

CONFIDENTIAL



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

Prime Minister

Questions tomorrow?

MCS 14/7

Michael Scholar Esq
10 Downing St
London SW1

14 July 1982

Dear Michael,

SIZEWELL PWR INQUIRY

July I wrote to you on 1 July explaining that the Nuclear Installations Inspectorate safety review for the Sizewell PWR would be published on 15 January. I also gave the impression about the content of the review which we had obtained from early drafts.

I am now enclosing a copy of the report itself (which is embargoed until 11.00 am on 15 July) and a copy of the NII's press notice which will accompany it.

You may like to have our more considered impression of the review. There are five major points of NII concern which are highlighted in paragraph 19.5. It is helpful that on two particularly important issues (the pressure vessel and the protection system) the NII say they are satisfied in principle that the case can be made although more work needs to be done to demonstrate an acceptable case.

However there are numerous relatively minor issues on which the review expresses reservations, which arise more due to the early stage of the NII's consideration of the safety case, than due to any doubts that they will be resolved with time. These reservations may attract attention out of proportion to their importance. We can therefore expect to see some alarmist comments on the review.

To meet such comment we will be concentrating attention on the broadly helpful remarks in paragraph 1.7 ie that it is clear that there is no fundamental reason for regarding safety as an obstacle to the use of a PWR for a commercial power station. We shall also underline the fact that the NII's assessment is a continuous



DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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4 JUL 1982



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process right through to the operation of the plant. Paragraphs 2.18 and 19.1 of the review indicate that, given the comparatively early stage in the licensing process at which the review has been written, it is to be expected that there would still be many reservations and concerns.

You may also like to know that Sir Walter Marshall has told the Dept that in his opinion the review was an acceptable basis for proceeding with the Inquiry, that the criticisms in it could be turned to advantage by demonstrating the NII's independence, and that he is confident the CEGB can show, between now and the start of the Inquiry, that all the significant criticisms can be met.

Yours ever,

JULIAN WEST
Private Secretary

CONQUEROR



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**Health &
Safety
Executive**

25 Chapel Street
London NW1 4DT
Telephone 01-262 3277
ext 237

Mr Henderson

cc Mr. Pash

75/545

75/7455 (Mr. Howe)

75/7455 (Mr. Mellow)

Energy
**News
Release**

15 July 1982

EMBARGO:

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BEFORE 11.00 HOURS THURSDAY, 15 JULY 1982. THIS

DOCUMENT IS ISSUED IN ADVANCE ON THE STRICT UNDER-

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OR PERSON ABOUT ITS CONTENTS BEFORE THE TIME OF

PUBLICATION

SIZEWELL PWR: NUMBER OF SAFETY ISSUES STILL TO BE RESOLVED,
SAYS NUCLEAR INSTALLATIONS INSPECTORATE

Assessment work on the 'safety case' is at an early stage and a number of safety issues still remain to be resolved before the specific design for a nuclear power station of the pressurised water reactor (PWR) type at Sizewell 'B', Suffolk can be accepted, says a report* published by the Health and Safety Executive today.

But the information so far available to the Executive's Nuclear Installations Inspectorate (NII) suggests that sufficient safeguards could be incorporated into the design to satisfy the NII that a nuclear site licence can be granted. This is in line with the Inspectorate's earlier view published in its generic review** in 1977.

The report, intended primarily to assist the Sizewell 'B' public inquiry†, summarises the position reached by 1 April 1982 in the Inspectorate's assessment of the Central Electricity Generating Board's (CEGB) Pre-Construction Safety Report (PCSR) for a PWR based on the Westinghouse SNUPPS design.

Particular emphasis in the report is placed on those matters of safety principle or of design intent, likely to have significant effect on the main features of plant provision or layout, which need to be settled before the Board's existing licence for Sizewell can be varied to include a new station and consent given to start construction.

* Sizewell B: A review by HM Nuclear Installations Inspectorate of the Pre-Construction Safety Report, HM Stationery Office or booksellers, price £5.50 plus postage. ISBN 0 11 883652 8.

** PWR: A report by the Health and Safety Executive to the Secretary of State for Energy on a review of the generic safety issues of pressurised water reactors, HM Stationery Office or booksellers, price £4.50p plus postage. ISBN 0 11 883653 6.

+ The main hearing begins 11 January 1983.

The assessment is part of a continuing process which included the generic review and which, if approval is eventually given, will continue through design, construction, commissioning, operation and decommissioning of the station.

Stringent Standards

In a foreword to the report, Mr Ron Anthony, the Chief Inspector of Nuclear Installations says: "In deciding whether to recommend the issue of a licence for a nuclear installation our aim is to be satisfied that the installation's siting, design, construction and operation will meet the health and safety standards which we have set. These standards are stringent both for the protection of persons on the plant and for those outside who may be affected by an incident on the site".

The report says it is not a general review of the safety of the proposed PWR but aims rather to discuss any shortcomings of the safety case presented in the PCSR and to present the NII's views on the position with regard to the safety issues and the progress being made in dealing with them at this stage in the licensing process. It also describes briefly the history of the project and the NII's safety assessment principles* and criteria which provide a framework and guidance against which judgements on acceptability are made.

"In the review we have been concerned strictly with safety matters and not with the need for additional electricity generating capacity or how this is to be provided", says Mr Anthony.

Safety Need Be No Obstacle

"From the conclusions of the report it is clear that there is no reason to change our view, following the generic review, that there is no fundamental reason for regarding safety as an obstacle to the use of a PWR for a commercial power station. However, before the specific design of Sizewell 'B' can be accepted for licensing there are a number of safety issues still to be resolved". These are discussed in the various chapters (which follow closely the layout of the PCSR) and summarised in section 19. An indication of the further work that will be necessary and the further information to be provided before the NII can be satisfied, is also given.

* Nuclear Safety: HM Nuclear Installations Inspectorate - Safety Assessment Principles for Nuclear Power Reactors, HM Stationery Office or booksellers, price £3.00 plus postage. ISBN 0 11 8836420.

The outstanding issues, summarised in more than 25 main conclusions at the end of the report, consist mainly of a number of matters on which further information and analysis is required, but where the NII believes this will show that the necessary standards can be achieved. There are also matters, says Mr Anthony, for which the NII believes some modification to the original proposed design intent may be needed before it can be satisfied and, finally, a few issues where the most appropriate solutions have yet to be determined.

Among the key areas of concern to the NII, says the report, are the adequacy of the case made against hazards such as fire, aircraft crash or earthquakes; the behaviour of the fuel cladding in certain fault conditions; the case made for dealing with the problems of the steam generator tubes; and the behaviour of the plant following possible failure of the shut-down control rods. In a number of other important areas, such as the integrity of the pressure vessel and the use of microprocessor technology for reactor protection, the Inspectorate is now satisfied in principle that a case can be made, though more work needs to be done to demonstrate an acceptable case.

Licensing: A Continuous Process

In considering the NII's views and conclusions reached, says the report, it should be borne in mind that the pre-licensing process involves a dialogue between the licence applicant and the Inspectorate which, in the normal course of events would extend over some two or more years. This process has been temporarily suspended at an early stage in the Inspectorate's assessment work so as to provide a review of the position for the public inquiry.

Both during and since preparation of the report the process has taken place and will continue with further development and improvements of the design and the safety case as a result of both internal appraisal and re-appraisal by the industry and CEGB, and also discussion with the Inspectorate of the case presented and the safety issues.

Only if the NII is sufficiently satisfied with the case will the Health and Safety Executive be advised that the Sizewell 'B' station can be licensed, the report adds.

NOTE TO EDITORS:

General background information on the role of the Nuclear Installations Inspectorate in relation to the licensing of nuclear power stations and the responsibilities of licensees are given in an appendix to this press release.

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BACKGROUND INFORMATION

Role of the Nuclear Installations Inspectorate

In the United Kingdom, if a generating board wishes to install and operate a power station it must first obtain planning consent from the appropriate Minister under the Electric Lighting Act of 1909. If the proposed station is to be a nuclear power station the board must also obtain a licence from the Health and Safety Executive under the Health and Safety at Work Act 1974 and the associated relevant statutory provisions of the Nuclear Installations Act 1965. The Nuclear Installations Inspectorate (NII) is that part of the Executive which carries out its nuclear site licensing and regulatory function under the relevant Acts.

Assessment of the safety of a proposed reactor or other nuclear installation is a continuous process from design inception, through detailed design, construction, commissioning, operation and ultimately decommissioning. The process starts with an appraisal by the NII of preliminary information about the likely design of the plant and of generic information about similar plants. There follows a more formal stage which involves examination by the Inspectorate of safety reports and supporting documents presented by the prospective licensee. This examination continues throughout the period of design to the issue of a nuclear site licence, followed by a Consent, required under the conditions attached to the licence, to start construction. This Consent is not given unless the Inspectorate is satisfied with the licensee's safety case on the main features of the plant and its layout. Detailed design work on these main features and the remainder of the plant will still be in hand and the Inspectorate will need to be satisfied at each stage before Consents to proceed are given, including Consent to load fuel into the reactor and to the various stages of commissioning. Details of operational and maintenance procedures are also examined during this period, leading in due course to Consent being given to full commercial operation of the plant. Finally there is review throughout the life of the plant of operational procedures and of any plant modifications. The licensing process also permits the attachment of new licence conditions providing for additional controls at any stage and, in the ultimate, withdrawal of the licence itself.

Responsibilities of the Licensee

Under the relevant legislation it is the licensee's responsibility to achieve and demonstrate an adequate standard of safety for his plant. There is also a duty on the licensee to reduce hazards to plant staff and other persons (including the public) so far as reasonably practicable, that is, not merely to meet standards or criteria but to do better if he reasonably can. In addition, the licensee must use the best practicable means against the release of noxious substances.

It is the Inspectorate's responsibility to assure itself and so the Health and Safety Executive on the soundness of the licensee's safety case and the suitability of his proposed installation for licensing and eventual operation. The Inspectorate obtains its assurance by monitoring the licensee's design procedures and the construction of the plant, by checks on the licensee's safety case against established safety criteria and standards which are themselves continuously developing, and by checks to ensure that the licensee is doing all that is reasonably practicable to minimise the hazards. The Inspectorate's safety assessment is, therefore, a continuous process involving discussions with the licensee over a long period supported by inspection and audit of the licensee's activities from design through to eventual decommissioning.



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

01 211 6402

Energy
Prime Minister (2)

A fortnight late.

MS 1/7

Michael Scholar Esq
Private Secretary to the
Prime Minister
10 Downing Street
London
SW1

1 July 1982

Dear Michael,

SIZEWELL PWR INQUIRY

We spoke earlier this week about the review of safety issues which the Nuclear Installations Inspectorate are planning to publish for the Sizewell Inquiry.

As I explained, the NII's original plan was to publish their review at the end of June. However some slippage occurred earlier in the year in the finalisation of CEGB's safety case for the Inquiry. As a result the NII's work was also affected. However their Chief Inspector has now confirmed to officials here that (provided that problems on the railways do not delay printing and proof-reading) the review should be published on 15 July.

My Secretary of State is concerned about this slippage. However, with the main inquiry hearing due to start on 11 January 1983, the time available for public scrutiny of the NII review will be only four days short of the six months he had originally envisaged. On this basis there seems no case for seeking to delay the main hearing.

I understand that the review will show a better position in regard to the major safety issues than was forecast by the PWR Task Force last autumn, and will confirm that there is no fundamental reason why a PWR should not be licensed for commercial electricity generation at Sizewell. However, it will identify the need for some further information and indicate that the NII are not yet convinced of the safety case to the point where the licence could be issued. Given the continuous nature of the licensing process the NII could not be expected to do more at this stage and it will be important to ensure that objectors understand this. The CEGB will make a major effort to ensure that as many as possible of the NII's remaining reservations are resolved before the inquiry begins.

Yours ever,

JULIAN WEST
Private Secretary

CF
Do you want to
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Energy

12 May 1982

PROPOSED SIZEWELL B
NUCLEAR POWER STATION

I am writing on behalf of the Prime Minister to thank you for your letter of 12 May, with which you enclosed a leaflet outlining the CEGB's case for Sizewell B.

I know that the Prime Minister will be very interested to see this, and grateful to you for sending it.

MICHAEL SCHOLAR

John Baker, Esq.

HL

CENTRAL ELECTRICITY GENERATING BOARD

Sudbury House, 15 Newgate Street, London EC1A 7AU Telephone 01-248 1202 Ext 2838

From: John Baker
Board Member

12 May 1982

Rt Hon Margaret Thatcher, MP
House of Commons
London
SW1A 0AA

R12

Dear Prime Minister

PROPOSED SIZEWELL B NUCLEAR POWER STATION

You will know generally about my Board's proposal to build the first British PWR nuclear power station at Sizewell in Suffolk alongside the existing power station. We published today the main documentation in support of our application to the Secretary of State for Energy for consent to build the station, to be known as Sizewell B. The public inquiry into the proposal opens in January 1983 at Aldeburgh.

The documentation is substantial - it weighs about two and a half hundredweight - and will be available for public inspection at a number of locations. A copy of one of the principal documents, the Board's Statement of Case, is being lodged in the House of Commons Library.

I thought you might like to have the attached leaflet outlining our case for Sizewell B. We have also prepared a somewhat longer summary of the case, and if you would like a copy perhaps you would let me know. And if there is any further briefing you would like on the Board's business, do please get in touch.

Yours sincerely
John Baker

Since this is an important plank of Government energy policy, this letter has gone widely to MPs - I felt you might like to be aware of what we have said. Best wishes in these difficult times.

These documents will consist of the following:

- (a) the Board's statement of submissions (Statement of Case) which it proposes to put forward at the Inquiry
- (b) the Reference Design
- (c) the Pre-Construction Safety Report (PCSR)
- (d) some 300 documents in support of the PCSR

The five locations mentioned above are in compliance with the 1981 Rules and are the formal locations where the public may go and inspect the documents. In addition, the Statement of Case, the PCSR and the Reference Design can be seen by the public at:

CEGB—South Eastern Region Bankside House Sumner Street London SE1 9JU	CEGB—South Western Region Bedminster Down Bridgwater Road Bristol BS13 8AN
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CEGB—Midlands Region Haslucks Green Road Shirley Solihull West Midlands B90 4PD	CEGB—North Eastern Region Beckwith Knowle Otley Road Harrogate HG3 1PS
--	--

CEGB—North Western Region Europa House Bird Hall Lane Cheadle Heath Stockport SK3 0XA	Cornwall County Council County Hall Truro TR1 3AY
--	--

Dorset County Council County Hall Dorchester Dorset DT1 1XJ	Gwent County Council County Hall Cwmbran NP4 2XH
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Northumberland County Council County Hall Morpeth Northumberland NE61 2EF	South of Scotland Electricity Board Cathcart House Spean Street Glasgow G44 4BE
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Northumberland, Dorset, Cornwall and Gwent County Councils have been chosen because there is special interest relating to the development of nuclear power in these areas.

In accordance with the 1981 Rules, every person who is registered as an objector to the Sizewell B proposal with the Department of Energy will receive a letter advising them of where the documentation can be seen.

The PCSR and Reference Design will be issued on a limited basis to those groups who wish to address safety issues at the Public Inquiry.

A charge will normally be made if more than one copy is requested. A charge will also be made to individuals, institutions or other organisations who merely wish to have a set for interest rather than for use at the Public Inquiry. Requests for copies of the documentation should be addressed in writing to:

Mr. R. S. Lyman
Senior Assistant Consents Officer
Central Electricity Generating Board
Sudbury House – Room 586
15 Newgate Street
London
EC1A 7AU

Published by:

Central Electricity Generating Board
Press and Publicity Office
Sudbury House
15 Newgate Street
London EC1A 7AU

G1046 May 1982

A Guide to.....

The Case For

SIZEWELL B

Nuclear Power Station



Central Electricity Generating Board
May 1982

In one of the biggest public information exercises of its kind, the Central Electricity Generating Board has published its case for building a British Pressurised Water Reactor (PWR) nuclear power station at Sizewell in Suffolk – Sizewell B.

Documents weighing about two and a half hundredweight support the Board's case that the British PWR would be a safe and sound investment, and meet a real need.

The Board also recognises, however, the crucial importance of public acceptability for the project, and that this must be won in full and open debate.

This leaflet explains why the Board wants to build Sizewell B. It outlines the key arguments that will be put forward at next year's Public Inquiry to demonstrate the validity of building a PWR at Sizewell. The station would have an output capability of some 1,100 megawatts of electricity – enough to meet the needs of most of the population of East Anglia – and be sited next to the existing Sizewell A Magnox nuclear power station.

The case for Sizewell B rests on the conviction that:

- The Board has a good, safe and economic design for the PWR
- The PWR would help keep the cost of electricity as low as possible. It would have lower total costs than a new coal, oil or Advanced Gas Cooled Reactor (AGR) nuclear station, and would more than pay for itself over its lifetime from fuel saving alone
- The PWR would help improve the security of fuel supplies by further diversifying the types and sources of fuel used for electricity generation at a time when the price of oil requires its minimum use and the Board is over-reliant on coal
- It makes good sense to build the PWR now to reap the earliest benefit from displacing older, less economic plant
- Since the CEB's step-by-step approach to future development seems likely eventually to lead to the ordering of further nuclear capacity, the Board must ensure that it has available the best technology, and it is therefore necessary to establish the PWR as an alternative in the UK to the AGR.

The questions the Board has to answer. . .

In proposing to build Sizewell B, the Board has to answer a sequence of fundamental questions – questions that have to be considered against the background of the 50-year time span of the construction and operational life

of the station. The answers are provided in the volumes of documentation that will be presented to the Public Inquiry.

The following is a thumb-nail sketch of those answers.

How do you justify building a new power station now?

A new station can be justified if it reduces total costs. That is what Sizewell B is planned to do. Even though there is no immediate need for a new station – unless there is an upsurge in electricity demand – new stations are likely to be ordered for capacity purposes later in the 80s. Not only would they be needed to provide for any possible increase in electricity demand but also, in particular, to replace existing power stations as they become obsolete and uneconomic. Some 3,400 megawatts of existing nuclear capacity – the Magnox stations – are likely to be retired in the 90s just when Sizewell B would come into operation.

With more than 80 per cent of electricity currently being produced by coal-fired stations, electricity consumers are highly dependent on the price and availability of this one fuel. There is a need for a better balance in generating capacity to insure against any excessive increase in the costs of coal or longer term shortage.

Will nuclear power reduce costs?

On present experience, in America, in Europe and in many other countries besides the UK, nuclear power produces low cost electricity; and in almost every likely circumstance, the Board can show that the total costs of nuclear power will continue to be less than those of new coal-fired stations, and also less than the fuel costs alone of oil and old coal stations.

This is because there is every indication that coal and oil prices – by far the biggest factor in electricity price increases – will continue to rise. The gap in running costs between coal and nuclear stations is more than enough to cover the capital costs of a new nuclear station.

Will the PWR be the most economic nuclear station?

After a thorough examination of the cost of all types of advanced nuclear stations currently operating, the Board believes the PWR would prove to be the most economic to build. In doing so, the Board would take advantage of world experience of PWR operation. It is estimated that Sizewell B would cost £1,147 million, compared with £1,590 million for another AGR station. This is equivalent to £1,033 per kilowatt of capacity, compared with £1,293 per kilowatt for the cost of a new AGR station. Some 90 per cent of the cost of the PWR would be spent in Britain.

In forecasting costs over the lifetime of a station that is not likely to cease generation much before the year 2000, many changing factors have to be considered. Among the most significant of these are changes in fossil and nuclear fuel prices and the likely demand for electricity.

For these reasons the Board has examined a variety of assumptions, ranging from a combination of unfavourable ones to those which are favourable in all aspects, with central assumptions carefully chosen to be neither unduly pessimistic nor over optimistic.

Even on the assumption of low economic growth, a PWR would help to hold down the cost of generating electricity. By not building it, the chance for electricity consumers to save between £500-£1,000 million over the station's lifetime would be lost. To build an alternative new coal-fired station of similar capacity would cost consumers between £100-£200 million extra.

Will the PWR be safe?

The Board is confident that the British PWR will fully satisfy the rigorous UK nuclear safety requirements because:

The Sizewell PWR would be designed to the Board's own high safety standards – the same degree of nuclear safety would be imposed that has given the UK the benefit of 260 reactor years of nuclear power station operation without evidence of harm to anyone from radiation.

Additional safety-related systems would be added to those already contained in the standardised design developed by leading American firms, Westinghouse and Bechtel, to meet UK requirements. These include provision of a larger containment building, and secondary containment, improved radiation shielding for station staff and an improved emergency core cooling system.

On safety issues, the CEB has to satisfy the independent Nuclear Installations Inspectorate – without whose permission the Board would not be allowed to build or operate the PWR.

Why build the PWR at Sizewell?

There are three main reasons why Sizewell on the Suffolk coast was selected for the PWR: it is in the right place for helping to balance electricity supply and demand in the south east, no new transmission lines would be needed, and the Board owns the site. In addition, the use of seawater for cooling purposes means that no cooling towers would be required.

Conclusions

The proposal to build Sizewell B is the culmination of: **In-depth studies** into the relative economic costs of a PWR compared with other generating plant

Extensive research into a wide range of possible trends in future national economic growth and the effects each would have on electricity demand and future energy prices

Detailed work to ensure that the British PWR design would meet safety standards in this country.

The conclusions reached from these studies demonstrate convincingly that the PWR system would meet a very real need, and that the Board can approach the forthcoming Public Inquiry in the confidence that:

- it has a design, adapted to meet British conditions, which would be both economic and suitable for subsequent replication
- the design is capable of meeting stringent nuclear safety requirements
- the construction of Sizewell B nuclear power station would be a sound investment for electricity consumers, and would be to the economic advantage of this country.

Documentation

A set of documentation for the PWR Public Inquiry is available for public inspection in accordance with Rule 5(2) of the Electricity Generating Stations and Overhead Lines (Inquiries Procedure) Rules 1981 at the following locations:

CEGB Headquarters
15 Newgate Street
London
EC1A 7AU
(Sizewell B Information Centre,
Paternoster Square)

Nuclear Information Centre
Sizewell B Site
Near Leiston
Suffolk
IP16 4UE

Suffolk Coastal District
Council
Council Offices
Melton Hill
Woodbridge
Suffolk

Suffolk County Council
St. Edmund House
Rope Walk
Ipswich
IP4 1L2

Sizewell B Information Office
47 High Street
Leiston
Suffolk