Chapter II

PUBLIC UTILITY REGULATION

The use of a nuclear reactor to generate electric power would undoubtedly subject the power plant to regulation as a public utility. All ten of the states under study have created regulatory commissions, commonly called public utility commissions or public service commissions, to regulate specified businesses said to be "affected with a public interest" and known as public utilities. It should be noted at the outset, however, that because electric companies are excepted from the jurisdiction of the Texas commission, an atomic energy electric power plant in Texas would encounter no regulation by a state public utility commission, although it would be subject to a rate-making power which has been delegated to incorporated cities and towns.\(^1\)

The extent of the jurisdiction of the commissions in the nine states other than Texas is, of course, determined by statute, subject to constitutional limitations. In considering the jurisdiction of the commissions in these nine states, the first question encountered is whether an atomic energy power plant, engaged in generating electricity, falls within the statutory jurisdiction of the state commissions. In the event electricity is supplied directly to consumers, the power plant would unquestionably be subject to regulation by the respective public utility commissions. With the possible exception of Ohio, it also seems clear that an atomic power plant which sells electricity at wholesale to other electric companies would also be subject to the jurisdiction of the various state utility commissions. For example, the New York statute gives the Public Service Commission jurisdiction over "the manufacture, conveying, transportation, sale or distribution of . . . electricity" and over "electric plants" and "persons or corporations owning, leasing or operating the same."\(^2\) The term "electric plant" includes "all real estate, fixtures and personal property operated, owned, used or to be used for or in connection with or to facilitate the generation, transmission, distribution, sale or furnishing of electricity. . . ."\(^3\) It seems clear that the language embraces an atomic power generating plant. It would seem, moreover, that the definition is sufficiently broad to

\(^1\) Tex. Civ. Stat. art. 1119.
\(^2\) N.Y. Public Service Law §5(2).
\(^3\) Id., §2(12).
include a separate corporation operating a nuclear reactor and engaged in the business of selling heat energy to a generating station for conversion by the generating company into electric energy. In defining terms such as "public utility," "electric corporation," and "electric plant," the statutes of the other states are equally broad. 4

However, a different situation may prevail in Ohio. There, "public utility" is defined as: "An electric light company, when engaged in the business of supplying electricity for light, heat, or power purposes to consumers within this state." 5 The Ohio Supreme Court has held that a plant supplying electric energy to other utility companies for distribution is not a public utility within the Ohio statute, and the statute has not been amended since this decision was rendered. 6 A corresponding provision defining a "gas company" 7 was amended in 1933 to include a person or corporation engaged in the business of supplying artificial or natural gas to consumers or of supplying artificial gas to gas companies or natural gas companies. 8 Thus, it is not unlikely that the Ohio legislature may amend the statute in order to include an electric company supplying electricity to other electric companies. Nonetheless, only Ohio among the states having commissions regulating electric companies would seem to permit a general industrial firm to avoid regulation by the device of selling power to existing utilities rather than directly to consumers.

Assuming that the nuclear plant itself is denoted a public utility and thereby subjected to regulation, what are the restrictions imposed upon one or a group of existing utilities in attempting to finance, construct, and operate a nuclear reactor for producing electricity? Moreover, what restrictions are imposed on investment by a general industrial firm in an atomic power corporation? In considering these questions, four specific problems have particular significance: (1) regulation of the acquisition of an atomic reactor by a corporation organized for the specific purpose, or by an existing corporation; (2) restrictions affecting the purchase of voting common stock in an atomic power corporation; (3) regulation of transactions between affiliated utility companies; and (4) rate regulation.


7 Ohio Rev. Code §4905.03(5).

A. Regulation of the Ownership of an Atomic Reactor by a Corporation Organized for the Specific Purpose, or by an Existing Corporation

The development by private capital of atomic energy for power production may take place under a variety of organizational forms. An existing utility company may acquire an atomic reactor, owning and operating it within its existing corporate structure. Or it may be found advisable, at least during the experimental and developmental stage, to organize a separate corporation to construct and operate the reactor. Several statutes which may be applicable, depending on the organizational pattern adopted, and which present problems unique to the atomic energy business, must be consulted.

I. Ownership of Nuclear Reactor by an Existing Corporation

Whether an existing public utility corporation could legally own a nuclear reactor without altering its corporate powers depends, of course, on the charter of the corporation involved. However, notwithstanding the uniqueness of the source of energy, it would seem that generation of electric current, whatever the means used, and research for improved methods of generation would be rather clearly incidental to the business of supplying consumers with electric power; hence, there is little likelihood that such a venture would be deemed ultra vires.

Actually, considerations other than corporate power to purchase a nuclear reactor probably will be controlling in determining whether the reactor should be owned by an existing public utility company or by one created for the special purpose. These considerations include financing, possible effect on rate determination, and damage liability problems.

2. Certificates of Convenience and Necessity

Obtaining a certificate of public convenience and necessity is frequently a prerequisite to the initiation of a new type of activity on the part of a public utility. Statutes of six of the ten states covered in this survey specifically require that such a certificate be obtained before an electric utility may construct a plant. Of these six statutes, that of California is typical:

No . . . electrical corporation . . . shall begin the construction of a . . . plant, or system, or of any extension thereof, without having first obtained from the commission
a certificate that the present or future public convenience and necessity require or will require such construction.\(^9\)

Moreover, a certified copy of the corporation's charter must be filed with the state commission, and any required municipal or county franchise must be obtained.\(^{10}\) The statutes of Illinois, Michigan, Missouri, and New York are substantially the same.\(^{11}\) The Wisconsin statute is somewhat more elaborate and detailed than those of the above five states. It permits the public service commission to require the utility periodically to submit plans of proposed construction. Furthermore, the commission is empowered to refuse a certificate if it appears that the completion of the project

\[\ldots\) (a) will substantially impair the efficiency of the service of such public utility; (b) provides facilities unreasonably in excess of the probable future requirements, or (c) will, when placed in operation, add to the cost of service without proportionately increasing the value or available quantity thereof unless the public utility shall waive consideration by the commission, in the fixation of rates, of such consequent increase of cost of service.\(^{12}\)

Until nuclear reactors are proved to be commercially competitive, this statute will undoubtedly have a substantial effect because of the probable high cost of constructing the early nuclear reactors. Moreover, prospects of developing within a few years technological processes for commercial utilization of the fusion process and improved methods of using the fission process may lead public utility commissions to exercise cautiously their power to issue certificates of convenience and necessity because of a possible high obsolescence factor in first commercial reactor designs. It is likely that a similar result will also be reached in states that have adopted the California type of statute. As will be noted later, the problem of rate determination is one that is likely to assume considerable importance in the development of atomic energy for power purposes.

The statutes of Pennsylvania, while not specifically requiring permission to build a plant, require, subject to minor exceptions not relevant here, that a utility must obtain a certificate before acquiring any kind of property from any person.\(^{18}\) This seemingly would em-

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\(^{10}\) Id., §1004.
brace plant construction. In addition, in Pennsylvania and also in Missouri, the commissions are specifically given authority, in granting certificates of convenience and necessity, to impose such conditions as they deem reasonable and just. These statutes obviously place great power in the hands of these commissions.

New Jersey and Ohio do not require that a certificate of convenience and necessity be obtained by a utility before it may construct a major property addition. As previously noted, Texas has no state commission with jurisdiction over electric companies.

It may be mandatory in some states to incorporate an atomic power plant in the state in which it is to be operated in order to obtain a certificate of convenience and necessity. An Ohio statute provides:

No franchise, permit, license, or right to own, operate, manage, or control any public utility which is an electric light company . . . shall be granted or transferred to any corporation not incorporated under the law of this state.

Substantially identical provisions are found in the laws of California, Illinois, and Wisconsin.

3. Financing a Corporation to Construct a Nuclear Reactor

State statutes frequently regulate various aspects of public utility financing. The statutes of nine of the ten states under study require that all proposed electric utility security issues be approved by the state public utility commissions, subject to a few minor exceptions to be noted later. Again, Texas is the exception. These statutes are almost certain to affect substantially the financing of early nuclear electric power plants, especially for the reason that such developments frequently take the form of cooperative action by several utilities or possibly a combination of utilities and industrial corporations. Indeed, it may appear that desired financing programs are precluded by the applicable state regulatory statutes.

14 The state officials so reported to the Federal Power Commission; see FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 24 (1948).


16 FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 24 (1948).

17 Ohio Rev. Code §4905.62.


19 FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 26 (1948).
New York and Wisconsin were the first states to create the modern type of public utility commission with broad powers. Many states have patterned their laws, to some extent, upon these pioneer statutes. For this reason the New York utility financing statute will be examined in some detail.

The New York statute provides that an electric utility corporation may issue stocks, bonds, notes, or other evidences of indebtedness if it has obtained from the public utility commission an order authorizing such issue, stating the purposes to which proceeds thereof are to be applied, and declaring that, in the opinion of the commission, the money, property, or labor to be procured or paid for by the issue of such stock, bonds, etc., is reasonably required. The purposes for which such securities may be issued are enumerated: (1) acquisition of property, (2) construction, completion, extension, or improvement of plant or distributing system, (3) improvement or maintenance of service, (4) refunding, (5) reimbursement of moneys "actually expended from income or from other moneys in the treasury of the corporation not secured or obtained from the issue of stocks, bonds, notes or other evidences of indebtedness. . . ." 

As a matter of procedure, in New York, a public utility must obtain a certificate of convenience and necessity authorizing construction of a new plant before the public service commission can authorize the issuance of securities to finance it. A rather important judicial decision holds that consent may be given for issuance of securities only for purposes designated in the statute.

The statutes of California, Illinois, Michigan, Missouri, and Ohio contain provisions very similar to those of New York. In each of these statutes, construction of new facilities is stated to be a purpose for which securities may be issued.

The New Jersey statute is less specific and provides merely that the commission shall approve the proposed issue when the commission is satisfied that the issue is in accordance with law, and the commission approves it as within authorized purposes. The executive officer of the Board of Public Utility Commissioners in New Jersey has indicated

20 Trachsel, Public Utility Regulation 111-112 (1947).
21 N.Y. Public Service Law §69.
22 People ex rel. N.Y. Edison Co. v. Willcox, 207 N.Y. 86, 100 N.E. 705 (1912).
that, when confronted with a proposed security issue to finance an atomic energy facility, the New Jersey commission would consider the question as to whether or not such a plant could be expected to produce electric energy at or below the unit costs of a conventional plant. In Pennsylvania and Wisconsin the commissions are empowered to take into account the present and probable future capital needs of the public utility and "other relevant considerations" when an application for approval of a security issue is presented. Presumably, all of these states would consider the possibility of initial reactors becoming obsolete at an early date because of improved technology or because of the development of processes for commercial exploitation of the fusion process.

The commissions of six states, California, Michigan, Missouri, New Jersey, New York, and Ohio are authorized to require competitive bidding on security issues, although none of them actually requires it in all cases.

In view of these statutes requiring a commission permit to raise funds by the issuance of securities, cooperative action may be precluded unless the corporate contribution can be drawn from surplus.

a. Exemption of Short-Term Loans

Conceivably the request for a financing permit could be avoided by resort to short-term loans. The New York statute permits an electric corporation to issue notes "for proper corporate purposes," payable at periods of not more than twelve months, without approval of the commission. Without further limitations, there is nothing to prohibit a utility from renewing these notes from year to year. However, the New York commission seeks to combat this practice whenever possible, as for example by requiring as a condition for approval of a bond issue that the company submit a plan for retirement of its outstanding short-term notes. There is some indication that the New

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25 Letter from H. J. Flagg, dated Aug. 25, 1953. He also felt that the New Jersey commission would not be faced with the problem for many years because of an adequate supply of oil, coal, and natural gas providing for cheap thermo-electric generation in New Jersey.


27 FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 7 (1948).

28 N.Y. Public Service Law §69.

29 Re The Patchogue Electric Light Co., 73 P.U.R. (N.S.) 129 (1948). In this case, unsecured notes were involved. However, the statutory language appears to cover both secured and unsecured notes.
York courts might hold such a condition unlawful as in excess of the commission's powers, although no such decision has actually been rendered.\textsuperscript{80} The Missouri statute is nearly identical with that of New York.\textsuperscript{81}

In California, Illinois, and Pennsylvania, notes maturing in less than one year are exempted, but limitations on renewal are included in the California and Illinois statutes.\textsuperscript{82} Michigan permits financing by notes maturing within twenty-four months without the consent of the Public Service Commission, but a refunding limitation is imposed.\textsuperscript{83}

In Wisconsin, obligations maturing in less than one year are exempt, since such obligations are not included in the statutory definition of "security," requiring approval.\textsuperscript{84} In New Jersey and Ohio the statutes are silent as to short-term obligations, but approval is required for those payable at periods of twelve months or more, hence short-term notes are exempted by implication.\textsuperscript{85}

Accordingly, the short-term note possibility of financing cooperative atomic power development is attended by numerous difficulties and is by no means an assured method of avoiding regulation of security issues.

\textbf{b. New York Public Service Commission—Basic Principles}

Certain other aspects of financing warrant mention at this juncture. All that can be done at present is to suggest certain problems that may have to be faced and the attitudes that seem to prevail among public utility commissions.

The New York Public Service Commission indicates that approval of public utility securities should be guided by seven basic principles: (1) the issue must be for proper corporate purposes; (2) it must be adequately supported by assets; (3) there must be a proper ratio between funded debt and capital stock; (4) the utility must show that earnings will be sufficient to meet interest or dividends on securities

\textsuperscript{80} See 22 Fordham L. Rev. 77, 81 (1935). In Rochester Gas & Electric Corp. v. Maltbie, 298 N.Y. 867, 84 N.E.2d 635 (1949), it was held that the commission had no power to require, as a condition to approving a security issue, that a certain type depreciation accounting be followed.

\textsuperscript{81} Mo. Rev. Stat. (1949) §393.200.


\textsuperscript{84} Wis. Stat. (1957) §184.01(3).

authorized; (5) the utility must make an effort to obtain the best terms possible; (6) financing costs must be reasonable; (7) competitive bidding and public sale may be required in some cases. Although similar policy enunciations have not been issued by other public utility commissions, it may be expected that they will follow some, if not all, of these principles.

Of these enumerated principles, two warrant special attention. The ratio between funded debt and capital stock may cause difficulty. The New York commission attempts to limit the proportion of bonds and fixed interest obligations to a maximum of 60% of the total capital structure. This limitation is significant because of the preference of utilities for use of a higher percentage of debt obligations in high-cost undertakings.

Again, the requirement of a showing that earnings will be sufficient to meet interest and dividends on securities authorized may prove to be a substantial problem in view of possible high operating costs of initial electric generating plants employing atomic fuel. This problem seems intimately related to the matter of rate determination, and a further discussion of it will therefore be deferred until the rate-making problem is analyzed.

B. Restrictions Affecting the Purchase of Securities of an Atomic Power Corporation

In the event that a separate corporation should be formed to construct and operate a nuclear reactor generating plant, it is necessary to determine what restrictions may be imposed upon the ownership of stock in such a corporation. In this connection, it is desirable to consider the effect of state regulatory measures upon a form of organization that involves stock ownership of the nuclear reactor public utility by existing electric utility companies and also by non-utility companies. Related to this general problem is the more specific question of whether either type of corporation has authority to acquire and own stock in a nuclear generating plant company. Limitations on methods of financing the purchase of such stock likewise demand attention.

38 For example, the projects undertaken by electric utilities to supply AEC installations with electricity at Portsmouth, Ohio and at Paducah, Kentucky. Re Ohio Valley Electric Corp., 96 P.U.R. (N.S.) 143 (1952); Re Central Ill. Public Service Co., 88 P.U.R. (N.S.) 28 (1951).
I. Regulation of Acquisition by Utility Companies of Stock in Other Utility Companies

Many states require that the acquisition of voting stock of certain types of corporations by other corporations be approved by a state commission. In the electric utility area this requirement is very common. In eight of the ten states surveyed in this study, there is a requirement that a public utility company must obtain the permission of the public utility commission before it may acquire stock in another public utility. Only the Michigan and Texas statutes fail to impose such a limitation upon electric utilities. The ramifications of the statutes vary considerably. In some instances, bonds as well as stock are included.\(^89\) In seven states, approval of the public utility commission is necessary when any amount, no matter how small, of the stock of one utility is acquired by another utility.\(^40\) However, in Pennsylvania approval of the commission is required only when a public utility seeks "to acquire five per centum or more of the voting capital stock of any corporation."\(^41\)

It is difficult to determine the standards that will be applied in determining whether in any particular instance the acquisition of stock by one public utility in another utility will be approved. Statutes are frequently rather general in nature, conferring broad discretionary powers upon the commissions and typically requiring that the commission shall approve the acquisition if it is "consistent with the public interest."\(^42\) Other statutes are completely silent regarding the standards to be applied by the respective commissions.\(^43\) In such states no doubt the public interest criterion is also applied by implication.

On the other hand, the statutes of several states appear to be somewhat more restricted in scope. For example, the California statute apparently requires approval of the commission only when the stock to be acquired is that of a utility "organized or existing under or by virtue of the laws of this State."\(^44\) In Illinois, New Jersey, and Wis-

\(^44\) Cal. Public Utilities Code §852.
consin approval apparently is required only for the purchase of stock in utilities operating within the state.\textsuperscript{45}

Ohio has a somewhat unique statute concerning the necessity for commission approval of stock acquisitions by public utilities in other public utilities. The statute provides:

With the consent and approval of the public utilities commission:

(A) Any two or more public utilities furnishing a like service or product and doing business in the same municipal corporation or locality within this state, or any two or more public utilities whose lines intersect or parallel each other within this state, may enter into contracts with each other that will enable them to operate their lines or plants in connection with each other.

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(D) Any such public utility may purchase the stock of any other such public utility.\textsuperscript{46}

These provisions apparently mean that acquisitions by one public utility of the stock of another utility need be approved only if both are operating in the same locality, or if their lines are parallel or intersect.\textsuperscript{47}

As a result of this type of regulation, existing utilities desirous of investing in an atomic power corporation will have to obtain commission approval by showing the necessary prerequisites. A commission policy opposing such investments will preclude public utilities from engaging in a jointly sponsored enterprise to develop atomic power.

2. Regulation of Acquisition by Non-Utility Companies of Stock in Electric Utility Companies

Only three of the ten states under study require commission approval in case of a non-utility company seeking to acquire the capital stock of an electric company. The New York statute provides: "... [N]o stock corporation of any description, domestic or foreign, other than a gas corporation or electric corporation . . . shall purchase or acquire . . . more than ten per centum of the voting capital stock issued by any gas corporation or electric corporation organized or


\textsuperscript{46} Ohio Rev. Code §4905.48.

\textsuperscript{47} 33 Ohio Jurisprudence 521. Such a restrictive interpretation of the section has been made by the Ohio Public Utilities Commission in respect to Clause (A); see Re Cincinnati Gas and Electric Co. No. 827 (1916) O.P.U.C.R. 419, P.U.R. 1916 D 929; Re Cincinnati Gas and Electric Co. No. 3112 (1924) O.P.U.C.R. 122.
existing under or by virtue of the laws of the state . . . ” unless approved by the Public Service Commission. However, the commission may not act arbitrarily in refusing its approval. A Missouri statute is patterned after the New York provision. The third state, New Jersey, requires approval by the Board of Public Utility Commissioners when, as a result of the sale of any portion of the capital stock of a public utility incorporated in New Jersey, there will be vested in any corporation, domestic or foreign, “a majority in interest of the outstanding capital stock of such public utility corporation.”

Where non-utility companies must obtain commission approval to purchase securities of an atomic power corporation, a restrictive commission policy may prevent a jointly owned project. In view of the substantial interest of chemical companies in nuclear reactor technology and resulting radioactive byproduct wastes and materials, these regulatory provisions may have a particularly unique effect on possible cooperation among utility and chemical companies in atomic energy affairs.

3. Financing the Purchase of Common Stock in an Atomic Energy Power Plant

Financing the purchase of common stock in an atomic energy power plant by existing electric utility companies presents some additional problems apart from the above-mentioned requirements that security issues be approved by state public utility commissions, and that security acquisitions by public utilities likewise be approved. Again, the fact that several utilities may wish to join in a cooperative effort during the early stages of the development of atomic power gives particular pertinence to these provisions. If any existing utility should have insufficient surplus with which to finance such a purchase, and should it desire to issue stocks, bonds, or debentures to cover such financing, approval by the state public utility commissions would be needed in all states under study except Texas.

48 N.Y. Public Service Law §70.
49 See New York State Electric Corp. v. Public Service Commission, 227 App. Div. 18, 236 N.Y. Supp. 411 (1929), 260 N.Y. 32, 182 N.E. 237 (1932). The Appellate Division held that the Public Service Commission had acted arbitrarily in refusing to permit a New York electric utility to sell stock to a Delaware holding company. The Court of Appeals in ruling that the order of the Appellate Division was not appealable seemed to say, however, that the order of the Appellate Division did not limit or destroy the discretion of the Public Service Commission.
In an administrative proceeding to obtain authority to issue stocks or bonds to finance the purchase of stock in an atomic energy corporation, there may be uncertainty as to whether or not it is a corporate purpose for which the commission may approve a security issue. It will be recalled that the statutes of New York, California, Ohio, Michigan, Missouri, and Illinois enumerate the purposes for which a public utility may issue securities. These purposes include: (1) the acquisition of property; (2) the construction, completion, extension, or improvement of its plant or distributing system; and (3) the improvement or maintenance of its service. The New York courts have approved the action of the Public Service Commission interpreting this statute to preclude approval of security issues for purposes other than those enumerated.\textsuperscript{52}

The Ohio commission, under a nearly identical statute, had prior to 1945 repeatedly held that securities of another company do not constitute property, within the act, and that an issue for the purpose of acquiring such securities cannot be approved.\textsuperscript{53} Probably because of these decisions, the Ohio statute was amended in 1945 to permit a public utility to issue shares of common stock (bonds are not mentioned) to acquire or pay for shares of common capital stock of another public utility, when approved by the commission. But certain limitations are imposed, including a requirement that the applicant must acquire 65\% or more of the issued and outstanding common stock of the company whose shares are to be acquired. Moreover, the public utility whose shares are to be acquired must be located in Ohio or in an adjoining state so as to permit the operation of the properties as an integrated system.\textsuperscript{54} In August 1953 the general counsel of the Ohio Edison Company was asked to comment on this statute. His reply indicated that with respect to his company, the statute has not been a problem, since they financed stock purchases in other utilities from "uncapitalized capitalizable expenditures"; in other words, from surplus.\textsuperscript{55} However, in the absence of such reserve funds the Ohio statutes would become an obstacle.

In states other than Ohio, the commissions might approve the issuance of stocks or bonds to finance the purchase of electric utility

\textsuperscript{53} See 33 Ohio Jurisprudence, Public Utilities, §169c, and cases cited therein.
\textsuperscript{54} Ohio Rev. Code §4905.40. On the amendment, see 33 Ohio Jurisprudence, Public Utilities, §169c.
\textsuperscript{55} Letter from D. Bruce Mansfield, dated Aug. 31, 1953.
securities either on the theory that such securities constitute "property" or that they are being purchased for the "improvement or maintenance of service."\textsuperscript{56} As hitherto noted, the statutes of New Jersey, Wisconsin, and Pennsylvania are less specific than New York in regard to the purposes for which securities of public utilities may be issued, and accordingly in those states less difficulty could be anticipated. Nevertheless, a prospective entrepreneur in the atomic reactor field will be obliged to inquire of the state commissions to ascertain their views concerning approval of a security issue to finance the purchase of common stock in an atomic energy power plant. A letter received from the New Jersey Board of Public Utilities Commissioners indicates that because the cost of generating electricity by the use of nuclear fuels may prove to be higher than by conventional methods, the commission will be obliged to consider this factor in determining whether or not to grant the necessary approval for a security issue.\textsuperscript{57}

C. Regulation of Transactions Between Affiliated Companies

Again, because some type of joint financing among public utilities and non-utility corporations may be desirable during initial phases of developing the atomic power industry, atomic energy entrepreneurs are necessarily interested in the regulations that are imposed in respect to the resulting intercorporate arrangements. In some instances this regulation may be considered so unacceptable to some firms, particularly non-utilities, that they may not consider it feasible to engage in a joint venture.

It must be kept in mind that state commission regulation of utilities varies not only with the statutes of the various states, but also with the strictness or liberality with which the commissions and courts interpret the laws granting regulatory power to administrative agencies. While certain commissions interpret their powers narrowly, others extend their regulatory authority to activities reached only by a broad construction of the pertinent statutes.\textsuperscript{58} This difference in basic approach is manifested especially in the area of regulation of intercorporate relations between public utilities and affiliates.

Transactions with affiliates can be regulated to some extent without

\textsuperscript{56} There are no reported court decisions defining these terms in other jurisdictions.

\textsuperscript{57} Letter from H. J. Flagg, Executive Officer, N.J. Department of Public Utilities, dated Aug. 25, 1953.

\textsuperscript{58} See FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities (1948).
specific statutory authority, for such regulation is really an implied part of the power to control rates in that the commission may consider the propriety and reasonableness of expenditures of utilities subject to its jurisdiction.\(^{59}\)

However, expressly authorized state regulation of such relations began in 1930 when New York and Wisconsin specifically accorded their commissions jurisdiction over these matters.\(^{60}\) Because of federal constitutional difficulties, the states have resorted to indirect regulation of transactions with affiliated holding companies: by asserting jurisdiction over contractual relations of all local utilities over which they have jurisdiction, the states thereby reach affiliated companies regardless of whether they are domestic or foreign corporations. A 1932 United States Supreme Court decision upheld this type of state control.\(^{61}\) Today, only California, Michigan, and Texas, of the ten states herein examined, do not have specific statutory provisions for regulation of transactions with affiliates of public utilities.\(^{62}\) The other seven state commissions all exercise some degree of regulation over contracts and transactions between affiliated companies.

On the basic preliminary question of what constitutes "affiliated interests" the statutory definition is likely to be very comprehensive, as in New York. There such interests are defined to include:

a. Every corporation and person owning or holding directly or indirectly five per centum or more of the voting capital stock of such utility corporation.

b. Every corporation and person in any chain of successive ownership of five per centum or more of voting capital stock.

c. Every corporation five per centum or more of whose voting capital stock is owned by any person or corporation owning five per centum or more of the voting capital stock of such utility corporation or by any person or corporation in any such chain of successive ownership of five per centum or more of voting capital stock.

d. Every person who is an officer or director of such utility corporation or of any corporation in any chain of successive ownership of five per centum or more of voting capital stock.

e. Every corporation which has one or more officers or one or more directors in common with such utility corporation.

f. Every corporation or person which the commission may

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\(^{59}\) Barnes, The Economics of Public Utility Regulation 634-635 (1942).

\(^{60}\) Id., 628.


\(^{62}\) FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 26-27 (1948).
determine as a matter of fact after investigation and hearing is actually exercising any substantial influence over the policies and actions of such utility corporation even though such influence is not based upon stockholding, stockholders, directors or officers to the extent specified in this section.

g. Every person or corporation who or which the commission may determine as a matter of fact after investigation and hearing is actually exercising such substantial influence over the policies and actions of such utility corporation in conjunction with one or more other corporations and/or persons with which or whom they are related by ownership and/or blood relationship or by action in concert that together they are affiliated with such utility corporation within the meaning of this section even though no one of them alone is so affiliated. 63

The Illinois definition is substantially similar, except that the percentage of stock ownership is fixed at ten per cent, instead of five per cent as in New York. 64 The Wisconsin definition is nearly identical with that of New York. 65 All three state commissions are empowered to obtain the names of all shareholders who own one per cent or more of the voting capital stock of utilities under their jurisdiction. 66 The Pennsylvania definition of "affiliated interests" also employs the five per cent stock ownership criterion as well as the "substantial influence" test. 67 New Jersey defines affiliated interests only in terms of five per cent stock ownership. 68

As to the type of regulation imposed on affiliated interests, the statutes in these states generally require that contracts providing for management, construction, engineering, accounting, legal, financial, or similar services must be filed with and approved by the state public utility commissions, and that contracts found to be not in the public interest may be disapproved by the commission. 69 The commissions are also given the power to examine all necessary accounts and records relating to transactions between affiliated interests. 70 These controls

63 N.Y. Public Service Law §110(2).
65 Wis. Stat. (1957) §196.52(1).
70 See Legis, "The Servicing Function of Public Utility Holding Companies," 49 Harv. L. Rev. 957, 962 (1936) for general discussion of this type regulation. See also Barnes, supra note 59 at 630-655.
are, of course, familiar to public utilities, but for many non-utility industries, such controls are often considered so restrictive on management policies that management scrupulously avoids subjection to the regulation. If financing an atomic power development in any area is rendered more difficult by these provisions, a re-examination of the desirability of the regulation may be warranted in order to encourage development of the new technology.

The statutes of Missouri and Ohio do not employ the term "affiliated interests," but the commission of each of these states has reported to the Federal Power Commission that it has jurisdiction over transactions with affiliates. In Missouri it seems that the Public Service Commission regards the transactions between affiliates as within its rate-making authority, although there appears to be no express statutory provision giving it this power of control. There are several provisions in the Ohio statutes dealing with the subject. One states that when and as required by the Public Utilities Commission, "every public utility shall file with it a copy of any contract, agreement, or arrangement, in writing, with any other public utility relating in any way to the construction, maintenance, or use of its plant or property, or to any service, rate, or charge." Another Ohio statute provides that if the consent of the Public Utilities Commission is obtained, "Any two or more public utilities furnishing a like service or product and doing business in the same municipal corporation or locality within this state, or any two or more public utilities whose lines intersect or parallel each other within this state, may enter into contracts with each other that will enable them to operate their lines or plants in connection with each other." In neither of these states is it clear what kinds of transactions among affiliates are actually regulated since there are no reported court decisions or statements of commission policy interpreting the scope of the commissions' powers.

Since it may be desirable in the early stages of development of the atomic power industry to engage in a jointly financed product, these provisions will also have considerable importance for atomic energy entrepreneurs.

71 FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 27 (1948).
72 Ohio Rev. Code §4905.16.
73 Id., §4905.48(A).
D. Rate Regulation Problems

The primary function of public utility commissions is the determination of rates that may be charged by the regulated public utilities. Many of the regulatory powers conferred on public utility commissions, such as the supervision over accounting, control of capitalization and security issues, and regulation of intercorporate relations, are added for the principal purpose of effectuating and perfecting control over rates.\(^7^4\) All of the states under study excepting Texas provide for the regulation of electric rates by a state commission. In Texas rate-making power is delegated to the governing body of each incorporated town or city.\(^7^5\)

The rate-making function of public utility commissions involves many complex and technical concepts, and no attempt will be made here to explain and discuss the many ramifications which have been the subject of extended discussion in legal periodicals and treatises. However, several unique rate-making problems which may stem from the development and use of nuclear reactors for the production of electrical power should be noted. These problems may be divided conveniently into two categories: (1) the treatment of expenditures for research and experimentation by existing electric utilities in the initial stages of the development of atomic energy for power production, and (2) accounting and rate-making problems which may arise from the construction and operation of a full-scale atomic power plant financed by private capital.

1. Expenditures for Research and Experimentation

At present, certain electric utility companies are expending considerable sums for research and experimentation in the use of nuclear reactors as a source of heat to generate electricity. The position taken by the state utility commissions concerning the allowance of these expenditures for rate-making purposes will have a significant bearing upon the amounts utility companies are likely to spend for the development of this new form of heat energy. To the extent that these expenditures are allowed to be charged to operating expenses (or perhaps capitalized and then amortized), they are of course being borne by the consumer. It is important, therefore, to examine the considerations which will influence the decisions of the commissions and to

\(^7^4\) Barnes, supra note 59 at 282.
\(^7^5\) Tex. Civ. Stat. art. 1119.
attempt to ascertain their attitude or probable attitude in regard to this matter.

At present, nearly seventy-five per cent of the electrical power produced in the United States is derived from steam-electric plants utilizing coal, oil, and gas as fuels. The remaining twenty-five per cent is produced in hydro-electric plants. The electrical power needs of the United States have been increasing tremendously year by year. In 1953 the electric energy production was 442.7 billions of kilowatt hours as contrasted with a total production of 141.8 billions of kilowatt hours in 1940. Since available water power is limited, steam-electric production has been steadily gaining in relative importance as a power source. As compared with 75.8 millions of kilowatt capacity available in 1951, it is estimated that by 1960 the required generating capacity will be about 164 millions of kilowatts, and by 1970, 205 millions of kilowatts. In view of diminishing supplies of coal, oil, and gas used in steam-electric generation, the importance of discovering a new source of heat energy becomes obvious. Atomic energy appears to be an excellent solution for increasing power needs, and the public will benefit. However, much research and experimentation will be necessary before atomic fuels may be utilized as a source of energy at a cost competitive with conventional fuels. Even the possibility of valuable byproduct production still leaves the balance sheet in a questionable state. If atomic energy does prove to be a cheaper source of energy, the public will benefit even more. These considerations certainly seem to indicate that public utility commissions will be fully justified in allowing substantial expenditures to be charged against operating expense for the development of this new power source. Therefore, in rate proceedings, allowances for the expenditures would seem to be eminently reasonable.

There are only a few reported rate cases in which allowance of expenditures for research has been a contested issue. Of course, payments to affiliates for services have frequently been questioned by utility commissions, but in such cases the question has usually been whether the payments have exceeded costs reasonably incurred by the affiliate furnishing the services. State utility commissions have allowed reasonable expenditures for advertising and promotional activi-
ties to be claimed in rate proceedings. 79 Somewhat more analogous to the development of electric power from atomic energy are the allowances which have been made for costs of development of new wells by the gas utility industry. Limited expenditures for research and for development of new gas sources have been allowed as operating expenses in some cases 80 but large expenditures have usually been treated as capital outlay. 81

The public utility commissions of the nine states (Texas being excluded) have been surveyed in an effort to determine their attitude toward expenditures for research and experimentation in the use of nuclear reactors for power production. The commissions of three states have indicated that they would allow "reasonable" expenditures for such purposes. The Pennsylvania Public Utility Commission recently in a rate proceeding allowed a "substantial sum" to be claimed for this purpose. 82 While such expenditures have not been involved in rate cases in Michigan and Wisconsin, the public service commissions have taken official action by prescribing that the expenditures be charged to Account No. 801, Miscellaneous General Expenses. 83 This accounting treatment results in the expenditures being allowed as operating expenses in current rate-making proceedings. This procedure has been recommended by the Accounting Committee of the National Association of Railroads and Utilities Commissioners (NARUC). 84 The California Public Utilities Commission has indicated that no official action has been taken in this matter. 85 No information on this specific problem could be obtained from the other five state commissions.

It seems probable that most public utility commissions will allow

84 Letter from George P. Steinmetz, supra note 83.
reasonable expenditures for research and experimentation in the use of atomic fuels to be charged to operating expenses in the rate-making process. Most states do not have formal procedures whereby such expenditures can be approved in advance, but instead the question is determined by the allowance or disallowance in a subsequent rate proceeding. Therefore, companies contemplating such expenses will presumably follow the usual practice of trying to obtain the informal consent of the state commission before substantial expenditures are incurred. In this connection it should be noted that the Pennsylvania Public Utility Commission is authorized by statute to require public utilities to file budgets of estimated expenditures. The commission may reject part or all of any contemplated expenditure found to be "contrary to the public interest." If rejected at this stage, the expenditure will not subsequently be allowed in a rate or valuation proceeding. If not rejected, the commission may nevertheless subsequently determine whether expenditures made under the budget were reasonable. In New Jersey, Ohio, and Wisconsin budgets are required by regulation to be submitted in advance to the public utility commissions. Since the statutes contain no provisions concerning such budgets, it is doubtful if the commissions of the three latter states have authority to reject proposed expenditures. In all probability, expenditures for atomic research may be charged to operating expenses, but the possibility that a commission may later either reject them as unreasonable or require a portion to be capitalized and subsequently amortized should not be overlooked. If the latter were done, the amount thus capitalized would become a part of the rate base until written off in subsequent years.

Apparently, the federal government is taking the position that the taxpayers generally should bear some part of the costs of research in the development of atomic energy for power production and other purposes. For example, under the agreement between the AEC and the Duquesne Light Company for the construction and operation of the nation's first full-scale atomic power plant, Duquesne supplied only a portion of the reactor costs plus the generating facilities; other costs were absorbed by the federal government, with the electricity generated

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86 Barnes, supra note 59 at 605.
88 FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 27 (1948).
going through Duquesne's distribution system to consumers at rates comparable to those charged for conventionally generated electricity. The Power Demonstration Reactor Program of the AEC, initiated in 1955, also contemplates considerable federal financial assistance in the form of research assistance without charge, research and development contracts, and the waiver of certain source and special nuclear material charges. The object of this program is to promote the development of nuclear reactors for power production in the hope that future development of the technology will produce a fully competitive operation.

Of course, no question concerning the propriety of research expenditures will arise in rate proceedings if the research costs are underwritten by a government subsidy, and in all probability, the federal government will continue to contribute to the development of atomic energy for peacetime uses. Private industry, however, is expected to contribute financially to the costs of atomic research and experimentation even under the Power Demonstration Reactor Program. Whenever such private contributions are made, the question of how they will be treated for rate-making purposes will become important.

2. Construction of a Full-Scale Atomic Power Plant

There is little doubt that after further research and experimentation in the use of atomic fuels, it will become financially feasible for private capital to build electric power plants utilizing such fuels in conjunction with conventional generating equipment. The commencement of such a program does not seem too remote, especially if favorable uses for byproducts can be developed. When this stage is reached, several regulatory problems somewhat unique in the electric utility field may arise. These problems can be understood only in the light of certain fundamental postulates regarding the cost of power and the role of a nuclear reactor in a power plant.

The cost of power from any source may be said to be comprised of

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91 Ibid. Also see Atomic Energy Act of 1954, §33, 42 U.S.C.A. §2053, which provides: "Where the Commission finds private facilities or laboratories are inadequate to the purpose, it is authorized to conduct for other persons, through its own facilities . . . [such research and development activities] . . . as it deems appropriate to the development of atomic energy. The Commission is authorized to determine and make such charges as in its discretion may be desirable for the conduct of such activities and studies."
two major elements, first, operating expenses and fixed charges (including, among the former, labor, fuel, materials, and among the latter, taxes, depreciation, and obsolescence) and second, return on capital (including interest and dividends, these being limited to a fair return on the fair value of the assets). In theory, the utility is entitled to establish a rate schedule which will result in total revenue equal to the aggregate of these costs. A conventional thermal-electric generating station may be considered as having two major components, one providing steam from heat energy sources and the other generating electricity by the use of the steam in the turbine. In an atomic power plant, the latter component will be substantially the same, but a reactor will be substituted as the heat source to produce steam. In a typical thermal-electric generating station utilizing conventional fuels, approximately one half of plant cost per kilowatt of capability is attributed to each of these two components.\(^92\) The total per kilowatt cost of installed capacity of a conventional plant ranges between $150 and $250.\(^98\) Present estimates of the per unit construction cost of a nuclear power plant greatly exceed these figures.\(^94\) Moreover, it is undoubtedly a fact that the first nuclear plants will suffer a very high rate of obsolescence occasioned by the rapid development of the technology. Furthermore, development of methods of commercially utilizing the thermonuclear process may make present reactor technology obsolete in a relatively short period. However, entrepreneurs in the field hope that the resulting higher fixed charges and capital expenses can be offset in two ways: by lower operating expenses, principally because of lower fuel costs, and by the production and sale of byproducts. It will be deemed feasible from a competitive cost standpoint to construct and operate an atomic power plant when it appears that the reduction occasioned by fuel economies plus returns from the sale of byproducts compensate for the increase in construction costs, plus the higher obsolescence charges.

As noted earlier, before a new plant may be constructed it is necessary in most states to obtain a certificate of convenience and necessity from the state public utility commission. In determining whether such a certificate will be granted, or whether a proposed security issue to finance the plant will be approved, one factor that will surely be taken into account by most commissions is whether the new plant can be

\(^92\) Cisler, supra note 77 at 64-65.
\(^94\) Ibid.
expected to produce electric energy at as low or lower a unit cost as a plant of conventional design. Until a nuclear plant can produce electric power at as low or nearly as low a per unit cost as that of existing generating methods, it is doubtful whether necessary commission approval can be obtained (excepting always for the small margin allowable in the name of research and development). Increasing scarcity of conventional fuels plus increased handling costs will certainly accelerate the time when favorable competitive costs can be shown, and this is a factor to be considered by the commission. Furthermore, there are already certain areas in the country where higher than average fuel costs may possibly make an atomic reactor plant economically feasible at the present time. In the absence of these conditions, there may be a possibility of obtaining approval upon the condition that only a part of the capital expenditure will be included in the rate base for future rate-determination. Apparently this is a device that may be utilized in at least one state, Wisconsin, although it can not be regarded as an attractive course of action for any utility concerned.

If a certificate of convenience and necessity is issued for the construction of a nuclear plant which produces more expensive power than that produced in conventional plants, there is no legal assurance that actual costs will be reflected in the rate base for the purpose of determining rates. The issuance of the certificate of convenience and necessity by the state public utility commission merely represents a determination by the commission that the proposed construction is in the public interest. On subsequent rate proceedings the valuation of the facility is determined de novo as a legal matter. In other words, the issuance of the certificate does not commit the public utility commission to any specific valuation although the facility must be given some value since the certificate represents a determination that the construction was in the public interest. In fact, most state public utility commissions consider several costs, including reproduction cost, replacement cost, historical cost, and the original cost, in the valuation process. Therefore, the atomic energy power entrepreneur has no legal assurance that he will be able to recoup all costs through the established rate structure. If a statute authorized the public utility commission to commit itself to a specific valuation at the time of issuing a certificate of convenience and necessity, the atomic energy entrepreneur would then be able to proceed


See Wis. Stat. (1957) §196.49.
with full knowledge of whether or not the consumer would be required to bear some portion of the increased costs occasioned by a change in generating methods at the time the atomic power plant is constructed. But as a practical matter, and wholly apart from the question of statutory authority, state commissions probably will decline to make binding decisions at the time of certifying the construction for the reason, among others, that many of the estimates of cost will necessarily be somewhat speculative in nature.

There are those who predict that all of the foregoing considerations may result in several private utility companies refraining from building nuclear power plants until they are actually known to be competitive with existing methods. When that time arrives the development of atomic energy as a power source will not affect rates, except possibly in a downward direction if the new source produces relatively cheaper power.

There is a further aspect of the matter that demands consideration. If it proves possible to produce and sell byproducts from an atomic power plant in sufficient quantity to affect the balance sheet materially and thus to produce power at costs competitive with power from conventional fuels, several additional problems will be raised.

Today, there appear to be two primary types of marketable atomic energy byproducts. First, fissionable material may be produced and sold; secondly, radioisotopes and radioactive waste products of value may be produced, refined, and sold. Fissionable materials have value as the initial charge for new reactors, as fuel replacements for non-breeding reactors, and for military purposes. Reactor-produced radioisotopes will also yield substantial revenues, for they are being used in increasing quantities by industry, medicine, and agriculture. As of the end of June 1957, 4,109 organizations in the United States were licensed to use radioisotopes by the AEC, and the number of users and shipments continues to increase. Furthermore, an increasing number of new uses of radioisotopes by industry, medicine, and research can be expected as the technology advances.

One problem of a unique character arises out of the fact that under

97 This proposition was suggested by Leon Schwartz, Chairman, Pennsylvania Public Utility Commission, in a letter dated Oct. 7, 1953.
98 "Byproducts" is used in a broader sense here and is to be distinguished from that used in the Atomic Energy Act of 1954. Under Section 116, 42 U.S.C.A. §2014(e), "byproduct material" means any radioactive material except special nuclear material (fissionable material) produced in the processes of producing or utilizing fissionable material.
the Atomic Energy Act of 1954, the federal government takes title to all special nuclear material (fissionable material) produced in private operations.\textsuperscript{100} Lawful private producers are to be paid a "fair price"\textsuperscript{101} for their product. Moreover, the federal government has retained a monopoly over the distribution of fissionable materials, and normal competitive pricing and sales thereof are not to be expected in the near future. In respect to radioactive byproducts, under Section 81 of the Atomic Energy Act of 1954, the AEC is authorized to distribute, "with or without charge," radioactive byproduct material.\textsuperscript{102} To date the practice of the AEC has been to distribute radioisotopes at cost. Accordingly, as to fissionable materials the only market is the government; and as to other radioactive materials, the cost prices established by the federal government probably will have to be met by private utilities producing the same products. Therefore, abnormal market conditions are to be expected, and this fact not only has its bearing on rate regulation, but it presents some unusual problems of federal-state relations.

Another important question is the effect of the production and sale of byproducts on rate-making. Public utility commissions may treat the byproduct aspect of a nuclear reactor business in one of two ways, each of which will bear a definite relation to the establishment of power rates.

First, the byproduct operations may be treated as an entirely separate and distinct activity. In that event, costs directly attributed to each activity will have to be accounted for separately, and costs attributable to both activities will have to be properly allocated between them.\textsuperscript{108}

\textsuperscript{100} 42 U.S.C.A. §2072. "Special nuclear material" is defined as plutonium, uranium enriched in the isotope 233 or in the isotope 235 or any other material determined by the Commission to be capable of releasing substantial quantities of atomic energy.

\textsuperscript{101} 42 U.S.C.A. §2072.

\textsuperscript{102} Id., §2111. Radioisotopes for biomedical, agricultural, and medical research are available to domestic users at 20 per cent of catalog price. AEC Release No. 627 (April 21, 1955).

\textsuperscript{108} In several cases collateral operations of a utility have been treated as entirely separate for purposes of rate making. See, for example, Re Farmers Elevator Co., 1928A P.U.R. 469 (North Dakota) (grain elevator and electricity); Re Estelline Telephone & Electric Co., 1917F P.U.R. 151 (South Dakota) (telephone and electricity); Milwaukee Electric R. & Light Co. v. Milwaukee, 1919D P.U.R. 504 (Wisconsin) (heating and electricity); Re Manchester Street Railway, 19 N.H.P.S.C.R. 421 (1937) (New Hampshire) (street railway and electricity); Re Lockport Light, Heat & Power Co., 12 P.U.R. (N.S.) 413 (1935) (New York) (steam and electricity); Monticello v. Blue Mountain Irrigation Co., Case No. 1489 (Oct. 29, 1935) (Utah) (irrigation and electricity); Re Northwestern Electric Co., 36 P.U.R. (N.S.) 202 (1944) (FFC) (steam heating and electricity); Re Arkansas Power & Light Company, 55 P.U.R. (N.S.) 219 (1944) (Arkansas) (water, street railway, steam
The allocation of costs will be most difficult in regard to a nuclear reactor. A requirement that a large percentage of the costs be attributed to the separate and distinct byproduct operation will make electricity rates lower but may make the byproduct operation unprofitable. At the same time a different allocation of costs could conceivably make the byproduct operation extremely profitable. The method of allocation of costs will undoubtedly be prescribed by most public utility commissions. Except for Texas, all states examined in this study grant to their commissions a board authority over accounting. Furthermore, in several states there are statutes which relate specifically to accounting aspects of non-utility business of a public utility. For instance, an Illinois statute provides:

The Commission may require every public utility engaged directly or indirectly in any other than a public utility business, as defined by law, to keep separately in like manner and form the accounts of all such other business, and the Commission may provide for the examination and inspection of the books, accounts, papers and records of such other business, in so far as may be necessary to enforce any provision of this Act. The Commission shall have the power to inquire as to and prescribe the apportionment of capitalization, earnings, debts and expenses fairly and justly to be awarded to or borne by the ownership, operation, management or control of such public utility as distinguished from such other business.

A second method of treating the byproduct operation would be to regard it as an integral part of the utility operation and, in establishing electricity rates, to include in the total estimated income, revenues anticipated from byproduct sales. This method has been employed in respect to certain gas utility byproducts such as coke, tars, and gasoline. Moreover, in cases in which a subsidiary or affiliate has refined certain

heat, ice, and electricity); Re Consolidated Gas, Electric Light & Power Co., 61 P.U.R. (N.S.) 94 (1945) (Maryland) (gas, steam heat, merchandising, and electricity); Detroit v. Detroit Edison Co., 50 P.U.R. (N.S.) 1 (1943) (Michigan) (steam heating and electricity, where there was no physical interdependence).

104 FPC, State Commission Jurisdiction and Regulation of Electric and Gas Utilities 22 (1948).


byproducts, public utility commissions have required the parent utility to include in its estimated revenues a substantial percentage of the net proceeds from sales, even though the contract between the utility and subsidiary or affiliate may have established a different percentage. Thus, when the revenues from byproduct sales are substantial, they will be reflected in lower electricity rates.

To summarize, whether the production and sale of byproducts is treated as an entirely distinct activity or as an integral part of the utility operation of an atomic energy facility, the byproduct aspects of the business will have a definite effect on rate-making. The greater the net proceeds of the byproduct activity, the lower will be the cost of electricity.

One additional aspect pertinent to rate-making should be mentioned. Public utility commissions may seek to impose, as a condition on the issuance of a certificate of public convenience and necessity for the construction of an atomic power facility, the requirement that the utility will not charge higher rates than those permitted for electricity produced by a conventional facility. Whether or not the imposition of such a condition is permissible under existing law is perhaps questionable, for statutory authority is ordinarily not explicit, and the commissions have apparently not hitherto attempted to impose such limitations under other circumstances. As a matter of policy, it would seem inadvisable for commissions to impose such conditions, since they would unduly hamper the development and use of the new technology. Only through experience in operation can it be expected that the most economical methods of utilizing atomic energy will be achieved. Nonetheless, it must be recognized that the cost estimates of an atomic energy facility will be examined by the utility commission and will be taken into consideration in connection with the issuing of certificates. In fact, it would be extremely difficult for a commission to decide that a reactor plant producing electricity at a cost, for example, twice that of conventional plants should be regarded as constructed "in the public interest," at least if the costs are to be borne by the consumer by the imposition of

107 See, for example, United Fuel Gas Co. v. Kentucky Railroad Commission, 278 U.S. 300, 49 S. Ct. 150 (1929); Charleston v. Public Service Commission, 95 W.Va. 91, 120 S.E. 328 (1924); East Ohio Gas Co. v. Cleveland, 27 P.U.R. (N.S.) 387 (1939) (Ohio); Hope Natural Gas Co. v. FPC, 134 F.2d 287, 47 P.U.R. (N.S.) 129 (1943).

108 However, under the Federal Power Act, licenses contain limitations requiring that rates be computed upon the basis of original cost and that excess earnings be kept in reserve. See 16 U.S.C.A. §§803 et seq.
higher rates. Thus, the probable fixed charges and capital expenses and treatment of revenues from sale of byproducts will receive careful consideration both in issuing certificates of public convenience and necessity and in subsequent rate proceedings.

E. Conclusions

By way of summary of the foregoing discussion of the effect of public utility regulation statutes on atomic energy development we may observe that:

(1) Industrial development of atomic energy for power purposes poses several unique financial problems for an existing stabilized public utility and all pertinent statutes and regulations must be carefully analyzed before any particular financial organization or arrangement can be agreed upon;

(2) Moreover, advance approval of many types of expenditures in the highly regulated public utility industry appears desirable if the economic costs are to be borne by the consumers; and

(3) Finally, the accounting treatment of atomic energy byproducts costs and revenues should be ascertained at the earliest possible date because of the potential effect upon utility rates.

In some instances, it will doubtless happen that unfavorable public utility commission orders will prevent particular utilities from establishing nuclear reactor facilities, and especially will this be true if no opportunity for recoupment of costs is provided. Such action may make the raising of capital difficult, if not impossible, of achievement. On the other hand, if lower power costs may eventually be expected, it would seem that most public utility commissions will look favorably upon investments by existing utilities in nuclear reactor power facilities.