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3/10

Prime Minister

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An interesting note.

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Qa 04272

To: MR LANKESTER

From: SIR KENNETH BERRILL

Would you work
David Woynon to look
at it please?
R 29/9

Re-organisation of the Nuclear Industry

1. You will be aware that the CPRS has been thinking about the re-organisation of the United Kingdom nuclear industry on and off for the past five or six years. I attach a note which tries to set out (at some length I am afraid) the position as we currently see it.
2. I expect that the time will come when the CPRS would wish to put something like this to Ministers - probably when the Secretary of State for Energy puts his own paper to E Committee.
3. In the meantime it could form a piece of background briefing on the subject which you might find useful.
4. I am sending a copy of this to Sir John Hunt.

KB

26 September 1979

Att

Spoke to
C.O. : King
on considering.

← |

Time we must soon
set up a major workshop
on this. Public opinion
will have to be set in train
now.

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cc Mr Woffson.

27 SEP 1979



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RE-ORGANISATION OF THE NUCLEAR INDUSTRY

Note by the Central Policy Review Staff

Introduction

1. The Government will need soon to take policy decisions on the PWR and the Fast Reactor but, in addition, the nuclear industry and the Generating Boards are looking to the Government for early decisions on three issues:

- (i) a minimum ordering programme for nuclear power stations;
- (ii) the relative roles of the Generating Boards and the nuclear industry in carrying out that programme;
- (iii) the necessary re-organisation of the nuclear industry to enable it to carry out the role assigned to it.

2. Of these three issues the industry and the Boards at the moment seem to regard the first, a decision on the minimum ordering programme, as the most important. This is in fact the most tractable of the three issues, and the Secretary of State for Energy will soon bring forward proposals to his colleagues on this subject which, if accepted, are likely to satisfy both the Boards and the industry. However, unless the second and third issues can also be satisfactorily resolved the programme will face the likelihood of enormous cost over-runs and delays which have bedevilled United Kingdom power station construction for so many years. The purpose of this paper is to outline possible ways of resolving the second and third issues which are, of course, closely related.

Background

3. Any plan for re-organising the United Kingdom nuclear industry has to be seen against the background of the present imbalance between the customer and the contractor. The customer is the Generating Board (CEGB and the

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SSEB): the 'contractor' is a conglomerate of the National Nuclear Corporation (NNC), the boiler makers, the generator manufacturers, and the site construction companies.

4. The CEGB is the largest supplier of electricity in the western World; powerful, self-confident and 'efficient'. It is 'efficient' in the sense that the British generating system has a very high insurance against overload and breakdown. As a monopoly supplier of electricity it can pass on to its customers the costs of over-insurance, i.e., large 'plant margins'. Similarly, it can pass on increases in costs quite safely to its consumers (increases in coal costs, large over-runs in the cost of construction of new power stations). It is a monopoly both ways - in its power over electricity consumers and its power over the plant manufacturers. It can and does insist on its own standards irrespective of the requirements of the plant manufacturers' export markets. It can (through its huge, 2000 staff, power station construction and development establishment at Barnwood) interfere prodigiously and in daily detail with the work of the plant manufacturers. (In this its role is analogous to that of the Post Office with its suppliers - only more powerfully.)

5. In contrast the 'contractors' are divided and weak. The boiler makers, turbo generator manufacturers and site construction contractors have all experienced in recent years weak and contracting markets at home and abroad and frequent changes of Government policy on choice of reactor systems and scale of ordering. Partly, but only partly, due to this imbalance in the customer/contractor relationship, the United Kingdom record in power station construction has been lamentable. The time taken to plan and construct power stations, both nuclear and conventional, has been almost unbelievable and the cost, in terms of capital locked up in partly completed power stations, has constituted a heavy drain on electricity consumers - industrial and domestic.

6. This sad record and the ever-growing imbalance between the customer and contractor has meant a steady increase in the role of the customer. The

CEGB has increasingly become not only the supplier of electricity but the prime contractor first on non-nuclear power stations and more recently in the design and construction of nuclear power stations.

7. At the time of Magnox and the original four AGR stations in England, the CEGB played the role of the 'well-informed' buyer. The delays in the construction of these stations, notably Dungeness B, and the obvious weakness of the three nuclear consortia and their successor, National Nuclear Corporation/Nuclear Power Company (NPC), has led to the CEGB pressing for an increased role in the control of the construction of nuclear power stations. The result has been that for the new AGR station at Heysham NNC/NPC has recently agreed to the CEGB's proposal that the Board for the first time should play the lead role on site construction but sub-contract the nuclear island (45 per cent of the total cost) to NPC, although the CEGB (through Barnwood) exercises a continual critical oversight into the nuclear island area. (Barnwood is said to be sending some 70 letters a week to NPC on Heysham II alone.) The NNC/NPC consider this arrangement a one-off compromise, the CEGB probably consider it a suitable model for the future.

8. The crucial question on the organisation of power station construction in the United Kingdom is where we should try to move to in the future. The following paragraphs set out the pros and cons of three possible approaches, namely -

(i) Continue as at present, i. e. confirm the CEGB's prime role in the construction of nuclear power stations. This means giving an essentially secondary role to the NNC/NPC.

(ii) Try to move gradually towards a more equal customer/contractor balance, i. e. as in (i) but envisage the possibility of NNC/NPC gradually developing a manufacturing capability and/or gradually assuming CEGB's prime role.

(iii) Try to move decisively and immediately to a better balance, i. e. put a revitalised NNC/NPC under Sir Arnold Weinstock's leadership in charge of all future nuclear power station construction, thus reducing the CEGB to its earlier role of well-informed purchaser.

There are, of course, infinite variations on these three broad approaches.

9. Continue as at present, i. e. confirm CEGB's prime role in the construction of nuclear power stations giving an essentially secondary role to NNC/NPC. This would in effect confirm the ad hoc arrangements reached for Heysham II early this year for all future nuclear power stations.

In favour of this course -

- (a) it reflects the current strength of the customer and weakness of the contractor and, as the customer, the CEGB has a clear interest in ensuring power stations are constructed on time and within budget;
- (b) it ensures that the maximum use is made of the CEGB's 2000-strong development and construction division at Barnwood;
- (c) it is similar to the French set-up (though what works in a French context does not always work in this country).

But not if cost over-runs can be passed on!
R

Against such a course -

- (a) it would be wholly inconsistent with the Government's general approach to nationalised industries in general and the CEGB in particular;
- (b) the CEGB should concentrate on its prime task of generating electricity and not attempt to shoulder a second major task on a permanent basis, i. e. the construction of power stations;
- (c) the divided responsibility between NNC/NPC and CEGB will almost inevitably result in misunderstandings, delays and cost over-runs. There are already signs of this happening at Heysham II;

- (d) the CEGB do not have the right senior management to support the supervision of a nuclear construction programme (a point on which Sir Arnold Weinstock is emphatic). Nor are they likely to be able to recruit the necessary management. Their Barnwood establishment is first class at monitoring and questioning. It is not geared towards design, manufacture, production and construction on a commercial basis;
- (e) given its secondary role, the NNC/NPC will also be unable to recruit first class managers;
- (f) such an arrangement will reduce to zero our very limited chances of exporting nuclear power stations on a turnkey basis in the foreseeable future;
- (g) delays on fossil fired stations, where the CEGB has had the prime role, are as great or greater than on nuclear stations. This gives no confidence for believing that the CEGB will do better than NNC/NPC.

I assume that on political, economic and managerial grounds, the Government will not wish to adopt this solution.

10. Try to move gradually towards a more equal customer/contractor balance, i. e. confirm CEGB's prime role for the construction of nuclear power stations for the time being, but envisage that NNC/NPC might develop a manufacturing capability and/or slowly assume CEGB's prime role.

In favour of this course -

- (a) it is the approach favoured by the CEGB and most of the nuclear industry (apart from Sir Arnold Weinstock and the NNC/NPC itself who have not yet made their position clear);
- (b) it recognises the comparative strength of the CEGB and the current weakness of NNC/NPC, while permitting evolution as confidence in NNC/NPC grows;

- (c) it would avoid a confrontation with the CEGB and the danger that the CEGB would be unco-operative with any solution it did not like;
- (d) it would enable NNC/NPC to concentrate on the nuclear island.

Against this course -

- (a) once the CEGB's newly acquired prime role has been confirmed it would be very difficult in practice to take it away again - interim solutions have a habit of becoming permanent;
- (b) the industry needs certainty. This solution with its prospect of continuing change will maintain debilitating uncertainty;
- (c) until the NNC/NPC assumes the prime role, which is unlikely to be until the mid-1980s at the earliest, most of the other significant drawbacks of confirming CEGB's role sine die also apply to this solution, e. g. the ill effects of divided responsibility, lack of first class production and construction management, too great a burden on CEGB, etc.;
- (d) it would involve a reduction in the role played by GEC/Sir Arnold Weinstock.

Hitherto the Secretary of State for Energy has favoured this course largely because it has widespread support in industry and is overtly supported by the CEGB (who doubtless assume that such an interim regime is likely to last for a long time). NNC/NPC have not yet put forward a united view on this approach. Sir Arnold Weinstock appears only recently to have become aware of the full deleterious implications of this approach.

11. Try to move decisively and immediately to a better balance, i. e. give back to a revitalised NNC/NPC the prime role in the construction of nuclear power stations, while reducing CEGB to its earlier role of well-informed purchaser. This approach would involve the Prime Minister

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and the Secretary of State for Energy personally asking Sir Arnold Weinstock/GEC to resume leadership of the construction of nuclear power stations and making it clear to everybody that they were looking to the revitalised NNC/NPC to carry out the proposed nuclear programme on time and within budget. To emphasise its determination HMG would instruct the Atomic Energy Authority (AEA) to sell back to GEC the 20 per cent shareholding which AEA acquired from GEC in 1976. (Indeed, the whole AEA shareholding might be sold to private sector companies.) The Government would make the CEGB sub-contract most of its staff at Barnwood to NNC/NPC, thus reducing the Board's ability to interfere and ensuring that all our nuclear construction expertise was in one organisation working under a single leader to a common objective.

In favour of this course -

- (a) it, together with a minimum ordering programme, could provide a degree of commitment, certainty and leadership that has been lacking for years to the great detriment of civil nuclear power;
- (b) this solution gives a large but manageable role to a private sector NNC/NPC, which should raise its morale and enable it to recruit - under Sir Arnold Weinstock's leadership - top class management;
- (c) by reducing the role of CEGB to that of a well-informed purchaser, it will enable the Board to concentrate on its prime role of generating electricity;
- (d) it will avoid divided responsibilities on site with their inherent problems which arise under both the other approaches.

Against this course -

- (a) some will argue that this will place too great an immediate burden on NNC/NPC;

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(b) the CEGB and other parts of the nuclear industry will dislike the role assigned to Sir Arnold Weinstock/GEC. In particular, CEGB's staff at Barnwood might dislike having their service sub-contracted to NNC/NPC, even perhaps to the point of refusing to work for NNC/NPC;

(c) it will create a major upheaval in the industry. (N. B. As all or the great majority of power stations ordered in the 1980s will be nuclear, if such a solution were adopted it might be desirable to put the new company in charge of all power station construction.)

12. The CPRS favours a solution along these lines as providing the best chance of ensuring that a nuclear power station construction programme is carried out on time and within budget. There are, however, two pre-requisites of success. First, Sir Arnold Weinstock must be prepared to assume the role allotted to him. Despite his numerous frustrations in this field in recent years, he would be likely to respond to the challenge positively if approached by the Prime Minister and Mr Howell. Secondly, the Government must be prepared for a tough fight with the CEGB. Although the CEGB is used to getting its own way the last time a Conservative Government stood up to the Board over Littlebrook D in 1973/74, it won. But unless it is so determined HMG would be wiser not to adopt this option.

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