1-3-68

UNITED STATES OF AMERICA

ATOMIC ENERGY COMMISSION

COMMISSIONERS:

Glenn T. Seaborg, Chairman
James T. Ramey
Gerald F. Tape
Wilfrid E. Johnson

In the Matter of

DUKE POWER COMPANY

(Oconee Nuclear Station
Units 1, 2 and 3)

DOCKET NOS. 50-269
50-270
50-287

DECISION

This matter comes before the Commission upon exceptions which have been filed, by eleven North Carolina municipalities and by Piedmont Cities Power Supply, Inc., to an initial decision of an atomic safety and licensing board dated November 3, 1967. In its initial decision, the board ordered that provisional construction permits be issued under Section 104 b. of the Atomic Energy Act to the applicant, Duke Power Company, to build three closed-cycle pressurized water reactors at the applicant's site in Oconee County, South Carolina.

The eleven municipalities, which had been granted intervention in this proceeding by the board, ground their exceptions on the basic contention that the Commission is without jurisdiction to issue construction permits and licenses for the three Oconee reactors under Section 104 b. of the Act. In their view, these reactors are not utilization facilities ". . . involved in the conduct of research and development activities leading to the demonstration of the practical value of such facilities for industrial or commercial purposes . . .", within the meaning of Section 104 b. Piedmont Cities Power Supply, Inc., which had been denied intervention by the board, excepts to that denial and asks that we order it to be made a party to the proceeding and direct reopening of the hearing so that it may participate therein. Both the applicant and the staff have filed briefs opposing the above exceptions.

The three proposed reactors will be substantially similar pressurized water facilities, each having an initial power rating of 2,452 thermal megawatts (839 electrical megawatts) and an ultimate expected power level of 2,568 thermal megawatts (874 electrical megawatts). The Oconee facilities will contain a number of design features and systems for the protection of plant employees and the public. Each reactor unit is to be housed in a massive steel-lined concrete containment structure, which will

minimize discharge to the environment of accidentally released radioactive fission products. Numerous engineered safeguard systems, described in the initial decision, are also incorporated in the design to assure core and containment integrity and to permit emergency functions to be carried out even with component failure.

Both the regulatory staff and the Advisory Committee on Reactor Safeguards have concluded, based on their reviews, that there is reasonable assurance the proposed Oconee reactors can be constructed and operated without undue risk to the health and safety of the public. No question has been raised in this appeal respecting the board's finding that issuance of permits for the construction of the Oconee facilities will not be inimical to the health and safety of the public or to the common defense and security and we are satisfied from our own review that this finding is amply supported by the record.

In light of the foregoing, we focus herein on the questions of jurisdiction and intervention presented by the exceptions which have been filed. While the appellants have requested oral argument on their exceptions, we believe that the matters raised are adequately explored in the written arguments which have been submitted and the underlying record and that oral presentations are unnecessary. (10 CFR Section 2.763).

We address our attention first to the jurisdictional contentions underlying the exceptions of the intervening North Carolina municipalities. It will be recalled, in this regard, that our Memorandum and Order of September 8, 1967, which responded to the board's referral of its ruling on the intervenors' motion to dismiss, spoke preliminarily to the municipalities' jurisdictional assertions. We there stated our agreement with the board that the definition of "research and development" in the Act and our regulations is sufficiently broad that it encompasses as "development" a demonstration that will provide a basis for commercial evaluation. The Memorandum and Order went on to hold that the construction and operation of the proposed Oconee facilities would be sufficiently related to the demonstration of the practical value of such reactors for commercial purposes to permit the proceeding to be conducted under Section 104 b. We further stated that, from the pattern established by the Act for the licensing of utilization facilities, Section 104 b. is the appropriate section for the licensing of facilities of the type covered by this application and cited, in connection therewith, the conclusion which attended our Section 102 rule making proceedings on "practical value".

Our Memorandum and Order confined itself to Units 1 and 2 because the board's order, which dealt with a preliminary motion

to dismiss, had deferred a ruling on Unit 3. We deemed it appropriate, in that context, to reserve our decision regarding Unit 3 until the board had spoken thereon. This the board has now done, its initial decision concluding that the "proposed nuclear utilization facility including Oconee Units 1, 2 and 3 are properly subject to license under Section 104 b. of the Act".

We are in agreement with the conclusion that the proposed Oconee reactors are properly to be licensed under Section 104 b. Our earlier Memorandum and Order, as we have recounted, contained certain preliminary declarations respecting this jurisdictional question. In view of the fact that the parties have since had the opportunity fully to develop their respective positions on the record and to brief those positions to us, it is appropriate that we amplify our views as regards Section 104 b. and relate them to the present appeal.

Inquiry into the application of Section 104 b. properly begins, of course, with the language of that section itself. Insofar as is here relevant, Section 104 b. authorizes the Commission to license thereunder ". . . utilization . . . facilities involved in the conduct of research and development activities leading to the demonstration of the practical value of such facilities for industrial or commercial purposes . . .". We have already stated our view that the "research and development" about which Section 104 b. speaks encompasses as

"development" a demonstration that will provide a basis for commercial evaluation. Such "commercial evaluation", in terms of earlier relevant declarations, means an evaluation of the economic competitiveness of the nuclear facility with conventional power plants. 1/

In the context, then, of the statutory language and our construction of it, until there has been a "demonstration of the practical value of such facilities for industrial or commercial purposes", utilization facilities which will provide a basis for commercial evaluation in connection therewith (i.e., "leading to" such "demonstration") may be licensed under Section 104 b. As the discussion below shows, this clearly places the Oconee reactors within the compass of Section 104 b.

1/ Our position as respects the foregoing is in accord with the position we have taken concerning the meaning of "practical value". We have formally stated in the latter regard that, based upon our interpretation of the Act, the "statutory finding of practical value, while presupposing a determination of technical feasibility, also involves economic considerations, the essential economic test being the competitiveness of the nuclear power plant with conventional power plants". Determination Regarding Statutory Finding of Practical Value, 31 F. R. 221, January 7, 1966; see also, the Commission's notice announcing certain preliminary determinations respecting a finding of "practical value", 29 F. R. 9458, July 10, 1964.

Our Memorandum and Order of September 8, 1967, noted that the Commission has considered on two occasions in rule making proceedings the question of whether a finding of "practical value" should be made with respect to some type or types of light water, nuclear power reactors. We concluded in the first proceeding, following receipt and consideration of extensive public comments, the holding of a legislative-type public rule making hearing, and a careful evaluation of all relevant factors, that "[p]ending the completion of scaled-up plants, and the information to be obtained from their operation", there "has not yet been sufficient demonstration of the cost of construction and operation of light water nuclear electric plants to warrant making a statutory finding that any types of such facilities have been sufficiently developed to be of practical value". 2/ This conclusion was reaffirmed in connection with our denial of a petition for rule making approximately one year ago. 3/

2/ Determination Regarding Statutory Finding of Practical Value, 31 F. R. 221, January 7, 1966.

3/ Notice of Denial of Petition for Rule Making, 31 F R. 16732, December 30, 1966.

It is worth restating at this point the circumstances which we took into account in arriving at our rule making determinations. In conjunction with our initial determination, we outlined these circumstances as follows:

> "Currently operable light water, nuclear electric plants range up to about 200 net MW(e) and are not economically competitive. In 1962 the Commission encouraged the construction of scaled-up plants by requesting authorization under the Power Demonstration program for plants in the 400-500 net MW(e) range. Operating experience, including maintenance and availability, from the plants for which Congress authorized appropriations in these intermediate sizes is not available, since none of them is completed. More recently, plants in sizes exceeding 600 net MW(e) are being designed and constructed without Government financial assistance. The Commission has examined in some detail whether the information provided by the award of contracts for the construction of scaled-up plants without Government assistance is sufficient to support, without further demonstration, a finding of practical value under the Act. Without the operating information the intermediate sized plants are expected to provide, we are not prepared to make a statutory finding on the basis of demonstrated results of the currently operable plants that plants at least three times larger than 200 net MW(e) are of practical value within the meaning of section 102."

We were faced with like circumstances at the time of our second rule making action and, while two of the intermediate-sized plants have now been licensed for operation, essentially the same situation as regards "demonstration" obtains today. 4/ In this context, we think it manifest that large-scale utilization facilities, such as the Oconee reactors, by contributing to the as yet incomplete basis for a reliable estimate of economic competitiveness, are involved in the conduct of activities encompassed by Section 104 b. and, thus, are properly to be licensed thereunder.

In their exceptions to us, the intervenors maintain that the proper standard for determining whether the type of utilization facility to be employed by the applicant has demonstrated practical value is whether or not it is being sold by the manufacturer and bought by the purchaser, without Government

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4/ The Connecticut Yankee Atomic Power Plant and the San Onofre Nuclear Generating Station, both in the 400-500 net MW(e) range, were licensed for operation within the past year. The former has very recently been brought to full power operation and the latter is approaching that stage. The Oyster Creek plant of the Jersey Central Power & Light Company, the first of the plants in sizes exceeding 600 net MW(e) which has been licensed for construction, has not been completed as yet.

subsidy to either, for use in the large scale generation and sale of electrical energy in the regular course of business. From what we have previously stated, it should be clear that we cannot accept this as the basis for determining applicability of Section 104 b.; nor does such an absolute standard constitute the test for a finding of "practical value" under Section 102, although business factors of the type referred to are relevant for consideration in the latter regard.

It is worth noting, in the above connection, that we addressed ourselves to a similar proposition in the first rule making determination regarding a finding of practical value. We there concluded, after examining the underlying data in some detail, that while certain economic evaluations governing the award of contracts for scaled-up plants not involving Government assistance provide strong indications that economic competitiveness will be achieved, we should await a reliable estimate of the economics based upon a demonstration of the technology and plant performance before making the statutory finding.

Analytical support for the above approach is contained in the Staff Memorandum accompanying our determination. The staff there stated:

> "Although the willingness of utilities and equipment companies to accept the business risks involved is an impressive indication of the probabilities of successful operation at anticipated levels, it is not alone a sufficient basis to support a statutory finding of practical value by the Commission. [6] The manufacturers of nuclear reactors compete for the business of utilities which are considering the purchase of power plants, and are motivated to offer incentives such as warranties as to certain features in order to obtain the award of a contract. The willingness of utilities to purchase nuclear plants and of reactor manufacturers to warrant the plants is a reflection of the acceptance of what may be considered reasonable business risks, but does not necessarily constitute a sufficient assurance that the plants will in fact perform as warranted or will otherwise meet expectations."

In our second rule making determination, we gave further consideration to this matter when we took specific note of announcements of new light water reactors to be constructed, the type of business arrangements being negotiated between reactor manufacturers and utilities and the fact that utilities have decided upon nuclear plants on the basis of comparative economic studies. Our determination stated that while these developments are further strong indications that economic competitiveness will be achieved we continued to believe that we should await a reliable estimate of the economics based upon a demonstration of the technology and plant performance.

The intervenors, in their exceptions, have also sought to emphasize the experimental facet of the terms "research and development" and to argue therefrom that the Oconee facilities do not properly fit within the statutory language. While we believe these arguments are answered by the statements already made respecting the role of economic demonstration under Section 104 b., it is appropriate further to note the following passage in the previously-referenced Staff Memorandum:

> "A substantial extrapolation of demonstrated results from currently operable plants, which range up to about 200 net MW(e), is necessary in order to determine anticipated technological and economic performance in plants currently being built and sold without Government financial assistance in size ranges of 600 net MW(e) and above. Since the gap involves an increase in reactor size by a factor of three, many technical and engineering problems must be resolved and demonstrated."

The initial decision has additionally enumerated a number of aspects of research and development needed to complete the design of certain components for the Oconee units. Mentioned in this regard are: "a proposed once-through steam generator test, the control rod drive line test, self-powered in-core neutron detector tests, thermal and hydraulic programs, . . . and the fuel assembly heat transfer and fluid flow test." We agree with the board that the foregoing, individually and in combination, evidences an experimental purpose concommitant with the purpose of economic demonstration.

One additional observation is in order before we leave the jurisdictional question. The licensing authority under Section 103 of our Act is only applicable as respects facilities of a type which the Commission has found, in accordance with Section 102, to have been sufficiently developed to be of practical value for industrial or commercial purposes. The approach we have taken regarding the construction of Section 104 b. is consistent with the premise that the finding of "practical value" under Section 102 separates the issuance of developmental licenses under Section 104 b. and the issuance of commercial licenses under Section 103. This, we think, is in keeping with the scheme of the Act and its legislative history. 5/

We turn now to the question of intervention. As earlier indicated, Piedmont Cities Power Supply, Inc. has excepted to the board's denial of its petition to intervene. Piedmont disputes the statement in the initial decision that it did not have a present interest sufficient to warrant intervention and

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5/ The intervenors' contentions that prior licensing actions of the Commission can be deemed to constitute Section 102 findings of "practical value" and the further suggestion that such a finding might accompany the issuance of construction permits here, are misplaced. In our Memorandum and Order of December 5, 1967, in the Matter of Philadelphia Electric Company, we pointed out that a finding of "practical value" under Section 102 is to be made as to a "type" of utilization facility and not as to a specific proposed facility and that it can properly be made only through rule making procedures in which all interested persons would have an opportunity to participate.

claims that it had as much economic, public and other interest in this proceeding as had the eleven cities. In this connection, Piedmont asserts an economic interest in its plan to own a "fair share" of the Oconee plant and to sell its share of the electricity at cost to the eleven municipalities and declares that its interests and those of the municipalities are identical and unitary.

Before treating with the Piedmont exception, it is appropriate that we comment on the status of the eleven municipalities. Our Memorandum and Order of December 5, 1967, in the Matter of Philadelphia Electric Company, had occasion to remark on the Duke board's grant of intervention to the municipalities since a similar intervention request by the City of Dover was pending before the board in the Philadelphia Electric proceeding and the latter was seeking our guidance thereon. We stated in the Memorandum and Order that, while the question is not free from doubt, we thought the grant of intervention by the Duke board was correct, and that the municipal customer seeking intervention in Philadelphia Electric should be permitted to intervene for the stated purpose of contesting licensing jurisdiction under Section 104 b . We went on, however, to declare our view that "the matter of legal entitlement to intervene in the somewhat novel circumstances is less clear than certain of the statements in the Duke initial decision would

imply" and that we preferred to "rest our holding on what we deem to be a sound exercise of administrative discretion as applied to the particular circumstances here presented". Thus, our sanctioning of intervention as respects the municipalities in both proceedings rests on the narrow grounds stated.

The circumstances with regard to Piedmont are substantially different than those dealt with above. Unlike the cities, Piedmont has no existing economic interest related to the jurisdictional issue but only seeks to acquire such an interest. This interest claim, in our view, is a remote and tenuous one at best and does not warrant a grant of intervention.

We fail to see, moreover, how Piedmont was prejudiced in any practical way by its being denied intervention. As earlier stated, Piedmont's exception to the Commission describes the economic and other interests of the corporation and the eleven cities as identical and unitary. The two groups filed a joint petition to intervene and motion to dismiss raising the same contentions; and both were, and still are, represented by the same counsel. This identity of interest, position and representation would indicate that the jurisdictional contentions which Piedmont sought to assert were, in fact, fully presented to the board and to us by its joint petitioners.

In sum, we perceive no sound basis for overturning the board's denial of intervention to the corporation.

It is therefore ORDERED that the exceptions of the eleven municipalities and of Piedmont Cities Power Supply, Inc., are denied in all respects.

By the Commission.

W. B. McGuire
Secretary

Dated: January 3, 1968

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CERTIFICATE OF SERVICE

I hereby certify that copies of a DECISION issued by the Commission on January 3, 1968 have been served on the following by deposit in the United States Mail, first class or air mail, this third day of January, 1968:

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