Inspectors are permanently based at the nuclear stations where they carry out an audit function, and report back safety-related problems or situations which they consider might develop into potential hazards. The Director of Health and Safety is thus able to arrange for appropriate action to be taken with line management to ensure that safety standards are maintained.

24 Each station has a Safety Committee and these Committees meet monthly. The membership was deliberately established, and is maintained, at a senior level, including the Station Manager, the CEGB's Directors of Operations, Health and Safety, Engineering and Research, together with senior experienced members of the UKAEA and British Nuclear Fuels Limited (BNFL). Each Committee reviews fault studies and analyses which take into account new data or experience; in particular, no changes in Operating Rules or significant modifications to safety-related equipment can be made without a written report being approved by the Committee and subsequently the Nuclear Installations Inspectorate (NII). The

/Station Managers ...

Station Managers meet quarterly to review and appraise operating performances and experience, and there is also a quarterly Operations Conference attended by senior members of all UK reactor plant operating organisations which again consider performance and safety-related topics. These arrangements ensure a sharing of experience and discussion of problems, while the Safety Committee procedures impose a discipline and motivation towards an awareness of safety which is so important.

25 Having re-appraised these arrangements, the Generating Board remains convinced that their basis of organisation is sound and well able to discharge its tasks.

Technical Assessment

26 With regard to PWR technical aspects, the CEGB and NPC already have under consideration the recommendations for improvement of equipment. The Report is not at its strongest on these aspects, and it is likely that more comprehensive analysis and recommendations for improvement of equipment will be forthcoming from investigations being carried out by other organisations in the USA. Modifications proposed and fully accepted by appropriate US organisations will be considered for incorporation in the design of the PWR being developed for the CEGB, as will any improvements which may be developed in other countries with PWR plant. The CEGB is also studying with NPC any possible applications which are relevant to gas-cooled reactor plant.

6: TRAINING OF OPERATING PERSONNEL

27 Undoubtedly operator response during the TMI accident was inadequate and the Commission makes a number of recommendations for improving the calibre and training of operators, which again move closer to UK methods. It is not UK practice to licence operators formally but they are appointed by the CEGB with the requirement that the NII is satisfied that acceptable standards of competence are being achieved.

28 In order to put the Kemeny findings into perspective, it is necessary to explain the rather different arrangements in the UK, compared with those described in the Report.

29 The CEGB's policy is to employ graduate, chartered or qualified engineers as Shift Charge Engineers. An operating engineer, after initial training, will usually be appointed as an Assistant Engineer and work as a control room desk operator. After an appropriate interval he may then move to refuelling operations or auxiliary plant and gain experience of equipment operation. The next appointment will be to Assistant Charge Engineer, for a period of one or more years which may include transfer to another station enabling him to obtain a wider variety of experience before promotion to Shift Charge Engineer. Thus

/the latter ...

the latter will have had several years' experience with considerable on-the-job training. He will attend courses at the Nuclear Training Centre at Oldbury to augment his theoretical knowledge of reactor plant design, safety principles and fault conditions, and where he takes part in reactor simulator exercises. Experience has shown that the standard of operation is good and, where reactor incidents or problems have occurred, operator response has been satisfactory. Nevertheless, in the light of TMI a review of operational training is being carried out with emphasis on the scope and frequency of refresher courses, and the full use of the facilities of the Training Centre, which are currently being extended by the commissioning of simulators for each AGR station. The provision of information to control room engineers during fault conditions is also being reviewed and their likely responses reassessed. Particular attention will continue to be paid to control room layout and instrument display during fault conditions for new plant, which already incorporates data processing equipment.

30 In matters of recruitment and training policy, there is within CEGB a continuous process of review and improvement in the light of experience. Detailed action as a result of TMI fits into this pattern.

7: EMERGENCY PLANNING AND RESPONSE

31 The lack of preparedness for an emergency is well documented in the Report, and stems from the fact that the NRC had no statutory authority to require the individual States to prepare emergency plans. In the UK each nuclear station has always had an emergency plan which includes offsite activities which has to be approved by the NII, and exercised annually to the approval of the NII. The Report's recommendations follow very closely the principles of the UK established procedures.

32 Emergency Plans for dealing with serious accident conditions and offsite radioactivity releases have been in existence and publicised to local communities since the CEGB's first nuclear stations started operating in 1962. Throughout the year exercises are held in firefighting, first aid and rescue, health physics surveys and damage control. These exercises culminate in a large scale exercise every year that simulates an accident giving rise to an offsite radioactive release, and involves the co-operation of the police and local emergency services. These annual exercises have to be carried out to the satisfaction of the CEGB's Health and Safety Department and the NII. The Plans include arrangements for co-operation with police, emergency services, local authorities, land and water authorities. Iodate tablets can be readily issued to the local population if necessary, and the police are at short notice able to undertake evacuation of people up to about one mile from a station, or further beyond this if necessary. An Emergency Controller is nominated to operate from an Emergency Control

/Centre ...

Centre fully equipped with communication and other facilities and located some distance from the reactor control room. He has to control the emergency activities including on-site and off-site monitoring of radioactivity, and provide information and advice to the police, local and national organisations. A feature of the TMI accident was the unpreparedness and divided responsibilities of state and federal organisations, which contributed to increased concern and large scale evacuation by the local people. The CEGB's plans are therefore being reviewed against the TMI experience. One evident factor is the short time in which telephone systems can be overwhelmed and the need for supporting communications systems. These need to provide not only for operational purposes but also for the provision of adequate information for the media and to local and public authorities.

The Public's right to information

33 The Commission devotes a section of recommendations to the subject of providing information to the public during an emergency. The major lesson learned by the CEGB visiting team was the large number and rapid build-up of news media people who will arrive at the site of an accident, something like 300 at TMI.

34 The CEGB Emergency Plans include the provision of Information Centres about a mile from each nuclear power station. In the light of the TMI experience these would be quite inadequate in respect of size and communication facilities. During the past months the CEGB has been reviewing this situation, and plans are being formulated for the provision of larger facilities at the earliest practicable time.

35 From the start of the nuclear power programme, each station has had a Local Liaison Committee. This includes elected members and officials of the county and local authorities; representatives of local organisations including the police, water authorities, and farming interests; and representatives of the CEGB and the authorising Ministries.

36 At the meetings of these Committees, CEGB representatives provide information and reassurance on the way in which radioactive materials are used at the station. They also explain the significance of radiological measurements which are made outside the station boundaries. The Emergency Plans for the protection of the public in the event of an accident are also discussed.

8: NUCLEAR REGULATORY ORGANISATION

37 In Section A of the Recommendations, entitled "The Nuclear Regulatory Commission" (pages 61-67), the Kemeny Commission recommends the restructuring of the NRC into a new independent agency, and then continues to outline the responsibilities and duties of the new agency. For reasons already indicated, there is nothing directly relevant to UK statutory procedures, and it

/is the ...

is the Generating Board's view that the present statutory requirements are satisfactory. The TMI accident showed that there had been inadequate safety analysis applied to the accidents less severe than the worst credible accidents, and also to equipment not designated as safety-related items. This section of the Kemeny Report highlights the need to include the full range of possible fault sequences in safety analysis, and not just those specified in detailed criteria and regulations. As already noted it has been well established UK practice to give comprehensive treatment to fault conditions in safety reports prepared by the designer and the operator, which are then rigorously examined by the NII.

38 Some mention is also made of siting where the policy is different from that of the UK. The Commission's views are not at all clear, but again very full consideration has always been given in the UK to siting requirements, taking into account the remote risk of an accident.

9: CONCLUSIONS

39 The CEGB visiting team in May formed the view that the TMI accident had not revealed any fundamental weakness in the PWR concept or its basic engineering. The accident developed because of weaknesses in detail design, safety analysis, performance of some components, and above all operator behaviour. The Kemeny Report has confirmed this view, and the majority of the Commission's findings and recommendations are concerned with the organisational arrangements and procedures for achieving safety, rather than specific recommendations concerning equipment.

40 The TMI accident and the subsequent investigations do not alter the CEGB's opinion that pressurised water reactors can be built and operated in the UK to the high safety standards that are required.

41 The Commission was not asked to comment on the broader questions of nuclear energy, but nevertheless stated that their "findings do not, standing alone, require the conclusion that nuclear power is inherently too dangerous to permit it to continue and expand as a form of power generation" (page 7). After detailed examination by the group of independent people forming the Commission this is an important conclusion for all concerned with decision-taking in the nuclear industry.

42 The Kemeny Report criticised the utility for inadequate attention and resource given to many safety matters, and emphasised the need for utilities to give more importance to many aspects of safety. It is considered by the CEGB that many US utilities seem to have been sandwiched between the strong competence and resource of the main suppliers on one hand and a powerful NRC on the other. It appears that during the design and construction phase some utilities rely in large measure on these organisations for production, assessment and resolution of safety reports and problems. Consequently during the operational phase these

/utilities ...

utilities may find themselves without adequate knowledge and resource when difficult problems occur, of which the TMI accident is an extreme example.

43 The importance of safety has always been fully recognised by the CEGB, and it has played a leading role in the specification and assessment of safety-related equipment during the design and construction phases of nuclear plant projects. The operational procedures described earlier in this report indicate the effort and attention that is given to safety during operational life. An important feature is the support provided by the engineering and research divisions of the CEGB.

44 The Kemeny Report does not allocate blame for the accident to individuals, although considerable attention is given to operator behaviour and response. It has to be remembered that the utility staff and management remained in control of the plant throughout the accident, and were responsible for the eventual recovery and stabilisation of the situation. The CEGB believes that the unfortunate sequences of events during the early stages of the accident were due to inadequate operator qualifications, experience and training. The control room staff did not possess the full expertise needed to master the complex situation that quickly developed, and they were not sufficiently assisted by the operating procedures and instructions provided by the infrastructure of the utility, the supplier and the regulatory body. The operators were also confused by poor instrumentation information. The Report fully recognises these fundamental weaknesses and puts major emphasis on the need to improve operator quality and training.

45 The CEGB does not believe that the Report has signposted deficiencies in its own practices, but nevertheless it is carrying out a review of its training procedures. This is looking in particular at the role of simulator training, and the provision of information in the control room during fault conditions.

46 Since the team visit in May the CEGB has considered the technical aspects of the TMI accident, and any application to its gas-cooled reactor plant and the proposed PWR station. It is doing this in co-operation with NPC. Several of the technical factors which contributed to the TMI accident were special to the TMI type of plant, and care would be taken to ensure that they would not feature in any PWR plant design proposed by the CEGB. Compared with current US PWR designs, the CEGB design will include modifications required by UK safety standards already identified, and any necessary changes resulting from detailed analysis of the TMI accident determined by UK reviews, USA reviews, or reviews instituted by other countries with PWR plant.

/47 ...

47 A major difficulty which arose at TMI was the handling of off-site problems including assessment of radiation exposures, the provision of public information, the swamping of telecommunications, and arrangements for evacuation of the public. The difficulty was compounded by lack of co-ordination and preparedness by the various state authorities. The CEGB has well-established emergency plans at each nuclear station for accidents giving rise to radioactive releases. Many of the Kemeny Report recommendations closely follow these arrangements. Nevertheless the information obtained from the visit in May caused the CEGB to review its plans in the light of the TMI experience. Some parts of the plans will be amplified, and in particular improved facilities are being planned for briefing of the news media during emergencies. The CEGB National Grid Control telecommunication system provides essential but limited lines of communication independent of the public system, but at some stations the latter will be strengthened in order to remove the possibility of restriction of technical discussion of flow of information. A review is also being made of liaison procedures between senior management and officials of all the UK organisations concerned, for an incident which might last several days.

48 The repercussions of the TMI accident have been wide, and interest and discussion have been stimulated within many parts of the CEGB organisation. Few staff have so far had the opportunity to study the Kemeny Report in depth, but it will be widely distributed to those concerned with nuclear plant. There are lessons to be learned by the organisation, and by individuals in carrying out their duties: from this process, further opinions will no doubt emerge on the details of many of the CEGB's practices and procedures, and they will be taken into account wherever appropriate.

ABBREVIATIONS

AGR	Advanced Gas-cooled Reactor
B & W	Babcock & Wilcox (The company that designed and supplied the TMI-2 reactor and nuclear steam supply system)
BNFL	British Nuclear Fuels Ltd.
CEGB	Central Electricity Generating Board
EPRI	Electric Power Research Institute (US)
NII	Nuclear Installations Inspectorate (UK)
NPC	Nuclear Power Company (UK)
NRC	Nuclear Regulatory Commission (U.S. agency responsible for the licensing and regulation of commercial, test, and research nuclear reactors)
PWR	Pressurised Water Reactor
SSEB	South of Scotland Electricity Board
TMI	Three Mile Island (Site of two nuclear power reactors operated by Metropolitan Edison Company)
UKAEA	United Kingdom Atomic Energy Authority

cc Mr Duguid

cc PS/PUS
Mr MANLEY
Mr WILSON - on file

A

NBPn
MS

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

CONFIDENTIAL

The Rt Hon Michael Heseltine MP
Secretary of State
Department of the Environment
2 Marsham Street
LONDON SW1P 3EB

28 November 1979

Dear Michael

STATEMENT ABOUT NUCLEAR POWER

You will recall that in E Committee on 23 October we agreed that I should consult you in preparing my proposals for handling the presentation of the nuclear programme.

I have it in mind to make a statement in the House in the course of the next week or so, which presents the programme in a low-key manner and explains how the reorganisation of the nuclear industry will proceed. I attach a draft of the statement. You will see that the 10-year programme of 1.5GW per annum of new nuclear orders is indicated in only the most general terms and that there is no reference to the prospects of PWRs beyond the first PWR order endorsed by the last Government. I believe that a statement on these lines is the minimum needed to achieve our objectives in industry and I hope you will agree that in presentational terms the balance is about right.

We also agreed in E Committee that I should consult John Nott about the implications of a Westinghouse licence for the RTZ lawsuit. I am therefore copying this letter and the statement to him. My understanding is that an announcement on these lines in the next few weeks would not conflict with the handling of the lawsuit, and I hope he will agree that I should proceed as proposed. I believe it is very important for nuclear power policy that our industry should make progress with the Westinghouse licence without further delay, and I see no realistic prospect of using the licence to further RTZ's interests.

Yours

D A R Howell

David

CONFIDENTIAL

DRAFT

NUCLEAR POWER POLICY AND THE NUCLEAR INDUSTRY

DRAFT STATEMENT BY THE SECRETARY OF STATE FOR ENERGY

With permission, Mr Speaker, I wish to make a statement.

1. Safe nuclear power and a strong nuclear industry are essential to this country's energy policy. On present prospects, supplies of North Sea oil and gas will be declining in the 1990s. Even with full exploitation of coal and conservation, it will be difficult to meet this country's long-term energy needs at tolerable prices without a sizeable contribution from nuclear power.

2. The British nuclear power programme has been in decline over the last decade and the structure of the nuclear industry has been under review for nearly two years. If we are to reverse this trend and ensure that industry is on a soun footing we must take action now.

3. The Government have therefore held urgent consultations with the main partie

4. We believe that there must be continuing nuclear power station orders if current industrial problems are to be resolved and our long-term energy supplies are to be secured.

5. The last Government authorised the CEGB and SSEB to begin work at once with a view to ordering one AGR station each as soon as possible, and we have already announced our approval of these orders.

6. The last Government also endorsed the intention of the CEGB to order a PWR station subject to the necessary safety and other consents and clearances, and we have made clear to the parties our wish that they should proceed with the implementation of this decision as the next nuclear power station order. Construction is expected to begin in 1982.

7. The National Nuclear Corporation have been authorised to activate their license arrangements with the Westinghouse Corporation of the United States, and to prepare a safety case for submission to our Nuclear Installations Inspectorat Statutory consent will also be needed and an inquiry will be held in due course.

8. We attach overriding importance to the safety of nuclear power and will want to ensure that the lessons of the accident at the Three Mile Island station in the United States have been learnt. I am today publishing preliminary assessments of the Kemeny Report on this incident provided to me by the relevant UK authorities.

9. Looking ahead, the CEGB have advised that on a wide range of assumptions they would expect to order at least one new nuclear power station a year in the decade from 1982. The precise level of future ordering will depend upon the development of electricity demand and the performance of industry, but we consider this a reasonable prospect against which the nuclear and power plant industries can plan. Decisions about the choice of reactor ~~system~~ for later orders will be taken in due course when the two new AGRs and the PWR have progressed further.

10. Against this background of a steady nuclear programme, the reorganisation of the nuclear industry can now proceed.

11. The supervisory management agreement between the NNC and the General Electric Company will be terminated as soon as practicable. The Boards of NNC and NPC will be brought together into a single-tier structure with full responsibility for the affairs of the company. The management of the NNC will be built up to suit the needs of our nuclear programme. No changes in share structure are envisaged.

12. More generally, the Government attach importance to the steady evolution of the NNC into a strong and independent design and construction company, fully able to supply nuclear power stations at home and abroad, efficiently, to time and to co

13. The immediate task of the NNC is to supply the nuclear island for the new AGR stations now under order. But we believe the company should take on total project management responsibility for the first PWR, drawing on whatever outside resources it may need to support it in this role. We recognise that the company may also wish to consider the development of a manufacturing capability.

14. The future success of our nuclear industry is of great importance to the prosperity of this country. I ask all concerned to give their active support to the decisions which I have announced.

PM seen
TR.

cc GoA Mach May 79
Contingency Planning

PRIME MINISTER

POWER STATION FUEL

See Energy PR (Pt 3)

You asked to be kept in touch with the position on fuel stocks at CEGB power stations on which I last minuted you on 17 August.

CEGB coal stocks stand at 16 m tonnes, well above forecasts made earlier this year; if we include power stations in Scotland (for which the Secretary of State for Scotland is responsible) the figure exceeds 17½ m tonnes and reflects the rapid rate of stockbuild in recent weeks. The NCB and British Rail have worked hard to shift coal. Deliveries to the CEGB have been above programme and the mild autumn has helped. The CEGB are importing all the coal that can at the present time be shipped and transported (2½ m tonnes for the year).

Oil stocks are at a record level of 1.3 m tonnes and the CEGB has arranged for supplies (including BNOC oil) which will enable them to raise oil burn to the maximum economic level this winter; they are talking to the oil companies with a view to obtaining additional deliveries. (There are implications here for our international commitments which will need careful handling but which need not stand in our way).

It is difficult to forecast the level of electricity demand (so much depends on uncertainties including the weather and availability of other fuels to consumers) but if there is no disruption to either coal or oil supplies before Christmas the Board expects the level of stocks of both fuels at power stations to sustain an endurance during the period of peak demand (January and most of February) of four weeks with a further period of progressively declining output. Reduced supplies of coal and oil before Christmas for whatever reason would affect the level of stocks and therefore endurance after Christmas. Currently coal stocks are not as well balanced as they might be but their distribution can be manipulated by operating stations out of merit order in order to balance stock levels across the system while a certain amount of additional oil can be consumed in coal fired stations to conserve coal. The CEGB are examining both these courses.

Ancillary materials are important; the Board are taking action to replenish stocks as soon as they are drawn down. I am informed that these stocks would support 6 weeks of average winter output in January/March under operating practices designed to preserve materials rather than to minimise costs. Under normal circumstances the Board would not expect stocks of ancillaries to be affected by the holiday period - deliveries could be reduced but electricity output also declines as many firms close down for several days at that time. There is no expectation of difficulty in the water supply industry at present but much of the Board's capacity depends on mains water supply and there is little scope for increasing storage against disruption.

Copies of this minute go to E Committee, to the Secretary of State for Scotland, to the Minister of Transport and to Sir Robert Armstrong.

DH.

SECRETARY OF STATE FOR ENERGY

26 NOVEMBER 1979

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

Tel: 211 6402

Paul Lever Esq
Private Secretary to the
Foreign & Commonwealth Secretary
Downing Street
Whitehall
London SW1A 2AL

22 November 1979

Dear Paul,

MINISTERIAL MEETING OF THE INTERNATIONAL ENERGY AGENCY - 10 DECEMBER 1979

My Secretary of State has asked me to write to put you in the picture about the meeting of the Governing Board of the IEA at Ministerial level on December 10.

The Meeting was originally scheduled for late January/early February and has been brought forward because of American concern about the risk of further interruptions in oil supplies from Iran and the possibility of cutbacks elsewhere. It will be preceded by two Working Group meetings (the first of which takes place tomorrow and Saturday) and a meeting of the Governing Board at official level on December 3.

The Americans seem likely to propose that:

a) 1980 oil import targets should be established for all Member Countries, who should make clear what measures they will be taking to achieve them.

b) The targets should be adjusted in the case of downward changes in expected supply availability.

c) The targets should also be rigorously monitored on a quarterly basis, with strong political pressure on any country which fails to meet them.

d) Voluntary triggering of the IEA's emergency allocation system should be held in reserve for use if political persuasion fails. If it were necessary, countries which had failed to limit demand should be discriminated against.

e) Targets should be set at a later stage for the period 1981-85.

f) Further efforts should be made to ensure abstention as far as possible from spot market transactions.

My Secretary of State will circulate a paper to the appropriate Ministerial Committee immediately after the official Governing Board on December 3. Although there is much that we should be able to go along with in the US proposals we will need to make up our minds before the meeting on a few key points:

i) Although there should be no difficulty in meeting the UK net import targets for 1980 of 12m tons, which has been agreed in an EEC context, are we prepared to commit ourselves to import licensing if necessary - probably a theoretical question in our case but still not easy to answer.

ii) Are we prepared to agree to contingency planning by the Secretariat of a voluntary triggering of the IEA's emergency sharing system or some streamlined version in the event of a limited supply shortfall next year? Although the final decision would obviously be taken by Ministers at the time, contingency planning is of course one step along the road.

iii) Would we be prepared to agree to firmer action to dissuade companies buying oil priced well above the Government Selling price - eg from Iran? This could involve a gentleman's understanding that any country finding it difficult to obtain supplies - eg Japan - would be looked after, and therefore some diversion of supplies away from the UK.

All of these issues will be discussed in more detail in my Secretary of State's paper, but if there is a consensus among most of the other 19 countries it will of course be hard for the UK to stand out alone.

I am copying this to Tim Lankester at No 10, to the Private Secretaries to other Members of ODE, and to Martin Vile in Sir Robert Armstrong's office.

Yours ever,

Bill

W J Burroughs
Private Secretary

Energy: Oil Policy

States. Both Ministers had agreed that there was a role for national action in dealing with this problem. The position of the Community as a whole was being discussed in the Foreign Affairs Council. The Prime Minister asked about Commission Davignon's investigation into the effect of US oil subsidies on the synthetic fibre industry. M. Giraud said the Community was progressing too slowly. This was an example of an area where national action could be important.

Energy

The Secretary of State said that he and M. Giraud had discussed the present disturbing situation on the world oil market and the precarious nature of the supply/demand balance. There had been some difference of approach to the problems of the spot market but no divergence of view on the extreme seriousness of the situation. Both Ministers had agreed to keep in touch about the proposals which the United States would shortly be bringing to the IEA for strengthening the constraints on oil imports and for improving monitoring of the situation. (France is not a member of the IEA.)

The Secretary of State for Energy said that he and M. Giraud had identified common interests in the future development of civil nuclear power. Both countries intended to expand their nuclear power capacity. The UK would be reactivating the Westinghouse PWR licence. He and M. Giraud had agreed that there was a possibility of future construction of PWR reactors being conducted on a trilateral support basis. There might be component manufacturing and licencing arrangements embracing both Westinghouse and the French industry. He would be considering how to proceed with Westinghouse in the light of M. Giraud's remarks.

There had also been a discussion about the possibility of co-operation in the breeder reactor field in the years ahead. Finally he and M. Giraud had discussed the possibility of transporting gas from the Statfjord field through the British gas gathering system and onwards to France. He would be happy to

/look

look at this more carefully if the Norwegian authorities were willing to enter the arrangement. It would offer greater security of supply in the future.

M. Giraud said he had nothing significant to add on the nuclear front. But he hoped that Britain would not get too deeply entangled in Westinghouse. He would be investigating the question of supplying gas through the British system on his return to France. On North Sea oil, he noted that France would be receiving no UK oil next year. He did not find this a very satisfactory situation. On the international oil situation in general, M. Giraud said that the rise in prices and the complete disorganisation of the market threatened a short term disaster. An upheaval on the oil front would lead to disruption of the monetary system. The difficulty was that the gap in price between the spot market and the regular market had become so great as to force more and more oil on to the spot market. Regular patterns of trade were being destroyed and it was becoming impossible to regulate the trade. The spot market must be made as unattractive as possible. He was not aware of any substantive proposal to tackle the situation. He himself wondered whether it might not be possible to implement the Tokyo agreement more vigorously. He hoped that this could be discussed in the following month.

In replying to a question from the Prime Minister the Secretary of State for Energy said that information on what was happening about the supply of Iranian oil was confused. But there seemed likely to be an overall cut in production of 5%. The ban on supplies to the United States would only effect crude oil going to the United States in United States ships. Oil going elsewhere in United States ships would not be affected. On the question of sales of oil by BNOC to France, the Secretary of State for Energy confirmed that there would be no sales next year. This was the way the cards had fallen. The contracts had been made on commercial terms: Total had put in its bids too late for 1980/81. HMG's policy in general was where possible

/to supply

to supply the members of the Community and the IEA. 28% of our total production and 50% of our exports were at present going to the EEC.

President Giscard said that he shared the gloomy estimates which had just been advanced. There was probably not a great deal that Governments could do. The most likely scenario was that prices would go on rising until they reached a point where the production of synthetic alternatives became profitable. He did not know where this level was but it was clearly far above the present price. (M. Giraud interjected that it was not only a question of price: the production of synthetic alternatives on an adequate scale would take 15 years.) The only alternative scenario was the organising of a Western cartel to regulate the allocation and distribution of oil. This would be a radical change but, given the West's lack of control of production, was the only way open. In the past the same people had determined the production level and the price. This had given consistency to the market. Now the oil companies were dealing with distribution; the individual producing countries with the level of production; and OPEC with prices. Operating individually, consumer countries had no leverage on the producers. The larger producers would probably be prepared to co-operate with a cartel: if so, the smaller ones would have no option but to go along. / Meanwhile the West would have to take what action it could but without any great hope of success. The right time to take a first look at the structure of the market might come in the spring of next year.

Finance

The Chancellor of the Exchequer said that he and M. Monory had not had a bilateral talk the previous day since they had been in Brussels. He was far from underestimating the importance of the Community in the present troubled international economic situation. The British Government thought the EMS had an important role to play. They wanted it to prosper and would support it. However the British Government still had some hesitation

/about

Original on:- France : July 79

CONFIDENTIAL

Energy : Oil Policy

PM/Giscard Discussion at 1615 on 19 Nov 79 at No10

Energy

The Prime Minister said that the Community had for some time been seeking to develop a dialogue with the OPEC countries but seemed never to make any progress. President Giscard said that one reason for recent failures had been that the Arabs, and particularly Iraqis, tended to link the oil question with Arab/Israeli issues. The Community could not discuss both problems at once. Unless the Iraqis and others were prepared to break the link, dialogue was impossible.

The Prime Minister asked President Giscard about his Government's civil nuclear programme. President Giscard said that really significant results would begin to be achieved in 1982 and that by 1985 France's nuclear power programme would be saving the equivalent of 50 million tonnes of oil per year. The Prime Minister asked whether the problem about cracks in the nuclear reactors was a serious one. President Giscard said that it was soluble. The cracks had occurred because the third sheet in the lining of the pressure vessels was not adhering well to the second sheet.

The Foreign and Commonwealth Secretary said that he had often heard regret expressed at the absence of a Community energy policy. But he had never been altogether sure what a Community energy policy would involve. President Giscard said that he thought it would have two aspects:-

a) The sharing of members' energy resources i.e. an intention on the part of some to "grab a share" of North Sea oil; and

b)

b) The formulation of joint attitudes on basic energy choices e.g. the scale and direction of nuclear reactor development.

The Foreign and Commonwealth Secretary said that the Danish Foreign Minister seemed to think that Britain ought to be supplying oil to the Community at preferential prices. The difficulty was that the British Government was not in a position to police what the oil companies did. The fact was, in any case, that 30% of Denmark's oil imports already came from Britain. President Giscard said that there was a vague feeling in the Community that the market could be better organised. The spot market in Rotterdam was destroying the market mechanism as it had previously existed. The profits of the oil companies had trebled. But the problems of energy policy had become too big to be handled by the oil companies. It was no longer possible to live by simple market rules. The oil consuming countries should establish a cartel. They were, after all, dealing with a product which was going to be scarce for another twenty years and on which any price could be set by the producers. Unfortunately no-one seemed able at present to propose anything. Paradoxically the countries which would suffer most were the new industrialised countries like Greece and Brazil rather than the highly industrialised countries like France. An oil crisis would hurt France less now than it would have done three years ago. The Prime Minister and President Giscard agreed that the energy problem was the most urgent now facing the world.

Institutional Problems

President Giscard said that he hoped that the Prime Minister would be able soon to define her position on various organisational problems facing the Community. There were three problems which preoccupied him:-

/a)

Original on :- France : July 79 SECRET Energy: Oil Policy

PM/Giscard tete-a-tete at 1445 on Nov 19 1979 at No10

for the spiritual health of the nation, and France would retain it so long as the present military situation in Europe continued. French troops were now of good quality, and their officers were well-motivated.

Energy

The Prime Minister said that the oil situation continued to be very gloomy. Prices were rising, and more and more oil was being sold at spot market prices. The follow-up to Strasbourg and Tokyo had not got very far. There was still no dialogue between the EEC and OPEC. In the meantime, the United States dual price structure was causing difficulties. In particular it gave them an unfair advantage in the trade of any products with an oil base, e.g. synthetic textiles.

President Giscard said that he thought that the present oil situation was a complete failure for the West. Despite all his urgings in the past, the United States had never had the political will to act decisively. It would be interesting to see how they handled the Iranian situation. He was also obliged to say that the British approach to prices of North Sea oil was not well received by the other members of the Community. The United Kingdom were always amongst the first to join in any increase in price. France was getting oil from Saudi Arabia and Iraq at significantly lower prices than those they had to pay for North Sea oil. The Prime Minister said that we charged the right price for the grades of oil. We did not put our prices up ahead of Libya and Algeria but followed the world price. We were doing what we reasonably could to help our European partners. For example, we had agreed to produce 5 million tonnes a year more to help the Community over the Tokyo Agreement. We had no reason to feel guilty about our policy: on the contrary, we had been very reasonable. President Giscard added that he had only wanted to mention the matter. We should expect it to come up again at Dublin.

The Middle East

President Giscard said that he was generally pessimistic about the situation in the Middle East. He had always been surprised at the degree of support which the Labour Government had given Israel.

1. [illegible]
2. [illegible]
Original on France? Energy
Giscard visit - July 79

PRIME MINISTER

CIVIL NUCLEAR COLLABORATION

There have been indications that at the Summit on 19/20 November President Giscard d'Estaing and M. Giraud, the French Minister of Industry, will want to discuss co-operation in the nuclear field, particularly the fast reactor and the PWR.

I thought it might be helpful to summarise the present position as further background to the brief which will be coming forward.

FAST REACTOR

The UK Atomic Energy Authority (UKAEA) and the Nuclear Power Company (NPC) have made useful progress in their discussions with the French and Germans about fast reactor collaboration. They aim to put to us before Christmas their proposals for the future development of the fast reactor in the UK and these will cover collaboration. Discussions so far have been without prejudice to Government policy.

There is no doubt that collaboration on the fast reactor has considerable attractions as a way of limiting risks, co-ordinating research and development and designs, and giving access to the experience of others.

We shall, however, have to look carefully at what is put to us to ensure that it is the best deal we can obtain. I understand that the French have shown reluctance to give us a full role and status in the European partnership and that this has influenced their attitude on issues such as finance where they would prefer to regard us as applicants for a license for their technology rather than as equals. The Germans have been much more favourable to our interests.

There are other issues which will also need careful consideration such as the extent, if at all, to which the European partnership should be able to pass British technology to third parties without our agreement and the scope for arrangements on the fast reactor fuel cycle where the UKAEA believe we currently have a lead.

We shall also need to bear in mind the alternative of collaboration with the United States where political attitudes to the fast reactor are unclear but the UKAEA are nonetheless having interesting discussions. Following a brief discussion which I had with Secretary Duncan on this, he has encouraged US officials to explore possible collaboration with the UKAEA as a matter of urgency.

In the forthcoming Summit, therefore, I believe we should limit ourselves to expressing interest in European collaborative arrangements and to saying that we look forward to considering the UKAEA's proposals in a constructive spirit. To go further might prejudice our future ability to achieve better terms. But at the highest level I believe

President Giscard should be pressed hard on whether the French really want to have us with them in full collaboration or not. Perhaps our strongest card is that the French are committed and feel lonely in a world where anti-nuclear pressures have grown.

PRESSURISED WATER REACTOR

The French would prefer us to take a PWR license from them rather than Westinghouse and may link this with collaboration on the fast reactor.

See Pt 2.

We should resist this. As my paper to E Committee (E(79)54) made clear, the advice from industry strongly points to maintaining the NPC's existing relationship with Westinghouse. The French themselves are not yet free from their own license agreement with Westinghouse though they hope to be so soon. They are not going to build in France the same size of PWR as is being contemplated for the UK whereas Westinghouse have substantial operating experience which we could benefit from. The French have no experience of licensing PWR technology to third countries, and negotiating an agreement with them would take time and delay our programme. The NNC would also still have to pay royalties to Westinghouse under their existing agreement even if they took the technology from France.

None of this, however, rules out the possibility of joint arrangements between the UK and France for the procurement and perhaps manufacture of components for PWRs after we have activated our license agreement with Westinghouse. This is a matter for discussion between French and British industries but I think we should encourage them to explore it. The CEGB should also be able in due course to benefit from exchanges with their opposite numbers about operating experience on PWRs. The point at the end of para 9 applies here too.

CONCLUSION

To sum up, therefore, I believe collaboration within Europe in the nuclear field may turn out to be a valuable element in our nuclear power programme. But we must be prepared for businesslike negotiations if we are to achieve satisfactory arrangements and at this stage it would be wrong to do more than show a constructive interest in the possibilities and reserve our negotiating position. This suggests to me that, at the Summit, any discussion between you and President Giscard should be in general terms, but you might press hard the question whether they really want us with them fully in the broad political as well as the economic scheme rather than in a minor role to support French nuclear domination. (I will be able to explain our position more fully to M. Giraud).

I am copying this to other members of E Committee, Sir Robert Armstrong and Sir Kenneth Berrill.

JA

SECRETARY OF STATE FOR ENERGY
11 NOVEMBER 1979

Cabinet / Cabinet Committee Document

The following document, which was enclosed on this file, has 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.

Reference: CC(79) 20th Conclusions, Minute 8

Date: 8 November 1979

Signed A Wayland Date 23 February 2010

PREM Records Team

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Energy

Foreign and Commonwealth Office

London SW1A 2AH

5 November 1979

Dear Dennis,

North Sea Oil Pricing

Thank you for sending me a copy of your letter of 30 October to Michael Alexander.

Lord Carrington welcomes the steps which have been taken to persuade UK producers to delay any increase in North Sea oil prices. The issue is one of concern to our Community and IEA partners; and American and French criticism of BNOC's forward sales (which will involve an element of premium if the additional financing costs to the purchaser are not fully offset) reflect a continuing sensitivity to anything which can be represented as leading the market. There is thus an additional reason for a demonstration of restraint in the face of the recent Libyan and Algerian increases. Lord Carrington hopes therefore that your Department will continue to impress this point on BNOC, and that BNOC will not increase their prices at least until the Nigerians have done so.

I am sending copies of this letter to Michael Alexander (No 10), Tony Battishill (HM Treasury) and Martin Vile (Cabinet Office).

Yours ever

Paul

(P Lever)
Private Secretary

Dennis Walker Esq
Private Secretary to the
Secretary of State for Energy
Department of Energy
Thames House South
Millbank
LONDON
SW1

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PART 2 ends:-

Energy to MODBA 30 Oct

PART 3 begins:-

FCO to Energy 5 November