

UNITED STATES  
ATOMIC ENERGY COMMISSION

(forward)  
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In the Matter of the Application of:

11-22-65 (P.)

COMMONWEALTH EDISON COMPANY

Docket No. 50-237

APPLICANT'S RESPONSE TO SUGGESTIONS  
MADE AT THE PRE-HEARING CONFERENCE

During the course of the pre-hearing conference convened herein on November 9, 1965, the nature and scope of the evidence which would be presented by the Applicant Commonwealth Edison Company ("Commonwealth") and the AEC regulatory staff ("Staff") at the hearing scheduled for December 7, 1965, was the subject of extended discussion. The Atomic Safety and Licensing Board ("Board") suggested during such discussion that it would be in the interest of the parties, the Board and the public if there were submitted:

(a) A comparison of Dresden Units 1 and 2, including an analysis of any problems encountered in the operation of Dresden Unit 1 which affected the design of Unit 2. [Tr. 65-66]

(b) A simple, concise statement identifying such portions of the evidence as may be responsive to each of the issues set forth in the Notice of Hearing

dated October 25, 1965 ("Notice"). [Tr. 26 & 112]

(c) A brief statement of those provisions in the design of Unit 2 which the Applicant considers most important for public protection. [Tr. 35-39, 67-70]

In accordance with the foregoing suggestions Commonwealth represents as follows:

1. Comparison of Dresden Units 1 and 2.

In response to the first suggestion a document entitled "Analysis of Dresden Unit 1 Performance and Comparison with Unit 2" has been prepared under the direction and supervision of Mr. Murray Joslin, Vice President of Commonwealth. This document will be identified by Mr. Joslin and offered in evidence as Applicant's Exhibit No. 1 at the December 7 hearing.

In addition, attention is invited to repeated references in Applicant's Exhibit No. 2 to design concepts which have been incorporated in Unit 2 because of the successful demonstration of such concepts by the operation of Unit 1. [See Appl't. Ex. No. 2, pp. 10, 17, 44, 49-50, 54, 55] Mr. Joslin and other Commonwealth witnesses who are experienced in Unit 1 operation will be available for cross-examination in the event further inquiry into the

subject matter is desired.

2. Identification of Evidence with Specified Issues.

In keeping with the burden imposed upon any applicant to support its application, Commonwealth has prepared its testimony and exhibits with the intent that such evidence shall be sufficient, without reference to any document previously filed in this proceeding, to support every finding required to justify the issuance of a construction permit for Unit 2. While cross-examination of Commonwealth witnesses and the introduction of previously filed documents may permit further exploration of any aspect of the Dresden Unit 2 application, nonetheless, the evidence to be presented by Commonwealth will be responsive to every issue specified for consideration in the Notice.

The first issue stated in the Notice raises a series of questions to be answered at the hearing. The first of these is whether Commonwealth "has described the proposed design of the facility". It is submitted that Section 2.0 - Summary Description of the Facility of Applicant's Exhibit No. 2 is adequately responsive to this inquiry. This evidence also appears to be responsive to the AEC's instruction set forth in its statement published in

27 Federal Register 12-184 that the Applicant shall furnish at the public hearing in an uncontested case "a technical statement containing a summary description of the reactor \* \* \*."

The first issue also questions whether the Applicant has set forth the "principal architectural and engineering criteria for the design". The evidence respecting this inquiry is found in Section 3.0 of Applicant's Exhibit No. 2

The first issue next poses several inquiries for consideration which do not appear to be appropriate to the application for a construction permit for Unit 2. First, it is asked whether the Applicant "has identified the major features or components on which further technical information is required" and will supply such information. Then, the question is raised whether the Applicant will conduct "a research and development program to resolve the safety questions if any" and if "there is reasonable assurance that such safety questions will be satisfactorily resolved" before completion of construction.

To the extent either of these inquiries is applicable to Unit 2, the evidence responsive to them is found in Section 5.0 of Applicant's Exhibit No. 2. However, in the opinion of Commonwealth the Board would be fully justified in this proceeding in finding, for the reasons hereinafter stated, that no further technical information and no research and development program is required to resolve any safety questions appropriate for consideration at the construction permit stage. This does not mean that planned programs for further development and optimization of jet pumps will not be continued nor that pre-operational and start-up tests will not be conducted to confirm the analyses on which the design is based.

Almost all of the major features and components of Unit 2, i.e. fuel, control rods and drives, operating parameters, pressure suppression containment, isolation condenser, standby liquid control system, radioactive waste control, etc., have been demonstrated by actual operation of one or more full-scale reactor power plants. There are, however, a few new features, identified in Section 5.0 of Applicant's Exhibit No. 2, which have been incorporated in the Unit 2 design. Most of the new features (excluding only the size of Unit 2 and the use of jet pumps) are also included in the design of the Oyster Creek and Nine Mile Point reactor plants now under construction. All of the new features have been subject to extensive testing programs and have been thoroughly analyzed and evaluated by

General Electric. The technical information respecting each of these new features has been carefully documented and reviewed by the Staff and ACRS. For all practical purposes the only questions respecting these features which remain outstanding are those which are appropriate only at the operating license stage, i.e. have the various components of the plant been constructed and will they function in accordance with the design intent.

The last question in the first issue requires a determination that there is reasonable assurance that "taking into consideration the site criteria contained in part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public". In the opinion of the Applicant Section 1.0 - Site and Environs and Section 7.0 - Evaluation of Plant Safety of Applicant's Exhibit No. 2 are relevant to this question and such evidence, together with the safety evaluation by the Staff and review by ACRS, requires an affirmative finding on this issue.

The following analysis of off-site effects from both normal operation and postulated abnormal conditions is presented in response to the specific request made at pages 26 and 27 of the pre-hearing conference transcript.

During normal full power operation of the plant it is anticipated that the maximum average annual exposure to persons off-site will not exceed approximately 5 mrems. This may be compared with the limitations in 10 CFR 20 of 500 mrems per year.

For the postulated accident involving a loss of coolant at maximum rates and a full core melt, the following table compares the maximum calculated personnel doses at the site boundary with the reference doses of 10 CFR 100:

|            | <u>Dose - Rad.</u>                      |                   |  |                   |
|------------|---|-------------------|--|-------------------|
|            | <u>First 2 Hr.</u><br><u>Calculated</u> | <u>10 CFR 100</u> | <u>Total Accident</u><br><u>Calculated</u> | <u>10 CFR 100</u> |
| Thyroid    | $2.5 \times 10^{-2}$                    | 300               | $3.8 \times 10^{-1}$                       | 300               |
| Whole Body | $3.4 \times 10^{-3}$                    | 25                | $1.2 \times 10^{-1}$                       | 25                |

The doses to persons in the low population zone are less than the above. Thus, in the opinion of the Applicant, construction and operation of the plant results in no undue risk to the health and safety of the public.

The testimony of Messrs. Murray Joslin and Harlan K. Hoyt, Superintendent of Dresden Station, has been prepared as a complete response to the second issue specified

in the Notice. In the opinion of Commonwealth such evidence establishes that it is technically qualified to design and construct Unit 2.

Similarly, the question of Commonwealth's financial qualification raised by the third issue specified in the Notice is answered completely by the testimony of Mr. D. R. Bower, Treasurer of Commonwealth.

The last issue in the Notice appears to be of a conclusionary nature encompassing all of the foregoing issues and evidence relating thereto.

3. Statement of Provisions in Design of Unit 2  
Important for Public Protection

In response to the request that Commonwealth furnish a concise statement of those design provisions of Unit 2 which are important for the protection of the public, Commonwealth submits that the initial part of Section 7.0 - Evaluation of Plant Safety at pages 51-60 of Applicant's Exhibit No. 2 succinctly sets forth the desired information.

Respectfully submitted,  
ISHAM, LINCOLN & BEALE

By \_\_\_\_\_  
Attorneys for Applicant  
Commonwealth Edison Company



UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the matter of

Commonwealth Edison Company

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CERTIFICATE OF SERVICE

I hereby certify that copies of the Applicant's Response to Suggestions Made at the Pre-Hearing Conference, dated November 19, 1965, have been served on the following by deposit in the United States Mail, first class or air mail, this twenty-second day of November, 1965:

Dr. Eugene Greuling  
Duke University  
Durham, North Carolina

Mr. C. W. Klassen  
Chief Sanitary Engineer  
Division of Sanitary Engineering  
Illinois Department of Health  
Springfield, Illinois

Sheriff John E. G. Olsen  
Grundy County Circuit Courthouse  
West Washington & Liberty Streets  
Morris, Illinois

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*C. L. Stephens*  
Office of the Secretary

cc: J.D. Bond, Chmn, AS&L Bd.  
T.B. Conner  
R. Diggs