

UNITED STATES OF AMERICA
ATOMIC ENERGY COMMISSION

IN THE MATTER OF
COMMONWEALTH EDISON COMPANY

)
) DOCKET NO. 50-10
)

INTERMEDIATE DECISION AND
ORDER FOR LIMITED POWER OPERATIONS

Commonwealth Edison Company, Chicago, Illinois (Commonwealth) by a document dated March 31, 1955 made application to the Atomic Energy Commission for a Section 104b license under the Atomic Energy Act. The application was filed under the provisions of Sections 104b and 185 of the Atomic Energy Act of 1954, as amended. Amendments to the application attested June 24, 1955, February 1, 1956, March 9, 1956, March 15, 1956, June 6, 1957, June 12, 1957, July 26, 1957, September 3, 1957, November 5, 1957, December 17, 1957, May 26, 1958, June 5, 1958, August 25, 1958, December 26, 1958, December 30, 1958, January 6, 1959, February 6, 1959, April 3, 1959, May 15, 1959, and June 17, 1959, were subsequently filed. The initial application and the twenty amendments collectively constitute the application for license. On May 4, 1956, a construction permit No. ^PCPR-2 was issued by the Commission upon the basis of its finding that there was reasonable assurance that the proposed reactor could be constructed and operated at the proposed location without undue risk to the health and safety of the public.

During the progress of the construction, hearings were held on July 18, 1959 upon the request of Commonwealth for the immediate issuance of an operating license which would authorize full power operations to the designed capacity of 630 megawatts, after the completion of tests

8010170 750

P G

necessary for the purposes of safety, at certain designated gradations of power, which tests were proposed to be undertaken after the issuance of the requested license.

Appearances at this hearing were made by Commonwealth and the Staff of the Commission. In addition, Illinois Commerce Commission and the Special Attorney General of Illinois entered appearances in support of the application. No other persons appeared and no objections to the issuance of the license were entered.

On August 17, 1959, a Notice of Further Hearing was issued to provide for the presentation of additional evidence on September 2, 1959 which would reflect completed construction of the facility as defined in the construction permit, which is when the reactor is ready for initial loading of nuclear fuel elements. By stipulation between Commonwealth and the Staff of the Commission filed on September 2, 1959, the hearings were postponed until September 23, 1959 when testimony was presented to prove the completed construction. The facility is located at Grundy County, Illinois, approximately 47 miles southwest of the downtown area of Chicago. The site of the facility consists of about 940 acres lying just west of the confluence of the Des Plaines and Kankakee Rivers and south of and adjacent to the Dresden Dam and Lock on the Illinois River. The facility is located on the site at a minimum of 1/2 mile from Skinner Island in the Kankakee to the east, from the navigation channel to the Illinois River to the north, and from the south and west land boundaries of the site. These boundaries constitute the boundaries of the exclusion area surrounding the facility. The population within a 5-mile radius of the reactor is approximately 2,600. The most populated areas for 25 miles

are the cities of Joliet (14 miles to the northeast) and Aurora (25 miles to the north), each of which has a population of about 50,000. The site has no past history of destructive earthquakes. The prevailing wind direction at the site is from the south to west quadrant approximately 40 per cent of the time within a mean speed of about 10 miles per hour. The facility is generally known as the Dresden reactor and it has been designed and constructed by the General Electric Company for the Commonwealth Edison Company. It will be operated by Commonwealth Edison as an electrical generating station in the Commonwealth transmission system. The Dresden reactor, which is generally similar in design concepts to the General Electric Vallecitos Boiling Water Reactor, is of the dual cycle, boiling water, thermal neutron, heterogeneous type, employing slightly enriched uranium dioxide as the nuclear fuel, moderated and cooled by ordinary water. The facility is designed to produce an electrical output of 180,000 kw. corresponding to a reactor thermal power of approximately 630 megawatts.

At the September 23rd hearing, evidence was also presented that the Advisory Committee on Reactor Safeguards had not completed its review of the proposed facility application, including the amendments thereto, and further that the Committee had made plans to review the amendments at a meeting scheduled for early in October. No explanation was offered by Commonwealth respecting the delay in submitting these amendments to its application so that the Committee might make the report required by the Act concerning safety studies and facility license applications. The Committee did advise, however, that pending its consideration of the

amendments, it would have no objection to the issuance of an operating license to the limit of power set forth in the Commission's order of September 14, 1959.

On September 11, 1959, the Presiding Officer issued a request to the Staff and to Commonwealth for the submittal of a proposed form of provisional license in case one were to be issued on this proceeding. No explanation was offered by Commonwealth for its failure to respond to this request which was made so that expeditious consideration could be given to the various issues and aspects of the proceeding.

The evidence in this case indicates that the increased power reactivity of this boiling water reactor should be developed in various stages, and that as each step is undertaken, computations and examination of the data may be made in the interest of safety before succeeding steps or increased power ascension should be authorized and permitted. The evidence is without dispute that not enough is presently known at this time concerning the techniques or probable power performance of this type of reactor to warrant the issuance of a full operating license for the complete power authority of 630 megawatts that is sought. Commonwealth relies upon opinions that have been expressed that there is reasonable assurance that this reactor can eventually and safely attain a power maximum of 630 megawatts within the operating limits of the procedural power gradations set forth in the proposed license sought by Commonwealth. It is concluded that the Atomic Energy Act requires more than opinions of an assurance of safety for the issuance of an operating license, but, in addition, a demonstration of the safety of the reactor at each of the prescribed power levels is more consistent with the requirements of the Act which directs the Commission to find that the proposed operation of

a nuclear reactor will provide adequate protection to the health and safety of the public. In addition, the decision of the Commission In The Matter of Power Reactor Development Corporation, F-16, (December 1958) emphasizes the necessity of a demonstration of safety for the issuance of an operating license.

Lacking a final report from the Advisory Committee on Reactor Safeguards, only a limited power operating authority can be granted at this time, which will be sufficient, however, for the initial steps which will extend over a considerable period of time. In the meantime, a separate order will be promptly issued prescribing for the submittal of a form of a proposed provisional license so that consideration may be given to the advisability or not of that form of operating authority, consistent with the contemplation of the Commission in its order of September 14, 1959. The Advisory Committee on Reactor Safeguards is scheduled to reconvene on October 8 to 10 and a further hearing is scheduled as a part of this order to receive this report into the record, with testimony, if advisable, concerning their views. It is expected that a time period of 45 days from and after the date of this order will be sufficient time within which to receive the report of the Committee, and also to receive the submittals of the participants herein respecting a provisional license so that full consideration may be had to thereby provide in a subsequent order concerning the ultimate form of operating license for Commonwealth.

Upon the basis of the record to date in this proceeding, and after a consideration of the contentions of the participants, including the proposed findings and conclusions with amendments thereto filed herein,

IT IS ORDERED that:

- A. The Division of Licensing and Regulation of the Commission issue to Commonwealth Edison Company, Chicago, Illinois, a limited power operating license pursuant to Section 104b of the Atomic Energy Act of 1954 to provide for the initial loading of nuclear fuel and the operation of the boiling water reactor, described in the application and amendments thereto, to the extent of but not in excess of a power level of one (1) megawatt (thermal) during a period of time not in excess of 45 days from and after the date of the issuance of this intermediate decision and order.
- B. Commonwealth shall report of the occurrence within 5 days to the Commission after the date on which the initial loading of nuclear fuel is made into this reactor.
- C. A further hearing is hereby scheduled to reconvene at 10:00 a.m. on the 19th day of October, 1959, in the Auditorium of the Headquarters of the Atomic Energy Commission, Germantown, Maryland, for the reception into the record in this proceeding of the final report and testimony, if desired, by the Advisory Committee on Reactor Safeguards respecting the application and all amendments thereto filed by Commonwealth.

Samuel W. Jensch
Presiding Officer

Issued:
September 26, 1959
Germantown, Maryland