

UNITED STATES OF AMERICA  
BEFORE THE  
ATOMIC ENERGY COMMISSION

In the Matter of )  
DUKE POWER COMPANY ) Docket Nos. 50-269A, 50-270A  
(Oconee Units 1, 2 and 3 ) 50-287A, 50-369A  
McGuire Units 1 and 2) 50-370A

ANSWERS OF THE DEPARTMENT OF JUSTICE  
TO INTERROGATORIES OF THE APPLICANT

On September 14, 1973, Applicant served Interrogatories and Document Production Requests on the Department. In a separate filing, the Department objects to several of those interrogatories and requests and seeks protective orders pertaining to others. The Department also is today making available for examination the documents pertinent to the requests to which Applicant does not object. Answers made herein are complete to the knowledge and belief of the undersigned representative of the Department as of November 30, 1973. They will be supplemented as necessary to comply with Section 2.740(e) of the Commission's Rules of Practice. The following are the Department's answers to those interrogatories to which it does not object.

1. (a) Each reference to the "area" relates generally to the same geographic area. In the use of the term "area" in connection with descriptions of control over retail supply,

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wholesale supply or demand for the output of hydroelectric power, the precise boundaries of such area may vary somewhat depending respectively on the size of customer considered and depending on the amount of capacity and energy associated with a potential hydroelectric site.

(b) (i) The retail market is reasonably coincident with Applicant's service area, but it also includes areas outside thereof to which Applicant can economically extend service.

(ii) The wholesale market is reasonably coincident with a line indicating the periphery of Applicant's transmission (including subtransmission) system, but it also includes areas presently removed from Applicant's existing transmission facilities to which Applicant can economically extend service.

(iii) The market for potential hydroelectric power is reasonably coincident with the two foregoing areas, but it may include areas within which it would be economically feasible to connect a new site to the existing integrated system. This would depend on the amount of capacity and associated energy capable of development.

Marking each of the foregoing areas on a map with the degree of precision apparently requested by Applicant would require a lengthy and expensive series of engineering and economic studies based on voluminous data not presently available to the Department. The Department has not undertaken and does not propose to undertake any such studies

as part of its direct case in this proceeding. The Department estimates such studies would cost in excess of several hundred thousand dollars.

(c) See answer to (b).

(d) In marketing electric power, there are three product markets of concern; (1) the retail distribution market; (2) the wholesale-for-resale bulk power market; (3) the regional power exchange market for various kinds of coordinating power and energy, and opportunities for joint ventures or jointly owned generating companies. In all three markets, the size of the load and the distance from existing facilities govern the geographic area in which power may be feasibly marketed. This is true both from an economic and technical standpoint, without regard to legal restrictions. The geographic boundaries of the retail distribution market and the wholesale-for-resale bulk power supply market are reasonably coincident with the Duke service area. The geographic scope of regional power exchange market cannot be described with precision, but it includes at minimum an area reasonably coincident with the service areas of the companies which formed the CARVA Pool.

(e) The product market discussed above are defined in accordance with the factors enumerated by the U. S. Supreme Court in United States v. Continental Can, 387 U.S. 441 (1967); United States v. Alcoa (Rome Cable) 377 U.S. 271 (1964); and United States v. Brown Shoe, 370 U.S. 294 (1962).

(f) The geographic markets discussed above are defined in accordance with the factors enumerated by the U. S. Supreme Court in United States v. Brown Shoe, 380 U.S. 294 (1962) and United States v. Pabst Brewing, 384 U.S. 546 (1966).

2. The wholesale-for-resale market described in response 1(d) above is a multi-state market which might be considered to cover a vast geographic area. However, no competition for wholesale and industrial customers currently exists in this market, even though the potential for such competition exists.

3. In addition to being useful background information, the size of Applicant's physical and financial assets, both absolutely and relative to the size of its competitors, is relevant to whether the activities under the license will create or maintain a situation inconsistent with the antitrust laws. They provide some indication of a market structure in which Applicant has the market power to grant or deny potential competitors the necessary access to the regional exchange market. Applicant's size and economic resources have been important factors in enabling it since 1960 to maintain a monopoly of large-scale generation and transmission facilities in its area.

4. This was intended to refer to the distribution systems listed as being served by Duke in its response to the Attorney General's question No. 10 and in its FPC Form 1 which are incorporated herein by reference. This figure does not include mill systems, Alcoa subsidiaries, or the University of North Carolina system. Due to changes in ownership there may no longer be 58 independent distribution systems or we simply may have miscounted.

5. The Department contends that the amalgamations and the purchases effected prior to January 1, 1960, are relevant to this proceeding only in that they have resulted in a highly concentrated market structure in which Applicant has the power to grant or deny to its competitors access to the regional power exchange market. The Department proposes to offer in evidence materials from Duke's Original Cost Estimate, "Statement A" as supplied to the FPC illustrating Duke Power's corporate family tree. These materials would show the corporate structure as of January 1, 1960, and thereafter. The Department does not propose to go into the corporate history of Duke any further than this.

The Department will contend that Duke's pre-1960 activities left it in substantial control of water power in North Carolina and South Carolina with the exception of those developed (1) by its partners in the CARVA Pool in their respective areas, (2) by Alcoa subsidiaries, (3) by the Federal government

in an insubstantial amount, which is marketed through the Southeastern Power Administration, and (4) by the South Carolina Public Service Authority (Santee-Cooper), also in an insubstantial amount, and by a few small mill systems where most of the power is used for industrial purposes. This is generally shown in a booklet prepared by the Federal Power Commission entitled Hydroelectric Power Sources of the United States (Developed and Undeveloped), January 1, 1972, with particular reference to Table 4 at pp. 73-75 pertaining to North Carolina and South Carolina which is incorporated herein by reference. The pre-1960 concentration of control permitted Duke in 1960 and thereafter to dominate the retail, wholesale and power exchange markets in its area.

6. No, except to the extent that the concentration of control by Southern Public Utilities later consolidated into the present Duke Power Company left the market structure that exists today. See our answer to Question 5. Parallel development was concentration of control by each.

7. Our answer to No. 7 is identical to answers to Nos. 5 and 6. The discussion in the advice letter was provided only to indicate the previous history that led to the market structure as it existed on January 1, 1960.

8. (a) (b) This quoted statement was intended to include all types of hydroelectric development, including undeveloped sites.

(c) Control means either ownership of the site or a monopoly on the wheeling and firming power required to transmit and market from a site owned by other companies.

(d) The Applicant exercises a degree of control over the hydroelectric generation of the Southeast Power Administration in that the wheeling and firming power required by that Administration are available only from Duke Power. Applicant also has a long-term lease on Buzzard's Roost owned by Greenwood County and may have a long-term contractual interest in a hydroelectric site owned by South Carolina Electric and Gas.

(e) Hydroelectric sites smaller than 10 mw are not substantial.

9. (a) The Department is generally familiar with these entities' hydroelectric facilities to the extent they are indicated on current FPC maps of electric generating facilities or that information regarding these projects has been supplied in Applicant's response to the Attorney General's questions.

(b) (c) Yadkin has hydroelectric facilities within Duke's area; but it has no surplus power available for central station service using it, except for some small interchange in the manufacture of aluminum. SEPA, Clark Hill and Hartwell Projects are within the area; but Applicant exercises a

degree of control over that hydroelectric generation in that the peaking and firming power required by SEPA are available only from Duke. The Abbeville project is within the area. Buzzard's Roost is within the area. The Department also believes that a project owned and operated by South Carolina Electric and Gas Company, of which Applicant obtains partial output, is within the area. Engineering-economic studies not undertaken by the Department would be necessary to determine whether the other projects are within Duke's area.

(d) The Department does not contend that Duke controls the facilities of any of the numbered entities not within Duke's area except as indicated above.

10. (a) The Department does not believe there are any remaining conventional hydroelectric generation sites available for the production of base load power. The word "virtually" was used to indicate that there are other conventional hydro sites owned by other entities such as Yadkin, Inc., or Nantahala Power Company. The Department's contention that there are no undeveloped sites usable for conventional hydro for base load was confirmed by W. S. Lee, Senior Vice-President for Engineering of the Duke Power Company in a recent deposition taken by the Department.

(b) Economically attractive sites are those sites with sufficient water flow to be able to meet the base load and peaking requirements of a distribution system with a load factor of between 45 and 70 percent. The Army Corps of

Engineers in preparing its cost-benefit analysis of hydroelectric sites assumes the use of public capital at a substantially reduced interest rate rather than private capital. The Corps also assumes that coordination with other systems on reasonable terms will be available. The Department's analysis does not make the latter assumption.

(c) The Department does not believe any of these sites are attractive for conventional baseload hydroelectric generation. Several of these sites may be attractive for peaking or for pumped storage in conjunction with some conventional hydroelectric sites. The deposition of W. S. Lee referred to above confirms this conclusion.

(d) There are no sites which would satisfy both baseload and peaking requirements. There may be sites which are attractive for meeting peaking requirements if interconnected with Applicant, but the Department has not made the extensive study necessary to make such a determination.

(e) See our response to Question 21.

(f) The Department has no current knowledge as to the abandonment of hydroelectric projects because of the unavailability of interconnection with another power source.

11. The Federal Power Commission "Map of Principal Electric Facilities in the United States," dated 1972, based on reports filed with the Federal Power Commission to June, 1970, indicates that only Duke owns high-voltage transmission lines in the area of the Piedmont Carolinas.

The 1971 Federal Power Commission "Map of Principal Electric Facilities in the Southeast Region," based on information to June 30, 1970, indicates substantially the same information. A deposition taken of Mr. Franz Beyer, Vice President for Systems Planning of the Duke Power Company, indicates that other entities do own short lengths of transmission lines in the same area, not exceeding a total of 200 or 300 miles, as compared with the 6000 to 8000 miles of transmission lines owned and operated by Duke in that region as of 1970 as reported by the Electric World's Directory of Electric Utilities.

The term "control" is synonymous with ownership for purposes of this question. The important aspect of such ownership with respect to this proceeding is that Duke, through its monopoly of high-voltage transmission lines, can prevent its retail competitors from connecting their bulk supply power facilities to the regional power exchange.

12. (a) The Federal Power Commission "Map of Principal Electric Facilities in the United States," dated 1972, based on reports filed with the Federal Power Commission to June, 1970, and a similar map of lower voltage facilities entitled "Principal Electric Facilities in the Southeast Region," FPC Bureau of Power 1971, based on information to June 30, 1970, indicates that Duke owns substantially all of the thermal generation in the area of the Piedmont Carolinas. The term "control" is synonymous with ownership for purposes of this question.

"Substantially all" means over 90 to 95 percent of the thermally generated electricity in the area of the Piedmont Carolinas. There may be some industrial self-generation of which the Department is not aware, but we do not believe it to be substantial. Some of Applicant's wholesale customers may have some local diesel generation to back up the primary service from Applicant. However, we have made no specific study of this matter.

"Thermal generation" is generation in which heat is the source of the energy input to the turbines or reciprocating engines. Thermal generation would include internal combustion turbines, steam turbines, diesel engines and nuclear generation.

(b) In general, any facility which produces under 100 mw would not be substantial. South Carolina Electric and Gas has some thermal generation on the periphery of the Duke area, in particular their Parr plant, McMeekin plant, and Saluda plant. In addition, a number of textile mills have industrial self-generation--some hydro, some thermal. The Department has made no inventory of these generating units but they are believed not to be substantial.

13. (a) The allocation of markets between Applicant and its wholesale customers was accomplished by contractual restrictions on end use and limitations on the size of retail customers that could be served. The discovery documents

provided by Applicant indicate Applicant has compiled a list of each such limitation, and that list is more complete than any other information in our possession.

(b) These contracts are relevant as an illustration of the effects on retail distribution when a vertically integrated entity has a monopoly of the wholesale bulk power supply market.

(c) These contracts do not have a continuing anti-competitive effect because of Applicant's agreement with the FPC to terminate these contractual provisions.

(d) The Department currently knows of no such assertion.

14. The Department is currently examining changes in Applicant's rate design which possibly had the effect of perpetuating the market allocation between Applicant and its wholesale customers. Dr. Herschel Jones, the Department's rate consultant, is presently examining Applicant's rate design.

15. See our response to Question 14.

16. (a) The "ratcheted demand" provision to which the Department refers in the Oconee advice letter can be found in Applicant's wholesale Rate Schedule 10 for municipalities and Schedule 11 for cooperatives. The particular paragraph

is entitled "Determination of Billing Demand" with a subparagraph entitled "For Customers Who Do Not Contract to Take Their Entire Power Supply." It reads in Schedule 10 and 10C as follows:

For Customers who do not contract to take their entire power requirements from the Power Company, the demand for billing purposes each month shall be the maximum integrated thirty-minute demand during said month, but not less than 75 per cent of the highest integrated thirty-minute demand in the previous twelve months, including the month for which the bill is rendered, nor less than 75 per cent contract demand, nor less than 30 kilowatts except that where the location of the delivery point requires the Company to make a new connection to its 100,000 volt transmission lines solely to serve a single Customer, the demand for billing purposes shall not be less than 5,000 kilowatts.

A similar provision is found in Schedule 11.

(b) The ratcheted demand feature serves to discourage installation of thermal generating capacity by Duke's wholesale customers. In order to install thermal generating capacity, an entity needs the availability of reserve sharing arrangements. The only source of power is Duke, because of its monopoly on high-voltage transmission in the area. Duke makes power available only on the basis of its wholesale rate schedules for firm power which impose a demand charge on sales of all power, whether they are for emergency use or not. Should a small utility wishing, for example, to install a generating unit evaluate the economics of doing so without reserve sharing, it would find it had to install two units in order to market firm power out of one of them. It could, on the other hand, back up its supply of power with a purchase

under Duke's wholesale rate schedule. Should it do so, however, the obligation to pay demand charges under the ratcheted-demand provision would have an economic impact roughly comparable to paying Duke to install a second unit to supply it with the backup power. Transactions in the regional power exchange market such as those Duke has entered into with Carolina Power & Light, Virginia Electric Power Company, and South Carolina Electric & Gas Company are arranged on a fundamentally different basis: They involve sales of emergency power on an "if-and-when-available" basis and a utility receiving energy on an emergency basis is not thereafter saddled with demand charges. Power provided "if and when available" from another utility, when combined with power from native generating resources, would enable an entity to market firm power.

(c) Any wholesale customer which has considered a generation project has been discouraged from installing generating capacity because of the "ratcheted demand" provision. The Department is currently investigating the effect of this provision on potential entrants. It should be noted that when Duke evaluated the possibility of entry into generation by others, it never assumed that such systems would obtain standby reserve sharing arrangements with Duke. Rather Applicant assumed that a potential entrant would rely on its wholesale-for-resale rate schedule containing the ratchet demand feature.

(e) The lack of any provision for the supply of coordinating services prevented any of Applicant's wholesale customers from entering the generating business.

17. Document Production Request.

18. See our response to Question 30.

19. The Department has prepared no independent study as to whether the EPIC Project is technically or economically feasible without interconnection with the Applicant. For purposes of this proceeding we accept the conclusions of the EPIC Project Report prepared by Beck-Southern engineers in November, 1972, as to the necessity of coordination with Applicant from both a technical and economic standpoint.

The Report on pages 5 and 6 reads as follows:

. . . The generation and transmission facilities set forth in this report and the associated cost estimates are, therefore, based upon interconnected operation with existing utilities for purposes of reliability and reserve sharing. Such interconnected operation avoids unnecessary duplication of certain transmission facilities and excessive installed generating reserves and is, therefore, in the public interest.

\* \* \*

Specifically, substantial additional economies and reductions in projected power costs would accrue through implementation of the wheeling commitment and the commitment to coordinate through the purchase and sale of bulk power. Wheeling, if achieved under economically attractive conditions, would substantially reduce the transmission investment estimated in this report. It is anticipated that even with satisfactory wheeling arrangements, the great bulk of 500 kv and 230 kv transmission facilities would still be constructed as planned for the EPIC arrangement. On the other hand, substantial 115 kv and lower voltage transmission facilities might well be eliminated.

\* \* \*

A copy of this Report has been supplied to Applicant by the Intervenors.

20. The Department agrees with the Intervenors that "Duke has erected barriers to entry at the generation and transmission levels in an attempt to preserve its monopoly." The principal barrier to entry is the inability of a potential entrant to gain access to the regional power exchange in the area. A consequence of this denial of access is that all competing systems in the Duke service area had abandoned their generation function prior to January 1, 1960. With access to the regional power exchange, an entrant (1) can dispose of surplus energy, (2) can obtain needed supplies of deficiency power, and (3) can obtain needed transmission services. Applicant's policy decision to wheel and firm SEPA power insured the continuation of Duke's monopoly of transmission by foreclosing the construction of new publicly owned transmission facilities. Other barriers to entry may include (1) Applicant's wooing away of potential participants in EPIC, Inc., and (2) Applicant's ratcheted demand provision discussed in the Department's response to Question 16.

21. At a meeting of the High Point, North Carolina, City Council called by Mayor Robert Davis on or shortly before October 13, 1969, Mr. John D. Hicks, at that time Secretary and Assistant General Counsel of Applicant, was reported by

the High Point Enterprise (Monday, October 13, 1969) to have made the following statement:

Finally, he was faced with the question from Councilman Fred Swartzberg, if, in the long run, EPIC should prove feasible and come into existence, would Duke be willing to tie in with its system as it does with other private power companies for joint meeting of emergency load needs? Hicks responded that he was speaking only on his own account but that if asked for a recommendation from his company, it would be, 'Absolutely not!'

Hicks is currently Vice President, Corporate Affairs, Director and a member of the Executive Committee of the Duke Power Company. A copy of the foregoing newspaper article is incorporated in Exhibits to the Initial Prehearing Statement as part of Exhibit 12 which has been supplied to the Applicant by the Intervenors.

Other public statements of Duke Company officials regarding interconnections with EPIC may be uncovered as discovery progresses. Applicant will be notified of these instances in accordance with the Department's duty to supplement as outlined in the Atomic Energy Commission's Rules of Procedure.

22. (a) (b). The joint affidavit of L. C. Williams, Robert Van Sleen and Robert T. Beck dated July 28, 1971, describing a meeting called by the Duke Power Company in Charlotte, North Carolina, on June 22, 1967, is evidence which indicates Duke representatives have "bluntly warned North Carolina municipal electric systems that the efforts and funds that the latter could expend in seeking relief before regulatory agencies would be overwhelmed by Duke's resources

and resistance." As of July 28, 1971, Mr. Williams was Director of Utilities for the City of High Point, North Carolina, Mr. Van Sleen was Director of Utilities for the City of Shelby, North Carolina, and Mr. Beck was Electric Superintendent of the City of Lexington, North Carolina. The affidavit states in part:

Such meeting was held on June 22, 1967, and a large number of municipal officials were in attendance, including the undersigned [Williams, Van Sleen, and Beck] and Dr. Hubert Plaster, Mayor of Shelby, Mr. Phil Horton, III, City Manager of Shelby, Hon. Robert Davis, Mayor of High Point, Knox Walker, Esq., City Attorney of High Point, Fred Swartzburg, City Councilman of High Point, Hon. J. Garner Bagnal, Mayor of Statesville, Hon. Eric Morgan, Mayor of Lexington. Many field representatives of Duke Power Company were present along with officials of the company, including Mr. Carl Horn, Jr., then Vice President and General Counsel (now President of the company), Glen A. Coan, Vice President, Rates, Douglas W. Booth, then Vice President in charge of Marketing, (now Senior Vice President in charge of Retail Operations), E. R. Davis, and William H. Grigg, then Assistant General Counsel (now Vice President and General Counsel). Messrs. Horn, Booth and Coan addressed the meeting.

The Duke officials opined that their municipal customers were not entitled to a wholesale rate reduction, and indeed, might be liable for a rate increase should a proceeding be commenced before the Federal Power Commission. The Duke officials said that Duke's wholesale rates were among the lowest in the nation, and cited those present at the recently concluded rate negotiations between the City of Fayetteville and Carolina Power and Light Company. It was stated that the result of the negotiations was a rate to Fayetteville of 7.8 mills per kwh, and Duke's rate was already lower than that.

Mr. Horn said that the \$200,000.00 budget considered by the cities was grossly inadequate for prosecuting a rate proceeding and all subsequent court appeals, and that a rate proceeding would cost

the cities at least twice that amount, or \$400,000.00. Mr. Horn predicted that proceedings at thirteen administrative and judicial levels would be required before final decision in any rate complaint proceedings instituted by the cities. He predicted that five to seven years would be consumed by these proceeding[s], and stated that at the conclusion of all this the original data would be obsolete and the cities would be in the position of having to start all over again factually. He said, to our best recollection, 'Duke cannot make any reduction in rates to municipalities, and will fight as long and hard as possible.'

A copy of the affidavit is incorporated in the Exhibits to the Initial Prehearing Statement as Exhibit 18 which has been supplied to the Applicant by the Intervenors.

Other evidence of this type may be uncovered as discovery progresses. Applicant will be notified of this evidence in accordance with the Department's duty to supplement outlined in the Atomic Energy Commission's rules of procedure.

(c) The Department currently has no knowledge as to whether the Duke Power Company has carried out its warning given to its municipal customers. However, since the date of the Charlotte meeting referred to above, Duke has instituted three rate filings under Section 205 of the Federal Power Act, each of which constitutes a substantial increase in rates, particularly for bulk power supplied to municipalities. Each of these filings has required Duke's municipal customers to retain counsel, to hire expert consultants in engineering, economics and finance, and to present expert testimony in opposition to the proposed rate increases.

23. Certain North Carolina municipalities (Duke's competitors in the retail market) directly requested participation in Duke's nuclear generating program. These requests are detailed at length in the case of City of Statesville, et al. v. Atomic Energy Commission, 441 F.2nd 325, which is incorporated herein by reference. See also our response to Question 30. Additional instances of refusals to deal, upon which the Department intends to rely, may be uncovered as discovery progresses. Applicant will be notified of these instances in accord with the Department's duty to supplement outlined in the Atomic Energy Commission's Rules of Procedure.

24. Duke's retail competitors do not have available to them coordinating power and energy from the regional power exchange on terms equivalent to those Duke offered to other members of the CARVA Pool. This discrimination prevents these retail competitors from financing, constructing, and operating their own generation and from marketing any surplus power therefrom. It appears that when smaller systems started pressing for entry into the CARVA Pool, Duke terminated that pool and substituted the VACAR bilateral contracts. The specifics of these discriminatory arrangements are now being compiled as the Department examines and analyzes the nearly 100,000 documents produced by the Applicant in this proceeding. Further examples of discriminatory dealings with retail competitors may be uncovered as discovery continues. Applicant will be notified of these examples in accordance with

the Department's duty to supplement outlined in the Atomic Energy Commission's Rules of Procedure.

25. (a) "Market power" is an economic term used to express the ability of a particular firm in a supply or demand market to control price, output, and entry. Firms with a large degree of market power in supply markets are said to have monopoly power. Those in demand markets are said to have monopsony power. Duke derives its extensive "market power" from its monopoly of bulk power supply facilities and high-voltage transmission. With this market power Duke has the ability to prevent other electric utilities from enjoying the efficiencies of large scale units--in the past Duke has utilized its monopsony power through control over transmission to control water power.

(b) (1) The Duke Power Company itself resembles a coordinating arrangement through integrated ownership of bulk power supply facilities. Through acquisition and merger, Duke has foreclosed smaller electric entities in its service area from opportunities to bargain for coordinating arrangements with the smaller systems which have been absorbed into the present Duke Power Company.

(2) The CARVA Pool.

(3) The VACAR arrangements.

(4) Miscellaneous coordinating arrangements with adjacent companies in contracts listed by Applicant in response to Question No. 12 of the Attorney General.

(5) Other coordinating arrangements may be uncovered by the Department as discovery progresses.

(c) Duke has continuously, at least from January 1, 1960, denied access to coordination to all potential entrants to the wholesale bulk power supply market in its service area. There are three exceptions to this statement that we are currently aware of:

(1) A coordination arrangement with the South Carolina Public Service Authority (Santee-Cooper) may have been entered into by Duke on the condition that Santee-Cooper restrict its market area.

(2) The Southeast Power Administration (SEPA) was granted access to limited coordination by Duke so as to prevent the construction of high-voltage transmission and thermal generation by SEPA if access were denied.

(3) Yadkin, Inc., has been granted coordination; but it has no "retail customers" and serves only Alcoa's industrial needs.

(d) On August 29, 1967, at a public hearing conducted by the Atomic Energy Commission Safety and Licensing Board in Wahalla, South Carolina, Mr. Jack Harris, City Attorney of Statesville, North Carolina, requested on behalf of Piedmont Electric Cities, Inc., a 4 percent undivided interest in Duke's Oconee units. Of course, implicit in such a proposal is a request for coordination necessary to insure the technical feasibility of the intended arrangements.

This request was rejected three days later on September 1, 1967, by Carl Horn, then Vice President (Finance) and General Counsel of the Duke Power Company. Details of the request and subsequent rejection can be found in the September 1, 1967, letter from Horn to Harris which is Exhibit 9 in the Exhibits to the Initial Prehearing Statement supplied to Applicant by the Intervenors. Details of oral requests for coordination made by EPIC, Inc., to the Duke Power Company are currently being investigated by the Department.

The City of Belhaven and other cities in North and South Carolina in the area served by wholesale by the Virginia Electric Power Co., sought admission to the CARVA Pool. The Duke Power Company, acting through the Executive Committee of CARVA Pool joined in denying Belhaven's request for coordination.

It is not surprising that requests for coordination have not been numerous given the Duke Power Company's well-known unwillingness to coordinate. See our answers to Questions 21 and 30. However, other requests for coordination may be uncovered as discovery progresses and the Applicant will be notified of these requests in accordance with the Department's duty to supplement as outlined in the Atomic Energy Commission's Rules of Procedure.

26. (a) A coordinated nuclear generation expansion program is, at a minimum, one in which two or more utilities pool their reserves so as to make the installation of large

scale nuclear units economically efficient. Obviously, there are numerous forms of coordination. The Department would refer Applicant to an informative paper entitled, "Principles of Coordinating Agreements" and EEI paper 65-51, both written by Committees of the Edison Electric Institute. In fact, the first article appears to have been rewritten by Franz Beyer, Duke's Vice President for Systems Planning. This is Duke's Discovery Document No. 39000, et seq., herein incorporated by reference; the second paper is cited therein. An understanding of these papers makes clear that there are degrees of coordination and that no single arrangement or transaction can be regarded as essential in order to achieve "coordination" as referred to in Applicant's question.

(b) (1) Applicant refused to coordinate with the South Carolina Public Service Authority (Santee-Cooper) unless that utility agreed to territorial limitations on its service area so as not to compete at retail or wholesale with the Applicant. Details of these transactions are now being compiled as the Department examines the nearly 100,000 documents produced by the Applicant in this proceeding and makes further specific inquiry. Part of the Department's inquiry hereto has been blocked thus far by Applicant's refusal to supply materials it contends are protected from scrutiny under the Noerr-Pennington doctrine.

(2) Applicant refused to coordinate with EPIC, Inc., and Piedmont Electric Cities Association. Details of this refusal are described in Question 25.

(3) Other refusals to coordinate may be uncovered as discovery progresses. Applicant will be notified of this information in accordance with the Department's duty to supplement as outlined in the Atomic Energy Commission's Rules of Procedure.

27. We know of no instance where Duke has refused to interconnect for purposes of selling bulk power at wholesale.

28. The Department presently believes and proposes to show that Applicant has refused to wheel power for EPIC, Inc., and Yankee-Dixie, Inc. Details of these refusals to deal are now being compiled as the Department examines the nearly 100,000 documents produced by Applicant in this proceeding.

29. The Department currently does not intend to rely on any of the arrangements between Yadkin, Inc., and Applicant. But such arrangements are illustrative of the type of coordination required by independent developers of hydroelectric power if the water resource is to be utilized to its full advantage. Applicant, through its dominance of generation and transmission facilities is the sole supplier of power exchange services necessary to effect such hydrothermal coordination.

30. (a) (b) (c) At the August 29, 1967, public hearing conducted by the Atomic Energy Commission Atomic Safety and Licensing Board at Wahalla, South Carolina, Mr. Jack R. Harris,

City Attorney for the City of Statesville, North Carolina,  
proposed the following:

I would like to say that the ultimate strategic goal sought by Piedmont Cities Power, Inc., and the eleven Piedmont Electric Cities which sponsor Power Supply in the legal battle which has just begun may be shortly stated.

Number one, Power Supply requests and demands of Duke Power Company the offer of an opportunity to purchase for the benefit of sponsors a 4% undivided interest as tenants in common without right of partition in the ownership and capacity of the presently proposed Oconee Nuclear Station Units 1, 2 and 3. [Tr. p. 215]

Number two . . . Power Supply thus requests and demands of Duke the offer of an opportunity to invest in Oconee for the benefit of sponsors a total of approximately \$12,700,000. [Tr. p. 216]

Number three, Power Supply further requests and demands of Duke the offer of an opportunity to invest said total for the benefit of sponsors in the following annual installments: 1967, \$110,000; 1968, \$1,213,000; 1969, \$3,539,000; 1970, \$3,543,000; 1971, \$3,024,000; 1972, \$1,184,000; 1973, the sum of \$73,000. [Tr. p. 216]

Number four, the eleven Piedmont Electric Cities thus seek an opportunity to own 60 percent of their current power supply and would remain dependent on privately owned purchased power from Duke and its great system of fossil, atomic, and hydro stations for the remaining 40 percent of their total current power supply. [Tr. p. 216]

Number five, the eleven Piedmont Electric Cities thus seek a saving in what they pay Duke for purchased power at current rates of \$1.5 million annually for a total saving over the forty-year commercial license period of \$60 million. [Tr. pp. 216-217]

Applicant's answer to each of these five requests was negative.

Carl Horn, now President of Duke Power Company, presented

Duke's position in a September 1, 1967, letter to Mr. Harris.

For documentation of this request and response, see Exhibit 9 in Exhibits to the Initial Prehearing Statement which has been supplied to Applicant by the Intervenors.

(d) (e) (f) We have no knowledge of any request of Applicant for the purchase of unit power from any of its nuclear facilities. However, this matter is still under investigation. Supplementation of this request in accordance with Atomic Energy Commission Rules can be expected if further information is uncovered.

31. The requests discussed in Questions 25, 26(b) and 30 were all made in a "timely fashion." In particular, the Piedmont Cities Power, Inc., and the eleven Piedmont Electric Cities were made six years in advance of the operation of the first Oconee Unit and prior to the initial construction of that unit.

32. The Department currently has no knowledge as to whether Applicant now is a party or has ever been a party to an interconnection or coordination agreement in which it agreed to joint ownership of any of its generating units with any other party or in which it agreed to sell unit power to any other party other than its obligations under the CARVA agreement as detailed in executed Notices of Obligation. These would include agreement for sale of unit power from Oconee Nuclear Units 1 and 2.

33. (1) Appendices A-E of the CARVA Pool Agreement provide for extensive coordinated development among the member utilities, including the staggered construction of participation units. The Grigg letter does not propose such arrangements.

(2) Under the CARVA Pool Agreement member utilities had the opportunity to purchase energy from Applicant at the cost of new large-scale units. The Grigg letter states that Applicant is unwilling to make sales at "marginal cost" to any other entity. While the term "marginal cost" is ambiguous, we have construed it to mean the average cost of new baseload generating facilities.

(3) Yadkin, Inc., and the Southeastern Power Administration engage in hydro-thermal coordination, including the sale of firming power with Applicant. The Grigg letter does not propose such arrangements.

(4) It is unclear whether the Grigg reserve sharing proposals would apply only to existing bulk power suppliers or would also apply to future entities engaging in bulk power generation--i.e., whether the Grigg letter really indicated Duke's intention to share reserves with EPIC or smaller systems in its area now engaged solely in the distribution of electric power who are potentially bulk power suppliers.

34. The formation of the Southern Electric Reliability Council (SERC) may have been part of an overall anticompetitive plan to separate reliability coordination from power pooling

coordination. This plan came in response to a legislative push (e.g., the proposed Electric Reliability Act of 1967) to compel large utilities to coordinate with smaller utilities for both reliability and power pooling with the resulting anticipated effect of providing small systems the economic benefits of coordination. Evidence indicates that the formation of SERC was conceived as a method of satisfying public pressure for increased coordination which resulted from the 1965 Northeast blackout and the subsequent Pennsylvania-New Jersey-Maryland blackout--to give small systems enhanced reliability but to deny them any economic advantages of pooling. The evidence referred to above is: (1) a memo of May 9, 1969, from F. W. Beyer to G. G. Mattison and B. B. Parker (Duke Discovery Document No. 22900), and (2) the minutes of a meeting of the representatives of several southeastern utilities held in Charlotte, North Carolina, on February 28, 1967 (Duke Discovery Document Nos. 68941, 68942). It should also be noted that SERC is limited in membership to existing bulk power suppliers.

35. See our answer to Question 33.

36. (a) (b) (1) The Department does not contend that Duke's opposition to the 1952 appropriation for SEPA was a sham attempt to influence governmental action. However, evidence of such activities may also be admissible to show the purpose and character of other conduct.

(2) The Department does not contend that Duke's opposition to the 1953 appropriation for SEPA was a sham attempt to influence governmental action. However, evidence of such activities may be admissible to show the purpose and character of other conduct.

(3) Until discovery is completed we are unable to say whether Applicant's activities at any time regarding the Carters Island-Trotters Shoals Project on the Savannah River was a sham attempt to influence governmental action or sham litigation.

(4) The Department will not contend that Applicant's attempt to obtain regulatory approval for its acquisition of the Nantahala Power & Light Company was a sham, but the acquisition attempt itself may have been anticompetitive.

(5) The Department does not contend that Applicant's efforts to dissuade North Carolina municipalities from participating in EPIC, Inc., are sham attempts to influence governmental action. However, they may be admissible to show the purpose and character of other conduct.

(6) The Department will not contend that Applicant's statements anticipating the likelihood of Duke's litigating regarding EPIC, in and of themselves are activities which constitute sham litigation. However, such statements may be admissible to show purpose and character of other conduct.

(7) The Department will not contend that purported statements by Applicant regarding anticipated litigation

concerning wholesale rates made on June 22, 1967, are in and of themselves activities constituting sham litigation. However, they may be admissible to show the purpose and character of other conduct.

(8) The Department will not contend that Applicant's support in 1959 for territorial limitations upon the operation of the Tennessee Valley Authority was a sham attempt to influence governmental activity.

(c) (d) (e) (f) The Department will not contend that any of the above-listed activities were attempts to deny access to others to the legislative or adjudicatory processes.

37. (a) Applicant opposed the construction of the Green River Pumped Storage Project by EPIC, Inc., before the Federal Power Commission. Details of Applicant's opposition can be found in Exhibit 13 in Exhibits to the Initial Prehearing Statement supplied to Applicant by the Intervenor. The Department will not contend that this opposition was a sham or an attempt to deny access to others to the legislative or adjudicatory process.

Other examples of Duke's opposition to applications of other utilities for project licenses may be uncovered as the Department searches the 100,000 documents supplied by Applicant to the Department in this case. The Department will supplement this response in accordance with the AEC rules.

(b) In testimony before the North Carolina Utilities Commission on February 18, 1970, Carl Horn, Applicant's President, warned that there would be "considerable litigation" if the EPIC project ever got out of the planning stage. Details of this warning can be found in Exhibit 14 in Exhibits to the Initial Prehearing Statement supplied to Applicant by the Intervenors. Also, see our response to Question 22. Since the threat was a general one, we are unable to determine whether this would constitute a sham.

Other "threats to engage in extensive litigation to block such projects" may be uncovered as discovery progresses and Applicant will be supplied with this information in accordance with the Atomic Energy Commission rules.

(c) The Department has no knowledge currently of conduct engaged in by Applicant which would constitute a sham attempt to influence governmental action.

(d) The Department has no knowledge currently of any attempt by Applicant to deny others access to the legislative or adjudicative processes.

38. The Department is presently conducting an extensive study to determine if such a price squeeze exists. An answer to the question will have to await completion of that study which is being conducted by Dr. Herschel Jones of the engineering consulting firm of Connell, Howland, Hayes & Merryfield (Bellevue, Washington).

39. (a) "Probable" in this context means likely to occur.

(b) The "probable activity" referred to in the quoted page is the generation and marketing of low cost electric power by Applicant while simultaneously foreclosing alternative sources of low-cost electric power to Applicant's retail competitors by denying them access to the regional power exchange market. The Department considered this activity to be probable because this has been Applicant's pattern of behavior in the past.

40. The relative costs of power from the Oconee and McGuire units are significant to this proceeding in two ways: (1) Should the costs of nuclear power rise so high as to make the installation of small-scale expansion programs using fossil fuel economically feasible, some of the Applicant's monopoly power may be eroded. However, the cost of fossil-fired electric generating plants has increased at even a greater rate than the cost of nuclear energy. (2) In fashioning an appropriate remedy for Applicant's anti-competitive practice, the Board may wish to take into account the differential in cost between the two plants and conclude that only access to the less expensive power is an effective remedy for anticompetitive conduct at the time construction of Oconee was commenced.

41. The Department agrees with this contention in that it means nuclear energy, when marketed on a large scale, is cheaper than any other kind of available power for expansion of the Applicant's system. Clearly, many of Applicant's existing plants produce energy at a cost less than new nuclear plants; but for new generating units, nuclear energy is the least expensive source of power. The Duke Power Company Vice President for Systems Planning, Franz W. Beyer, agreed with this conclusion in a recent deposition taken by the Department.

42. Numerous municipalities have expressed an interest in antitrust issues concerning the Oconee units.

(1) The Cities of Albemarle, Apex, Belhaven, Cherryville, Clayton, Cornelius, Drexel, Edenton, Elizabeth City, Farmville, Fayetteville, Fountain, Granite Falls, Greenville, Hertford, High Point, Hobgood, Hookerton, Huntersville, Kings Mountain, Kinston, LaGrange, Landis, Laurinburg, Lincolnton, Lumberton, Monroe, Morganton, New Bern, Oak City, Pikeville, Pinetops, Red Springs, Robersonville, Rocky Mount, Scotland Neck, Sharpsburg, Shelby, Smithfield, Stantonsburg, Tarboro, Washington, and Winterville, through a May 31, 1971, consolidated reply written by Alton P. Wolf, Vice President and First Vice Chairman of the Power Committee of EPIC, Inc., made their interest known.

(2) The City of Morganton in a July 31, 1971, letter adopted the consolidated response of May 31, 1971.

(3) The Cities of Albermarle and Cherryville filed a supplementary letter to the consolidated response of May 31, 1971.

(4) The Cities of Rock Hill, South Carolina, Newberry, South Carolina, Gaffney, South Carolina, and Easley, South Carolina, have also expressed interest. The specifics of these expressions of concern can be found in the documents supplied by the Department to Applicant in response to these interrogatories and this document production request.

43. The Department has never alleged that any actions taken by the North Carolina Utilities Commission or the South Carolina Public Service Authority have been in contravention of federal law. The footnote referred to in this question does not explicitly or implicitly state such a contention.

44. Until discovery has been completed, the Department is unable to formulate any contentions concerning the validity under federal law of enactments of the legislatures of North Carolina or South Carolina regarding electrical services. The Department will supplement this response in accord with the Atomic Energy Commission's Rules of Practice.

45. Until discovery has been completed, the Department cannot formulate any contentions as to the validity under federal law of any agreement Applicant has entered into which on its face represented that it was undertaken pursuant to or in anticipation of state action. The Department will supplement this response in accord with the Atomic Energy Commission's Rules of Practice.

46. Until discovery has been completed the Department is unable to formulate any contention concerning territorial allocation agreements entered into by Applicant. The Department will supplement this response in accord with the Atomic Energy Commission's Rules of Practice.

47. (a) The following acquisitions or attempted acquisitions of electric distribution systems are relevant to this proceeding:

(1) The attempt to acquire the Nantshala Power & Light Company--offer made January 31, 1959; offer expired after 1960.

(2) Pisgah Mountain Electric Company, acquired on July 17, 1964.

(3) Belton Light and Power Company, acquired on November 13, 1963.

(4) Town of Ninety-six, acquired on October 1, 1969.

(5) Kershaw Power and Light Company, acquired August 17, 1970.

(6) City of Greenville and County of Greenville (formerly Donnellson Air Force Base), acquired May 11, 1964.

(7) Greenwood County, acquired July 1, 1966.

(8) Clemson Agricultural College of South Carolina, acquired December 15, 1964.

(9) The Electric Company, Incorporated, of Fort Mill, South Carolina, acquired September 21, 1972.

(10) Applicant offered to buy the Laurens Electric Cooperative, Inc., Broad River Electric Cooperative, Inc., Newberry Electric Cooperative, Little River Electric Cooperative, Blue Ridge and York Electric Coop on August 20, 1963.

(11) Applicant has offered to buy the South Carolina Public Service Authority power complex in July, 1964.

(12) Duke Discovery Document 75460 indicates Duke's intention to purchase all 116 foreign systems in its area. This document is dated June 27, 1960, and is a memo from Henry L. Cranford to Mr. P. D. Huff.

(13) Other attempts to acquire competing retail distribution systems and bulk power suppliers may be uncovered as discovery progresses.

The trend of concentration of ownership recited above shows how a monopoly of the bulk power supply can lead to a monopoly at the retail distribution level.

(b) Applicant has engaged in several kinds of predatory or unfair practices in acquiring the above systems:

(1) A policy to refrain from coordination with existing or potential bulk power suppliers.

(2) The construction of preemptive lines against coops even though in areas where no current loads served by Duke existed.

(3) A possible price squeeze in Duke's wholesale rate schedule which may have insured that competing systems would not be able to serve large industrial customers. See response to Question 38.

(4) Applicant's policy of determining new distribution delivery points for sales to REA cooperatives and ownership of transmission for such delivery points.

48. (a) (b) (e) (f) (g) (h) The Department will not contend in this proceeding that competition is preferable to regulation, rather that competition is complementary to the regulatory process.

(c) (d) Until the completion of our discovery, the Department is unable to evaluate the anticompetitive effects of the actions, agreements, and understandings in question.

49. Discrimination results from differences in rates, terms, charges or conditions of service offered different wholesale customers. Unreasonable discrimination is a

discrimination in rate which bears no reasonable relationship to relevant differences in the quality, costs, or other characteristics of two or more services. Generally, regulatory commissions, such as the Federal Power Commission, have a statutory obligation to prohibit unreasonable discrimination. Bonbright's concept of "undue discrimination" is synonymous with the Department's concept of "unreasonable discrimination." (See Chapter 19 of Bonbright, Principles of Public Utility Rates.)

50. The Department believes that any tax or other advantages which may be lawfully enjoyed by municipal and cooperative systems do not excuse anticompetitive conduct on Applicant's part and are irrelevant to this proceeding. However, if the Board believes such purported advantages are relevant, it must also consider Applicant's comparable competitive advantages such as (1) the Investment Tax Credit, (2) liberalized and accelerated depreciation, (3) subsidies for nuclear insurance under the Price-Anderson Act. This is not intended as an exhaustive list of advantages. The Department has not yet computed the dollar value to Applicant of each of these advantages.

51. (a) Applicant's stated position that it has never refused to coordinate may be a false statement of its actual policy.

(b) (c) The Department refers the Applicant to Duke's attached as Appendix A hereto, Discovery Document Nos. 19137, 19138, where Mr. Carl Horn, Applicant's President, suggests that Applicant refrain from coordination with the South Carolina Public Service Authority (Santee-Cooper) because of Santee-Cooper's tax and financing advantages and Duke's concern over possible competition in the wholesale bulk power supply market. Mr. Horn in this letter suggests framing a response to Santee-Cooper's coordination proposal on other grounds. This conduct would appear to be intended to deceive.

(d) Examples of Applicant's refusal to coordinate have been recited at length in our answer to Question 34.

(e) These positions are "somewhat conflicting" in that a Duke contention that it refuses to coordinate because its existence would be threatened," would be more consistent with a Duke position that it has reasonably refused to coordinate than with its apparent position that it may at all times be willing to coordinate.

52. The flow of resources in the markets described above are altered by differences in interest rates and the presence of tax exemptions from municipal and cooperative electric systems. Whether or not this alternation would be characterized as a "distortion" depends upon whether that alteration is in accordance with or departs from sound public policy.

53. The Department will contend that the technology of nuclear electric power was developed largely at public expense. The legislative history of the Atomic Energy Act of 1954 refers repeatedly to \$12 billion as the sum expended on nuclear technology up to that time. We have made no calculation as to the sum expended since 1954 nor have we made calculations as to the sum expended by the private sector. However, any calculation as to the amount of private research funds expended should not include the cost of reactors which were in fact commercial but were licensed by the Atomic Energy Commission as experimental or medical therapy reactors prior to the December 17, 1970, amendment to the Atomic Energy Act of 1954. To the extent that Applicant is itself able to utilize nuclear generating capacity while preventing or restraining others from doing so (by denying them access to the market), it reaps the benefits of those expenditures by the Government and denies them to its competitors.

54. The Department has not yet determined whether these contentions will be made in this proceeding. However, the Department does believe that the application of antitrust principles will lead to a more efficient allocation of resources. The battery of remedies proposed in this proceeding will lead to increased efficiencies with access to the regional power exchange for all actual and potential suppliers of bulk power. All suppliers desiring control over their

bulk power supply will be able to install larger scale units than they would otherwise use. Larger units are a more efficient source of energy for meeting new loads in that they have a better heat rate than small units. They are cheaper per kilowatt and thus more efficient in that they use less capital resources to achieve the same output.

55. (a) (b) (c) (d) . The Department currently does not intend to rely on the instance of actual competition described in the Baker speech in this proceeding.

(e) Materials in the Duke discovery documents indicate that Applicant has been concerned with the possibility of cooperatives switching to self-generation and that in order to prevent the construction of such generation, Applicant may have priced power to these coops at below average cost. Applicant has also provided transmission services to the Southeastern Power Administration at a rate which did not provide a reasonable return on investment in order to prevent SEPA from building its own transmission. Details of these transactions are currently being compiled as the Department completes its examination of the Duke discovery documents. The response will be supplemented in accordance with the Atomic Energy Commission Rules of Practice.

56. (a) The Department will contend that "those who control a dominant power pool or generation facility cannot refuse equal access to all systems."

(b) A pool is, of course, dominant if it is the only pool as is the situation here.

(c) A given entity is among those who control a power pool if it has the power to grant or deny access to that pool.

(d) Equal access means access on terms available to utilities who bargain from positions of nearly equal strength. Equal access cannot be provided if a membership standard is imposed in a power pool requiring a participating utility to have available generating capacity of mutual benefit to other members in equal amounts where the systems are vastly different in size. A fair wholesale rate will also not provide equal access because a generating entity will generally need access to coordinating arrangements, not firm power.

(e) Unequal access would be unreasonably discriminatory and would fail to remedy the competitive detriment which results when a competitor is excluded from an essential resource.

(f) The competitive advantage derived by its controlling a dominant power pool is the ability to install large nuclear generators, which are the most efficient way of supplying energy for meeting new loads.

(g) The Department will contend in this proceeding that Applicant has refused access to a pool.

(h) See response to Question 25.

57. The Department will seek to apply the bottleneck monopoly theory to this proceeding. The crucial prerequisites to entry into the bulk power supply market are access to the regional high-voltage transmission network and access to coordination arrangements, and we will contend that Applicant's control over the "essential resources" has affected competition in all of the markets listed in response to Interrogatory 1(d).

58. The Department currently knows of no contracts to which Applicant is a party or has been a party at any time during the period of January, 1960, to the present which are illegal because they are full requirement contracts.

59. (a) (b) The Department has conducted no studies as to the necessity for interconnecting the Ocone and McGuire units with other entities. Applicant's own system, developed through acquisition and merger as well as internal expansion, may be sufficiently large to sustain these units without interconnection. However, as late as 1969, Applicant's representatives were claiming that one of the advantages of CARVA Pool was that it made possible the installation of larger size units. Whether Applicant, in the absence of the CARVA Pool or other strong interconnection would have decided to build the units is uncertain. It seems likely that having a certain market for the surplus power from those units made Applicant's projections of the cost of future bulk power

supply more dependable and thus improved its competitive position.

(c) (d) (e) (f) The Department does not contend that "activities under the license" include the activities of other utilities interconnected with Applicant.

60. (a) (1) The impact of a new nuclear generating station on the competitive advantages of a utility is to decrease that utility's average cost or to slow down any increase in a utility's average cost compared with new generation from other fuels.

(2) The present oil shortage may well mean that a new situation inconsistent with the antitrust laws would be created by the unconditional licensing of the Coonce-McGuire units in that alternatives for small systems not only will be at a much higher cost but may be entirely unavailable.

(b) (c) The Department is presently evaluating whether a new situation is created in light of the present oil supply market.

(d) Applicant may have made rate concessions to its wholesale customers to prevent their self-generation. With the addition of nuclear power and the present supply and the recent change in interest rate for REA cooperatives, market in oil, these concessions may no longer be necessary.

61. (a) Interconnection: The Department does not object to the FPC Glossary definition of this term.

(b) Coordination: This term is not listed either in the FPC Glossary or the IEEE Dictionary, but the Department concurs generally in the use of that term to describe one or more of the arrangements discussed in Duke Discovery Document 39000.

(c) Coordinated Development: One or more of the arrangements described in Discovery Document 39000, pp. 15-18 inclusive.

(d) Pooling: The Department does not object to the FPC Glossary definition.

(e) Reserve Sharing: An arrangement for the reciprocal exchange of emergency power on an if-and-when available basis, usually associated with plans to provide adequate reserves on the interconnected system to provide for the firmness of power on the overall system, and some fair sharing of the responsibility to provide such reserves.

(f) Transmission: The Department does not object to the FPC Glossary definition.

(g) High-voltage transmission: This term is not listed either in the FPC Glossary or the IEEE Dictionary, but we would include transmission of 100 kv-230 kv.

(h) Extra-high voltage: The Department does not object to the FPC Glossary definition or would also be agreeable to limiting this to 500 kv and above. In that event, high-voltage transmission would include 345 kv and other voltages above 230.

(i) Unit power: Power from a specific generating unit priced at the costs of that unit.

(j) Firm Power: The Department does not object to FPC Glossary definition.

(k) Spinning reserve: The Department does not object to FPC Glossary definition.

(l) Baseload generation: The Department does not object to the FPC Glossary definition.

(m) Emergency power: The Department does not object to the FPC Glossary definition.

(n) Wheeling: Providing transmission services from one or more transmission lines or a transmission system by accepting power from another entity at one point and providing power to the same or a third entity at another point.

(o) Bulk power supply: Generation and/or transmission services.

(p) Standby power: Power used in the event of a forced outage. It can either be emergency power or firm power depending on arrangements available to the purchaser and deemed satisfactory by him.

(q) Economy energy: See (m) above.

(r) Deficiency power: EEI 65-51 at page 24.

(s) Bulk power: See (o).

(t) Distribution: The Department does not object to the FPC Glossary definition.

(u) Distribution voltage: As applied to Duke, normally voltages below 44 kv.

(v) Transmission voltage: As applied to Duke, normally 100 kv as above, with 44 kv normally as subtransmission.

(w) Maintenance energy: Energy purchased for the purpose of supplying load while the purchasing entity's own units are down for maintenance.

62. The following types of private business decisions are not subject to pervasive regulation: (1) Coordinated development arrangements cannot be compelled by any regulatory authority; (2) Sales at wholesale to new distributors are not required; (3) Wheeling cannot be compelled, only rates charged can be regulated. The legal position of the Department of Justice with respect to the scope of the Federal Power Commission's jurisdiction in the general area of bulk power supply are set forth in the Supreme Court brief for the United States in Otter Tail Power Co. v. United States, 410 U.S. 366.

63. (a) "Super power" was a term used in the 1920's to refer to interconnected and coordinated systems. See, for example, Murray, Superpower, McGraw-Hill (1925).

(b) The "periphery of the Piedmont Carolinas" is a not precisely definable area at the outer edges of Applicant's service area. Applicant may extend service at retail or wholesale into these areas depending on the size of the load and the distance from existing facilities.

64. A commonly used formula in the industry is one where a utility will extend from its existing facilities if the cost of constructing the new facilities does not exceed anticipated three-year total of revenues generated by the new facilities. If the cost of the facility is too great, customer contributions to the utility might make construction possible. This method appears to have been used by Duke prior to 1962 , with perhaps another multiplier.

65. (a) Average cost is total cost divided by total units. Average costs can also be divided into average system fixed cost and average system variable cost by dividing total system fixed cost and total system variable cost respectively by peak load and kilowatt-hour generation. These would produce system-wide average kilowatt cost and kilowatt hour costs.

A system-wide kilowatt cost may or may not be an appropriate assignment of demand costs as between several classes of customers with different usage characteristics. There are a number of methods which have been developed for such assignment of costs. Professor Bonbright lists some 29 of them. Duke appears to use three of these. If demand costs and administrative and general costs are also allocated to the various classes of customers in accordance with some acceptable allocation method, the costs thus distributed among the various classes can then be divided into two parts--

namely capacity and energy costs corresponding to fixed and variable costs. The costs for a particular class can then be averaged, and in that case the classes' average cost will be the same as fully distributed costs.

(b) "Incremental cost" is the difference between one total cost and another total cost. For example, short run incremental cost is total variable cost of generated kilowatt-hours at a slightly increased load level (at load level 2) less the total variable cost of generating kilowatt-hours at the earlier load level (load level 1) where the increase in load level is slight. It can be mathematically expressed by the first derivative of cost with respect to output, where cost is "c" and output is "o," i.e.:  $\frac{dc}{do}$ .

Professor Bonbright's discussion of short run marginal cost at pp. 320-323 is generally correct, but the undersigned finds the following discussions of short run marginal cost to be more useful in the context of the electric utility industry: Steinberg and Smith, Economy Loading of Power Plants and Electric Systems, Wiley and Sons, Inc., New York (1943); and Westfield, Marginal Analysis Multiplant Firms and Business Practices: An Example, LXIX Quarterly Journal of Economics, 253 (May, 1955). See also: Samuelson, Foundations of Economic Analysis, Chap. IV, pp. 57 et seq., Harvard University Press, Cambridge (1948); and Hughes, Short Run Efficiency and the Organization of the Electric Power Industry, LXXVI Quarterly Journal of Economics, 592 (Nov., 1962).

Professor Benbright's discussion of long run marginal costs is generally correct. The example shown on page 24 of an Edison Electric Institute Report entitled "Report of the Task Force on Interconnection Arrangements, Methods of Owning and Selling Generating Capacity" (August, 1965) Publication No. 65-51, presents a practical definition in the context of the electric utility industry. An arrangement for power from a specific generating unit as in pp. 25-28 or a tenancy in common or joint and undivided ownership in a specific unit, as in pp. 31-37, would also result in an approximation of long run marginal cost.

(c) It is not the Department's function to make such a determination, but factors such as (1) fairness or undue discrimination, (2) efficiency, (3) historical rates, (4) contractual commitments have generally been taken into account by those making such determinations.

(d) The phrase the undersigned actually used was "competing considerations" and referred to the foregoing.

(e) (f) An adequate response would require an extensive and time-consuming study, which the Department has not heretofore had occasion to make. The Department will not contend that each of Applicant's rate classifications or categories of service in effect since 1960 should have been set on an incremental basis. The Department believes that Applicant could have maintained a "coordinated development" tariff available to all interconnected systems, similar to its participation unit arrangement in the CARVA Pool agreement as priced under Appendix C thereof.

66. (a) A power exchange is a market where various kinds of coordinating power and energy and transmission services are bought and sold. A sub-pool is one portion of a power exchange; it might be considered a small power exchange.

(b) Geographic scope is the principal standard used to differentiate a power exchange from a sub-pool.

(c) Consolidation means the achievement of common control, such as through statutory merger, stock acquisition or the purchase of assets--i.e., any conglomeration of formerly separate entities.

(d) See the Department's response to Question 5 in these interrogatories.

67. At the time of the dissolution of the CARVA Pool several other electric entities capable of generating electric power and competing with the Applicant in the wholesale-for-resale market were seeking admission to that pool. These were the Belhaven Group, which approached VEPCO, and Santee-Cooper, which contacted South Carolina Electric and Gas. The PECA cities and a subgroup of Yankee-Dixie Power, Inc., were also knocking at the door. Without access to a regional power exchange, it would not have been economically feasible for these entities to build generating facilities. Documentation of the factual basis for the Department's contention that CARVA was broken up to exclude these potential competitors will have to await the completion of the Department's examination of the Duke discovery documents.

(b) The reasons asserted by Applicant are discussed in the deposition, taken by the Department, of Applicant's Vice President for Systems Planning, Franz W. Boyer. The Department must await the completion of its examination of the discovery documents before formulating its position regarding the role which these asserted reasons played in the decision.

68. (a) Forms of coordination are found both under the VACAR arrangements and the CARVA Pool Agreement with the CARVA arrangement tending more toward power pooling. They are significantly different in that the limited-term schedule of VACAR makes it an unattractive arrangement for small systems as compared with the arrangement for participation units under CARVA. A more definitive answer to this question cannot be given until discovery is completed. Not only must documents be examined, but witnesses must be deposed to see just how, in fact, the terms of these complex agreements have been implemented.

69. (a) EPIC, Inc., might be a regional power exchange market.

(b) A description of Yankee-Dixie, Inc., can be found in the documents supplied to the Department by the Applicant.

(c) When the City of Springfield dropped out of Yankee-Dixie Power, Inc., the exchange was no longer large enough to support the installation of the planned units.

70. (a) Compare Bonbright with EEI Publication 56-51. The latter is more appropriate because it is a more practical definition, in view of the purpose of the arrangement. Professor Bonbright at p. 325 recognizes that "when used as a practical standard of rate making, the concept should be defined only in general terms and should be left for whatever nicer definition may be required in the light of the particular rate making problem." EEI 65-51 presents such a "nicer definition."

(b) The CARVA Pool participation unit arrangement priced under Appendix C approximates such an arrangement. Capacity charge was based on cost of most recent units on systems of pool participants. Energy was priced at costs associated with maintenance and operation of new unit.

(c) See (b).

(d) See (b).

(e) Duke Discovery Document No. 85595 indicates that as late as February, 1969, Applicant supported the use of "long run marginal costs" in its coordination agreement with the CARVA Pool companies.

71. (a) The Department agrees with the contention of the Intervenor that Duke, Carolina Power & Light,

South Carolina Electric & Gas, and VEPCO have a shared monopoly on the generation of electric power over a substantial geographic area in North Carolina, South Carolina and Virginia.

(b) The Department is currently evaluating the evidence as to whether these four utilities, during the existence of the CARVA and thereafter, notwithstanding the dissolution of that pool, entered into a conspiracy to monopolize electric generation by resisting jointly all requests for coordination from prospective competitors.

72. Document Production Request.

73. The Department has no current knowledge as to any instances in which Applicant sought to affect the price of fuel for other operators of electric generation in North or South Carolina.

74. The Department contends that the activities under the Oconee and McGuire licenses will maintain--i.e., continue, carry on, support, sustain, uphold, keep up--and indeed exacerbate an anticompetitive situation.

The activities necessarily include the integration of 5000 megawatts of nuclear power into Applicant's system for marketing in the area of the Piedmont Carolinas where Applicant is located. That 5000 megawatts of nuclear power--supported by the tying of Applicant's system into the regional power exchange--will be the cheapest available power to serve

new and growing loads in 1977. Such a 5000 megawatt generation addition is hardly insignificant--33 percent of Applicant's total generation capacity when installed, and an even greater percentage of its baseload capacity (i.e., generating units projected to operate nearly full time). Installation of the already-applied-for Catawba units in 1979 and 1980 will increase the percentage of Applicant's generating capacity represented by nuclear units to 41 percent, and still further installations of large-scale nuclear generation are anticipated after Catawba.

The low-cost, large-unit, baseload nuclear power to be supplied by the Oconee and McGuire units will strengthen and expand Applicant's system and the regional power exchange of which it is a part. This strengthening and expansion will increase Applicant's future ability to install and obtain low-cost power from large units. Yet, concurrent with Applicant's action of installing and planning to operate the Oconee and McGuire units to strengthen and expand its system and the regional exchange and support its installation of the Catawba units and further large generating units, the Applicant continues to refuse reasonable access to the regional power exchange by its potential competitors in the wholesale-for-resale firm-power market. It thus forecloses them from applying for licenses to install their own large, low-cost, baseload nuclear generation--and from obtaining the benefits of the nuclear technology developed by the Federal government--and it denies them the low-cost power they will need to compete

with Applicant's Oconee and McGuire power in supplying the rapidly growing electric requirements of the Piedmont Carolinas and to support their own subsequent competitive installations of large generating units. Construction and operation of the Oconee and McGuire units and marketing of the power from those units through integration into Applicant's system and the regional power exchange demonstrably furthers Applicant's monopolization of the wholesale-for-resale firm-power market-- thus maintaining and exacerbating a situation clearly inconsistent with the antitrust laws.

75. The Department will contend that Applicant has consciously acquired and maintained a monopoly. The evidence necessary to show monopolization has been outlined in the Department's responses to other questions.

76. Document Production Request.

77. See our responses to Questions 5, 6, and 7 for the relevance of Applicant's acquisitions of competing electrical systems prior to January 1, 1960.

78. Document Production Request.

79. A description of how "reserve sharing, coordinated development and other types of coordination available through high-voltage and extra-high-voltage transmission make

possible economies of scale in bulk power in bulk power supply to systems participating in such coordination" can be found in an Edison Electric Institute publication entitled "Principles of a Coordinating Agreement," which Applicant supplied to the Department in response to the Joint Discovery Request.

80. The statement quoted from the Department's Midland advice letter was set forth as part of a general explanation of the Department's view on the scope of the proceeding. It was based upon the Department's general understanding of the structure and operation of the electric utility industry (derived in part from widely accepted sources such as the Federal Power Commission's National Power Survey), not upon any specific studies or the application of any specific standards.

81. To compete in the wholesale-for-resale firm-power market, an electric utility requires a low-cost bulk power supply. Nuclear power is cheaper now than any other kind of available power to meet the tremendous growth in electric requirements anticipated in the Piedmont Carolinas. Nuclear power, however, may be economically produced only from large units, i.e., units with over 500 megawatts capacity. Large units are economic sources of firm electric power only if tied by high-voltage and extra-high-voltage transmission to an integrated system of generating units and/or to the regional power exchange. Applicant now owns practically all the central

station power sources in its area of the Piedmont Carolinas. Through ownership of all the extra-high-voltage (345 kv and higher ) transmission and nearly all the high-voltage (100-345 kv) transmission in its area, Applicant controls access to the regional power exchange there. Applicant has refused and continues to refuse other electric utilities in this area coordinating access to its system and to the regional power exchange. This has precluded those other electric utilities from installing the large units--the nuclear units--necessary to become actual, rather than merely potential competitors of Applicant as sellers in the wholesale-for-resale firm-power market. Applicant's exclusion of other potential nuclear power plant licensees from the regional power exchange thus preserves its monopoly of the wholesale-for-resale firm-power market.

(b) The evidence is the generally accepted view of the interrelationship of four factors: (1) unit size; (2) system size; (3) reserves; and (4) reliability. This evidence for a static (or nongrowing) system would indicate that the smaller the utility, the more critically important is its access to the unique economic benefits of interconnection and coordinated development with other utilities--with coordination, the size of the pool limits unit size, rather than unit size being limited by company system size. The size of the utility defined by the word smaller is in terms of total generation or total load, and a smaller utility would be one that has less generation or load than a larger utility.

(2) The unique economic benefits include the ability to install larger units and to enjoy the lower costs of such units and to enjoy the ability to utilize nuclear fuels. The published material includes all the literature on probability studies of which a good deal is listed in Application of Probability Methods to Generating Capacity Problems, AIEE Committee; AIEE transactions (power apparatus and systems), February, 1961, pp. 1165-82. This paper includes a comprehensive bibliography containing 63 references. See generally, National Power Survey, Federal Power Commission--1964, Part 2; Determination of Reserve Capacity Requirements for Interconnected Systems, Advisory Committee Report No. 5. See also, Frank Knight, Risk Uncertainty and Profit, Houghton Mifflin Co., 1921, Chapter 8; Structure and Methods for Meeting Uncertainty. For growing systems, the unique economic benefits refers to the ability to use larger units to meet growth loads. For example, in a paper by C. H. Reker entitled Jointly Developed Area Power Plants as a Defense Against Socialization, reprinted in Subcommittee of House Committee on Government Operations, hearings on private electric utilities' organized efforts to influence the Secretary of Interior, pp. 349-402, 84th Cong., 1956, Mr. Reker, inter alia, states "the motivation in the case of these early joint ventures [referring to the Windsor Plant of West Bend Power Co. and Ohio Power near Wheeling, West Virginia, and other joint plants] was the investment and operating economics of larger units, and to some extent,

the added financial capacity represented by two systems involved. Meeting competition of government power was not an important factor at the time . . . . In some situations, wherein the substantiality of public power in-roads dictates the necessity of generating coordination and developed effort to bring down costs, it may be necessary to choose the lesser of two evils in FPC jurisdiction of an otherwise intrastate company or pricing yourself out of business." Mr. Reker goes on to show that the jointly owned power plant may well find increasing economic justification in four instances, two of which are "(3) In less densely electrified areas where several largely small systems developed independently cannot justify a large unit and are placed at a particular disadvantage against public power unless they coordinate their systems and build larger economic plants; (4) for the future, if atomic energy becomes feasible and economic as a source for electric power . . . ."

82. (a) The Department may agree with the Interveners that "Duke has employed the substantial differentials already existing in its own internal costing to skim the cream of the retail market." This is still under study.

(b) Large commercial and industrial loads are "the cream of the retail market" because per unit distribution costs are less. Prior to 1964, Applicant employed restrictions in its contracts with its wholesale customers on resales to large loads. Since 1964, Applicant has changed its rate design, and these changes may have produced the same effect.

(c) The Department currently has this matter under study.

(d) The Department may contend that Applicant intended to "skim the cream of the retail market." This is still under study.

(e) The Department currently has this matter under study.

83. Document Production Request.

84. Document Production Request.

85. Wallace Brand has talked to the following people concerning Applicant:

1. Mr. Bill Wise, formerly associated with Greenwood County System.
2. Mr. E. V. (Brick) Lewis, Central Coop G & T.
3. Mr. Thomason of SCPSA (Santee-Cooper)
4. Mr. Frank Martin of Halsey, Stuart Co. (formerly of Parsons Engineering)
5. Mr. Leonard Blokam, former manager of an independent electric utility system in the Carolinas
6. Mr. Charles Leavy, former SEPA administrator
7. Mr. Thomas Wigglesworth, former system planner for SEPA
8. Mr. Ken Rucker of SEPA
9. Mr. Albert Rucker of SEPA
10. Mr. Curtis Bell of SEPA

11. Mr. Jan Fortune of SEPA
12. Possibly other SEPA personnel
13. Heads of intervening PECA cities.
14. Mr. Cecil Viverette, Blue Ridge Electric Coop.
15. Mr. William Crisp, Crisp, Twiggs & Bolch
16. Mr. Joseph Tally, Tally & Tally
17. Mr. David Stover, Tally & Tally
18. Mr. Lon Bouknight, Tally, Tally & Bouknight
19. The manager of a South Carolina Municipal utility
20. Mr. Earl Chudoff, a former member of Congress from Philadelphia, and a former staff member of his former investigating committee
21. Other managers of municipal and cooperative systems in the Carolinas may have been contacted.
22. Mr. Robert Rathen of R. W. Beck Co., Orlando, Florida.
23. Mr. Foley Treadway of Southern Engineering
24. Mr. Leroy Love of a New York bond counsel firm
25. Mr. Popham of Larramore, Douglas & Popham
26. Mr. Joe Botto, former manager of Yankee-Dixie.
27. Corps of Engineers personnel in Washington and Atlanta
28. Mr. Bill Williams, manager of the Charlotte office of Reynolds Securities.

Mr. Brand cannot recall the date or the specifics of each conversation and wrote no memoranda of them. In each case the conversation was about one or more of the issues raised in this proceeding about which the other party to the conversation had personal knowledge.

Mr. C. Forrest Bannen has talked to the following people concerning the Applicant:

1. Joseph Tally, David Stover, Lon Bouknight of the law firm of Tally & Tally
2. L. C. Williams and Clarence Grubb of the City of High Point, North Carolina
3. Jack Neel and Lendell Smith of the City of Albemarle, North Carolina
4. Hal Cowan of the City of Monroe, North Carolina
5. Bob Van Sleen of the City of Shelby, North Carolina
6. David Lowe of the City of Lincolnton
7. Bob Bathen of R. W. Beck Co., Orlando, Florida
8. David Springs, Franklin Rodgers, T. Foley Treadway and Stan Hill of Southern Engineering of Atlanta, Georgia
9. Curtis Bell and Albert Rucker of SEPA
10. William Crisp

86. The Department has retained an engineering and economic consulting firm, Cornell, Howland, Hayes & Merrifield, in connection with this proceeding. Members of this firm directly concerned with this proceeding include Dr. Herschel Jones, Mr. Harold Mezer, Mr. Burke Hayes, and Mr. Frank Lanou. They will be applying the principles of and studying the economic benefits associated with electric power pooling to possibly supply PECA cities and the application of generally accepted principles of competition to the electric power industry.

Supplementary Interrogatory

1. The Department is currently examining documents obtained from South Carolina Electric and Gas Company in regard to agreements to allocate retail customers on a territorial. When we have formed a contention regarding these allocations, this response will be supplemented in accordance with the Atomic Energy Commission's rules.

Wallace Edward Brand

WALLACE EDWARD BRAND  
Attorney, Antitrust Division  
Department of Justice  
Washington, D. C. 20530

Subscribed and sworn to before  
me on the 30th day of November, 1973.

Walter Jones

Notary Public

CONFIDENTIAL

APPENDIX A

May 16, 1967

Memo to Mr. G. G. Mattison  
Mr. E. B. Parker  
Mr. F. W. Beyer

Gentlemen:

This is in reply to Mr. Mattison's note of April 28 enclosing and asking our comments on April 26, 1967, letter of J. B. Thomason, General Manager of the South Carolina Public Service Authority, requesting a further conference on Santee Cooper's admission to the CARVA Pool.

Following are my own thoughts on how this request should be handled, with the warning that my views have not yet been expressed to or approved by the presidents of the CARVA companies who are meeting here the same day as the CARVA Pool Executive Committee.

1. In response to our previous inquiry as to how Santee Cooper could be of benefit to the Pool, Thomason replies Santee Cooper "would help in a generally proportionate way to spread reserve capacity among a larger number of plants, thereby reducing the percentage of reserve required." We might point out that the CARVA Pool reserve is already reduced to its irreducible minimum for 1967 and 1968. He already knows this from our F. P. C. Form 12.

2. Thomason states: "We believe that there are opportunities for economy interchange between the members of the Pool and our system." Is this correct, with his small steam units and high fuel costs?

3. In the next to the last paragraph, after indicating that Santee Cooper could participate in the Pool under the present agreement, he states: "If there are any aspects of the arrangements that could be better handled in a way different from the CARVA Agreement, such methods would be among the matters that your Committee and we would want to consider together." When you next meet with him I would raise the following points in response to the quoted statement.

(1) Appendix A, Pooling Plan, Section 2.2 provides that "The installation of additional generating capacity should be related to the combined loads of the interconnected systems of the Companies." - and each unit should be "the largest size that the existing circumstances can justify \* \* \* and timed to meet the requirements of the combined loads." This section also provides for "staggering installations so that in the long run no one company will have an unreasonable capital investment made for the benefit of others and no one company will be dependent on other companies for a disproportionate amount of its capacity requirements." Santee Cooper could not possibly meet these criteria, and the two 100 MW steam units they have scheduled for installation in 1976 are too small for consideration as Participation Units.

(2) It should be noted that, according to the projections furnished with Thomason's letter, Santee Cooper will have a reserve margin

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of 56% in 1970, 44% in 1971 and 32% in 1972. This indicates clearly that his own system cannot absorb the 160 MW units within the time contemplated by the CARVA Pool Agreement for a Participation Unit.

(3) If Thomason suggests that the Pool buy the excess capacity of the two 160 MW units, we should point out that the formula contained in Appendix C, Supplement 1, for determining Annual Fixed Capital Charges includes both State and Federal taxes. Since our companies are on record as supporting tax equality for all power supplies, we are unwilling to purchase power from him that does not bear the same proportionate tax load as power produced on CARVA companies' systems, as this would amount to our sharing in his exemption from taxation. At this point we could ask him if Santee Cooper would be willing to become subject to all State taxes and if the answer is negative, whether he would be willing to make equivalent payments to the State in lieu of taxes.

4. Has anyone on the Planning Committee made the assumption that Santee Cooper would be admitted as a Pool member, and made some calculation of the cost to Santee Cooper of its equitable share of pool transmission? If this figure is substantial, an amount should be suggested at the next meeting with Santee Cooper.

I have again reviewed Part 2 of the Federal Power Act and have reluctantly concluded that becoming a party to the CARVA Pool Agreement would not require Santee Cooper to file with the Federal Power Commission its rates to co-ops and municipalities.

Since there are three cases now pending before the Federal Power Commission in which small systems are attempting to force their way into pools by obtaining forced interconnections with larger systems under Section 202(b) of the Federal Power Act, I do not think we should flatly refuse to admit Santee Cooper to the pool because it is tax exempt and competes with two of our member companies. At least one member of the Federal Power Commission would consider this a violation of the antitrust laws.

In conclusion, I would recommend that discussions of the engineering and economic problems associated with Santee Cooper's admission to the Pool be continued as long as possible. Hopefully, they might eventually be broadened by a proposal from us that Santee Cooper be converted into some sort of State-owned or privately-owned corporation with statutory powers to merge with another power company.

Very truly yours,

CH

Carl Horn, Jr.

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CH:ds  
CC: Mr. W. B. McGuire