

COMMISSION PREAPPROVAL OF UTILITY INVESTMENTS

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FOREWORD

This report was prepared by The National Regulatory Research Institute (NRRI) under Grant No. DE-FG-01-80RG10268 from the U.S. Department of Energy (DOE), Economic Regulatory Administration, Division of Regulatory Assistance. The opinions expressed herein are solely those of the authors and do not reflect the opinions nor the policies of either the NRRI or the DOE.

The NRRI is making this report available to those concerned with state utility regulatory issues since the subject matter presented here is believed to be of timely interest to regulatory agencies and to others concerned with utility regulation.

Douglas N. Jones
Director

EXECUTIVE SUMMARY

Commission preapproval of a major electric utility investment project denotes a formal decision making process by a state public service commission in approving the investment decision of utilities before the related expenditures take place. In this report, the term "preapproval of expenditures" refers to a state public service commission's preapproval of a major investment decision guaranteeing approval of the necessary revenue approved for the project without a retrospective examination of whether the expenditures were prudent and reasonable. The term "preapproval of actions" refers to a state public service commission's reviewing a utility's investment proposal and agreeing to support those expenditures prudently and reasonably undertaken to complete the approved project.

Preapproval is similar to several mechanisms in the present institutional framework of public utility regulation. All told, thirty-two state public service commissions report making a needs determination for current plant investment using a process of certification of convenience and necessity, or in the administrative setting of a power plant siting hearing, or in some other fashion. In addition, most state public service commissions must grant their approval prior to the issuance of new securities used to finance utility expansion. Thus, many state public service commissions are presently involved in a process that could be described as similar to preapproval of major electric utility investments.

The type of preapproval affects how the preapproval process differs from current state commission practices. Preapproval of actions need not differ greatly from the existing processes of certification of convenience and necessity and prior approval of security issuance. A preapproval of actions might also include a review of the utility's demand forecast to determine whether there is a need for the facility, a review of the company's optimal expansion planning models to ensure that the correct size and type of facility is being proposed. But, unlike current state practices, a preapproval of actions would guarantee commission support for reasonable and prudent expenditures made toward the completion of the project.

In contrast, preapproval of expenditures could prove to be quite different from the current processes of certification of convenience and necessity and the prior approval of the issuance of securities. Preapproval of expenditures could involve a public service commission in providing a prospective guarantee that the utility's expenditures would be automatically included in the rate base without any retrospective consideration of whether the expenditures are reasonable. Preapproval of expenditures is unlikely to be implemented by a state public service commission, unless it is accompanied by a day-to-day assessment of the

prudence and reasonableness of the utility's expenditures by the commission or its staff. Day-to-day involvement by the commission or its staff might result in either the commission becoming co-opted by the utilities or an intrusion into the "managerial prerogatives" of the utility, neither of which seems desirable.

Some state public service commissions may obtain the legal authority to grant preapproval by simply consolidating existing proceedings through administrative interpretation of existing law. In most states, however, commission authority for the preapproval of major investment decisions by utilities would likely require additional statutory authority, particularly if the existing statutory provisions regarding convenience and necessity certification or power siting proceedings and security issuance proceedings specify the procedures to be followed in the proceedings.

Under the legal doctrine of estoppel, it is possible that a utility that justifiably relies on a commission order to make expenditures on a preapproved project could bind the commission to allow its expenditures on the plant. In order to assure the prudence and reasonableness of utility expenditures, a commission's preapproval order might clearly establish that only prudent and reasonable expenditures on the preapproved project are covered by the order and that the prudence and reasonableness of expenditures might be addressed in subsequent hearings. In order to allow a utility to justifiably rely on a preapproval order, the order might also clearly state that the utility can justifiably rely on the recovery of prudent and reasonable expenditures made toward the completion of the preapproved project.

If preapproval of an investment project is denied, the effect on the utility should not be substantially different from the effect of a denial of a certificate of public convenience and necessity or a refusal of power siting on the basis of a lack of need.

The potential financial impact of preapproval concerns the potential for risk reduction and the shifting of risk from stockholders to electricity consumers. Among the types of risk faced by investors are technological risk, demand risk, and regulatory risk. Technological risks are the hazards associated with a change in the industry's optimum production technique which may leave current plant and equipment outmoded. Demand risk is associated with an unexpected change in the demand for electricity which may require the costly abandoning of facilities currently under construction. Regulatory risks are associated with unexpected changes in costs due to a change in regulatory policy.

Risks associated with the production and distribution of electricity are, for the most part, the result of underlying economic processes. While regulatory risk can potentially be reduced by preapproval, preapproval of investment projects in no way reduces technological and demand risks but merely shifts these risks from utility stockholders to utility ratepayers. Because preapproval shifts these risks from investors willing to accept these risks to the general public, there is a deterioration in the efficiency with which society bears these risks due to decreased specialization in risk bearing.

Furthermore, an application of a capital asset pricing model suggests that much of the risk shifted or reduced by preapproval appears to be company-specific risk which is eliminated by investors through the diversification of their portfolio of securities. Hence, a shifting or reduction of risk through preapproval may not have a significant impact on the risk premium portion of the interest rates paid by utilities and thus may have little or no effect on the cost of capital. In effect, preapproval may shift or reduce risks which are largely insignificant to the utility's cost of capital.

In summary, then, the preapproval concept as here described fits partially and imperfectly in the present institutional framework of public utility regulation. Preapproval is consistent with several "trends" in commission regulation: (1) a new focus on plant investment decisions as extremely important to the cost and pricing of utility services, (2) a renewed focus on the financial strength of the utility sectors, (3) a continued focus on minimizing regulatory delay, (4) an increased willingness to shift risk away from utility companies, and (5) the further erosion of what was earlier considered as management prerogatives. Preapproval would seem inconsistent with the long tradition of commissions maximizing their latitudes of commentary and criticism; avoiding being co-opted and remaining aloof as holders-to-accountability; and assuring that owners and managers of utility capital bear alone the risk of investment decisions where the returns to risk have been appropriately set.

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Special thanks go to three prominent senior financial analysts familiar with electric utility industry financing issues, for allowing members of the NRRI staff to ask their opinions, regarding the possible effects of preapproval: Mr. Theodore J. Komosa, Vice President of Merrill Lynch White Weld Capital Market Group of Merrill Lynch, Pierce, Fenner and Smith, Incorporated; Mr. Raymond J. O'Conner, Senior Vice President of Bache Halsey Stuart Shields, Incorporated; and Mr. Mark D. Luftig of Salomon Brothers, Incorporated. The comments contained within the report on pages 56 through 62 are summaries of those made during the interviews. No attempt is made to associate a particular point of view with a particular analyst. Where there was agreement on a particular issue among the interviewees, a general viewpoint is presented. On those issues where the analysts differed, contrasting viewpoints are presented. Of course, the authors take responsibility for any errors in relating the responses of these analysts.

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CHAPTER 1
INTRODUCTION

The United States Department of Energy (DOE) requested The National Regulatory Research Institute (NRRI), as part of its research activities conducted under a grant from the DOE, to perform a study of the idea of preapproval of major electric utility investments by state public service commissions and its possible effect on the cost of capital for the electric industry. This report is the end-product of that study.

Here, the suitability of preapproval of major utility investments is examined in three ways. The first way is to consider the institutional framework, i.e., how commission preapproval fits in with current and traditional regulatory practice. This includes whether and how preapproval fits in the context of the other risk reducing or risk shifting practices that now characterize commission regulation such as fuel adjustment clauses, construction work in progress, greater emphasis on rate-of-return on equity, use of future test years, and compressed time limits for commission deliberations. The question, then, is whether some risk (hence cost) reduction may already have taken place and been factored in by financial markets and whether more is needed. Also important here is whether preapproval fits the self-image of public service commissions in terms of their traditional roles and relations with regulated companies. Preapproval may have an impact on the long-standing debate about state public service commission's intruding on the "management prerogatives" of the utilities: historically, the prerogative of utilities is to make their own investment decisions but be held accountable for consequences. A closely related issue is whether regulators might be co-opted in a preapproval process.

Assuming the institutional issues do not represent a barrier to preapproval, there remains a second question of whether preapproval would be legally practicable. That is, unless commission preapproval of a major investment is "made to stick," so that a future commission ruling may not exclude the investment expenses from rates, a preapproval process is not likely to result in a reduction of the cost of capital.

The third consideration of preapproval is whether it is likely to reduce costs even if it is legally made to stick. The discussion here covers the question of cost reduction versus cost shifting. This discussion is based, in part, on interviews with senior managers of certain major investment firms.

The report is organized along these three lines of inquiry. Chapter 2 contains a working definition of preapproval that provides a framework within which to cast the remainder of the discussion. It should be mentioned that, as with many recent and untried concepts, the idea of commission preapproval has yet even to be well defined. The definition contained herein was developed after a careful review of the scant available literature and is a working definition of the concept developed by the authors. The remainder of chapter 2 contains a discussion of current regulatory practices and economic conditions that some industry analysts believe contribute to uncertainty in major electric utility construction programs and hence to a need for preapproval.

Chapter 3 contains a discussion of the institutional framework within which preapproval would operate. The presentation begins with the extent to which preapproval in some form is already occurring and what effects are discernible. It continues with a discussion of whether and how preapproval fits in the existing array of other risk reducing and risk shifting practices. Chapter 3 also contains an inquiry to determine the side effects on commission regulation and the fairness issues that preapproval raises for several parties. It includes a discussion of whether preapproval fits with the self-perception of public service commissions.

The chapter also contains a discussion of the issue concerning public service commissions' intruding on the management prerogatives of the utility and the issue of regulators being co-opted in a preapproval process. Possible limits on the scope of preapproval actions so as to maximize any benefits and minimize the adverse effects attributable to preapproval are also discussed.

Chapter 4 contains a discussion of legal considerations that might affect the ability of state public service commissions to institute preapproval, as well as to determine the final form that preapproval might take. This presentation includes a discussion of the legal authority of state commissions to grant preapproval and whether the granting of preapproval could be made binding on future commission decisions.

In chapter 5, the issue is whether preapproval that works institutionally and legally can, in fact, work as a risk and cost reducing practice. A discussion of the types of risk that may be affected by preapproval is presented. The discussion includes an examination of whether some risk reduction has taken place based on existing risk reducing or shifting practices, and whether this risk reduction has been factored in by the financial markets. Also discussed is whether preapproval is likely to be effective in actual risk reduction, or whether preapproval is likely to shift risks from the stockholders to the ratepayers. Finally, the possible effect of commission preapproval on the financial community's perception of the risks associated with utility investments is discussed as is the relationship of preapproval to other regulatory risk shifting or risk reducing mechanisms.

The last chapter of the report, chapter 6, contains a summary of the previous chapters and some concluding comments.

CHAPTER 2
THE CONCEPT OF PREAPPROVAL

Definition of Preapproval

The concept of commission preapproval of major electric utility investments, as discussed throughout this report, denotes a formal decision making process on behalf of a state public service commission to approve the investment decisions of jurisdictional electric utilities before expenditures called for by those decisions actually take place. The commission in a formal decision or order would approve the investment decisions to be undertaken by the utility and would undertake the necessary actions, in terms of providing an adequate rate of return on investment, to support those decisions.

The type of investment decisions covered by a commission preapproval agreement may vary. In one case, all major investments contemplated by a jurisdictional electric utility may be subject to commission preapproval. This would include investments in generating plant, transmission and distribution facilities, conversion of existing generating plants from oil-burning to coal-burning, investments in pollution control equipment, and investment in land held for future use. In another case, only certain types of utility investments would qualify for commission preapproval, such as investments in pollution control equipment, conversion of existing oil-fired plants to coal, or construction of a coal or nuclear plant to replace an economically obsolescent oil plant even though this would result in "excess" capacity.

State public service commissions can not only vary the scope of preapproval by varying the types of investment decisions covered by

preapproval, but state public service commissions might vary the effect of preapproval. A state public service commission might preapprove each major investment decision and guarantee to provide the necessary revenues to support the investment. Under this type of preapproval, there would be no retrospective examination of whether an expenditure had been prudently and reasonably spent. We refer to this type of preapproval as preapproval of expenditures.

Under preapproval of expenditures, the commission still has several options with regard to oversight. At one extreme, it may simply preapprove a particular construction program and then provide those revenues necessary to support that program either on an ongoing basis (CWIP) or at the completion of the construction program (AFUDC). This procedure would involve little oversight by the commission of actual utility expenditures. The commission would simply supply enough revenue to support the investment made by the utility, including a fair rate of return. At the other extreme, a commission may become involved in the day-to-day operations of the construction program as a condition to granting preapproval. This would be done to assure that the expenditures undertaken by the utility are prudent and to help prevent undue cost overruns and inefficiencies. The commission may also want to review periodically the overall construction program to determine if changing economic and financial conditions may have rendered the initial investment decision obsolete.

On the other hand, state regulatory commissions may simply preapprove an action proposed by a jurisdictional electric utility, such as conversion of existing oil-fired generation to coal, without preapproving the initial (or escalated) cost figure. We refer to this type of preapproval as preapproval of actions.

Under preapproval of actions, the commission reviews the concept as proposed by the utility and agrees not to reexamine whether the action should be undertaken, but reserves the right to include in rates only those expenses prudently and reasonably undertaken to achieve its fulfillment.

The commission would reserve the right to examine retrospectively the amount of a capital expenditure before it goes into the rate base in order to determine the expenditure's prudence and reasonableness, but not the nature of the expenditure. In the case of coal conversion, for example, the commission may review financial analyses performed by the company (or may perform its own financial analysis) and determine that such a program is in the best interest of the company's ratepayers. It could, then, preapprove the actions of the utility and not deny revenues to support those actions prudently undertaken by the utility in achieving its goal, even if final approval by other regulatory agencies (e.g., environmental agencies) could not be accomplished. Through this type of preapproval, programs might be initiated by utilities that would not otherwise be undertaken.

Commission preapproval, then, is defined as a formal review and approval of an electric utility's investment decisions either with a retrospective examination of a capital expenditure for prudence and reasonableness before the expense goes into the rate base (preapproval of actions) or without such a retrospective examination (preapproval of expenditures). The exact nature of this process, in terms of the amount and timing of revenues provided by the commission to support the investment decision of the company, may vary as different states might adopt different preapproval approaches. However, the major purpose of the process is to reduce the risk and uncertainty associated with major electric utility investments by obtaining from the appropriate regulatory commission a formal approval and promise to provide sufficient support to major construction programs before funds are expended by the utility.

Factors Contributing to Investment Uncertainty

Under traditional regulatory procedures the status of major utility investments, including coal conversion, is not decided until after construction is completed and the facility is ready to go into operation. If the date of the operation is delayed, or if the amount of investment is

greater than the original estimate, or if the facility is not permitted to operate due to environmental or other restrictions, then rate base recognition of the full investment by the regulatory commission is questionable.

Mr. Peter J. Jadrosich, vice president and associate director of the Corporate Bonds Department of Moody's Investment Service, noted in a paper presented before a recent conference on the subject of preapproval that while he sees some merit to the concept, he finds the practical implementation of the concept fraught with problems.¹ Mr. Jadrosich stated that, of course, anything that reduces the risk of investment acts to improve a company's bond rating. However, he felt that the regulator must weigh the total costs and benefits of a particular action over its useful life to determine the ultimate impact on the consumer and on the investor. In the case of commission preapproval of utility investments, Moody's would focus on the certainty of recovery of the utility's investment and costs in arriving at an appropriate rating for a particular bond issue. The regulator, however, must consider the potential savings associated with proceeding immediately with a particular investment program as against the actual cost of delaying the program for environmental (or other) reasons.

Mr. Jadrosich also stated that regulatory preapproval of utility investments may reduce perceived risks to investors, but not always actual risks. That is, while some peace of mind may be derived from regulatory commission assurances and pronouncements in the early stages of a project, as costs mount and load growth projections change the investor must still bear the risk of regulatory reversal.

¹"Regulatory Preapproval of Utility Investment" by Peter J. Jadrosich in Conference Proceedings Utilities and Energy Efficiency: New Opportunities and Risks (National Technical Information Service, U.S. Department of Commerce, Springfield, Va.), January 1981, pp. 119-125.

His remarks illustrate that preapproval for reducing uncertainty (and the cost of capital) is closely associated by some analysts with the financial well-being of the electric utility industry. However, reduction of investment uncertainty does not always guarantee the financial health of an industry. Indeed, a distinction must be made between investment uncertainty and industry health. Granted, one condition might aggravate the other, but they are different. The types of risk that comprise investment uncertainty are technological uncertainty, demand uncertainty, and regulatory uncertainty. (These three types of risks are further developed in chapter 5.) The financial health of an industry, on the other hand, is affected by factors other than investment uncertainty.

One viewpoint is that the financial health of the electric utility industry is deteriorating and that there is a possibility that some utilities might not be able to finance necessary construction over the next decade.² In support of this contention, certain facts are often cited. For instance, from 1976 through 1979 the ratio of the pretax income to fixed charges on long-term debt for the electric utility industry averaged about 3:1. During 1980, however, this pretax coverage ratio declined to 2.5:1 with approximately 80 percent of electric utilities experiencing a decline in the ratio. Normally, this ratio is expected to be about 5:1 or higher. The ratio is an important factor in determining utility bond ratings and, hence, the cost of capital.³ During the same period of 1976 through 1979, the average market to book value for electric utility stocks was just below one. During 1980, the average market to book value declined to approximately 0.75,⁴ which means that investors expect that the rate of

²See, for example, "The Ability of Electric Utilities to Finance Projected Construction in the 1980's," by Herman G. Roseman, presented to the Federal Energy Regulatory Commission: (National Economic Research Associates, New York, February 1981).

³Ibid.

⁴Ibid.

return on equity actually earned will be less than the market cost of common equity. This will cause new common stock issues to be sold at less than book value and cause dilution to occur. Allowing dilution to occur could impede the utility's ability to attract new equity capital. Indeed, the average return on common equity actually earned for the electric industry declined from 11.3 percent in 1979 to 10.5 percent in 1980.⁵

The main factors contributing to this decline in the rate of return on equity actually earned include inflation, regulatory lag, lagging demand due to conservation and recession, increasing capital needs, and a lack of investor confidence.⁶ Most proposals for improving the financial condition of electric utilities are intended to increase cash flow and reduce regulatory lag, thereby lessening the impact of inflation on earnings. These proposals include automatic adjustment clauses, inclusion of construction work in progress (CWIP) in the rate base, normalized accounting for accelerated depreciation and investment tax credits, use of future test years in utility rate cases, and limiting the amount of time a commission has to decide a rate case. Commission preapproval of major utility investments, on the other hand, would address increasing capital needs, lagging demand, and bolster lack of investor confidence by attempting to ensure that demand forecasts, capacity planning, and the utility's plans to finance a new major investment meet with the commission's approval. Preapproval might bolster investor confidence because preapproval might lessen the probability that plants would be excluded from the rate base as excess capacity (or for other reasons) and that the expenses of cancelled plant would not be amortized.

The next chapter addresses the institutional framework for preapproval, and also addresses how preapproval fits into the current array of risk reducing devices.

⁵Ibid.

⁶Jadrosich, op. cit., p.119.

CHAPTER 3
THE INSTITUTIONAL FRAMEWORK

A formal commission preapproval process, either instituted as a separate program or as an "upgrading" of the existing siting and certification of convenience and necessity process, could alter the scope of regulatory proceedings from a backward looking focus to a forward looking perspective. As already noted, under traditional regulatory procedure commissions review the appropriateness of major utility investments after they have been made and at the time the facility is about to go into service. This is true even though most states, either explicitly or implicitly, have the authority to approve major construction programs before they begin. This is to say that to some degree a preapproval process, variously described and varyingly implemented, is already provided for and occurring. Utility companies have not historically made fully unilateral decisions about new plant and capacity expansion. Commissions have always been party to such decisions if only because of their basic role in issuing a certificate of public convenience and necessity upon determination of need. In this sense, then, the burden on proponents of a new type of preapproval would seem to be to show how it notably differs from existing arrangements and how it would make a discernible difference in some beneficial way (i.e., if some is good, would more be better?).

The Present Regulatory Setting

The need for a major addition to electric generating facilities and electric transmission additions is usually formalized by a determination of need in a certification of public convenience and necessity. Some states, however, make a determination of need in the administrative setting of power siting activities.

The present regulatory framework in most states provides for the certification of convenience and necessity for the construction of major facility additions by either the state public service commission, another state agency, or several state agencies. The state public service commissions have authority in at least twenty-seven¹ states to require certificates of convenience and necessity for constructing major additions to electric generating plants by privately owned electric utilities. In addition, at least two other state public service commissions have the authority in certain circumstances to require certificates of convenience and necessity for constructing major additions to electric generating plants. Three other state public service commissions participate with a power siting commission or like agency which has authority to require certificates of convenience and necessity for electric generating plant additions. Nor is state commission authority always limited to the host state, i.e., a commission in one state may sometimes participate in a plant expansion decision in an adjoining state if the ratepayers of the first state may be affected by a utility's investment in plant that will be serving several states in its system.²

Thirty-six state public service commissions report making a needs determination either in the process of certification of convenience and necessity, or in the administrative setting of power plant siting, or some other fashion.

The range of issues that can be examined in a certification of convenience and necessity hearing context is open to question. A recent report prepared for the U.S. DOE by the American Bar Association concluded that most state public service commissions do not have the legal authority to

¹Paul Rodgers, ed., 1979 Annual Report on Utility and Carrier Regulation of the National Association of Regulatory Utility Commissions (Washington, D.C.).

²Douglas N. Jones, et.al., Regional Regulation of Public Utilities: Issues and Prospects (The National Regulatory Research Institute, The Ohio State University, Columbus, Ohio), 1980, Chapter 4.

order conservation or similar energy strategies as an alternative to constructing new power plants.³

The report also notes that eighteen states have adopted a statewide electricity demand forecast, either independently or using utility forecasts and a state review process, but that a significant number of states do not forecast at all or consider only electricity demand during power plant licensing procedures.⁴ Nonetheless, the 1979 Annual Report on Utility and Carrier Regulation of the National Association of Regulatory Utility Commissioners states that six state public service commissions analyze the utilities' load forecasts carefully by independently testing all or a sample of the utilities' data and assumptions and thus make in-house revisions to the forecasts where appropriate.⁵ Nine state public service commissions report hiring consultants to make load forecasts when required.⁶ Some twenty-two of the state public service commissions report relying heavily on load forecasts prepared by regulated utility companies and others, and conducting no independent load forecast studies.⁷

While each state public service commission that makes a determination of need for a major utility addition to generation or transmission plant would review the need for the next plant and how it fits into the utility's capacity expansion plans, it is clear that a significant number of state public service commissions have no independent capacity expansion planning ability. Indeed, only a few state public service commissions have recently

³American Bar Association. The Need for Power and the Choice of Technologies: State Decisions on Electric Power Facilities (Washington, D.C., 1981) pp. 12-17. DOE Report, DOE/EP/10004-1.

⁴Ibid.

⁵Paul Rodgers, ed., 1979 Annual Report, op. cit., pp. 631-632.

⁶Ibid.

⁷Ibid.

indicated that they have a computer program package designed to result in an optimal capacity expansion plan.⁸ Unless independent capacity expansion plans are presented to the state public service commission by commission staff or an intervenor group, the commission is left basically taking the utility "at its word" that a particular size and type of generating plant or transmission plant is needed.

Most state public service commissions do not examine "least-cost energy alternatives" to building additional generating plant or transmission facilities, such as conservation programs, cogeneration, small power production, or other strategies. While many state public service commissions do not presently have clear legal authority under their enabling statutes to actually order a least-cost energy alternative to building major additions to plant,⁹ the public service commission might take such energy alternatives into account in their general consideration of the question of need.

In addition to judgments about whether to build at all, state public service commissions are commonly involved in approving the utility's financing of major utility investment. Indeed, some forty-eight state public service commissions require commission approval prior to the issuance of mortgage bonds,¹⁰ and at least forty-six state public service commissions require commission approval prior to the issuance of debentures by privately owned public utilities.¹¹ Forty-eight state public service commissions require commission approval prior to the issuance of long-term notes, while only fourteen state commissions require commission approval prior to the issuance of short-term notes.¹² Forty-eight state public

⁸See the 1981 NARUC Catalog of Computer Programs and Data Bases.

⁹American Bar Association, *op. cit.*, pp. 65-71.

¹⁰Paul Rodgers, ed., 1979 Annual Report, *op. cit.*, p. 482.

¹¹*Ibid.*

¹²*Ibid.*

service commissions require commission approval prior to the issuance of preferred stock, and forty-three state commissions require commission approval prior to the underwriting of new common stock.¹³

The point to all this is that state public utility commissions typically have involvement in two major activities having to do with plant expansion that could be described as a kind of preapproval: one in the determination of need in its oversight function regarding the requirement to serve all customers, and another in the determination of financing the expansion. But as so often happens, the implementation of these authorities and responsibilities varies a great deal.

Speaking to this point at a recent panel on regulatory preapproval of utility investment, the chairman of one state public utility commission lamented that proposals by electric utilities for plant expansion were not always handled very rigorously or given comprehensive review by state regulatory commissions.¹⁴ Most state commissions, he stated, do not get actively involved in the review process much beyond a superficial level. Questions about the cost of electricity, price elasticity, resource availability, capital availability and efficiency, and conservation issues are often addressed inadequately, if they are addressed at all. Most state utility commissions in the 1970s focused the bulk of their regulatory efforts on processing rate increase requests that were fueled by inflation and expanding construction programs. He felt that so much time was spent developing policies for the regulatory treatment of specific issues and adjustments, such as the cost of common equity and adding CWIP to the rate base, that many regulators lost sight of the fact that ratemaking was

¹³Ibid.

¹⁴"Regulatory Preapproval of Utility Investment," discussion by Ralph H. Gelder, Chairman, Main Public Utilities Commission, in Conference Proceedings Utilities and Energy Efficiency: New Opportunities and Risks (National Technical Information Service, U.S. Department of Commerce, Springfield, Va.), January 1981, pp. 125-129.

becoming largely an after-the-fact process. It has become crucially apparent, he concluded, that merely granting rate increases to cover capital and operating costs without adequately addressing the factors that are responsible for those costs can be an endless and perhaps even a fatal process.

This commissioner recommended that for a utility to obtain a certificate of convenience and necessity for a new facility, the utility should have to demonstrate to the state utility commission that the proposed increment of capacity is the most economically efficient way to meet the end-use needs of the system. This should include considering such alternatives as other types of plants, load management techniques, on-site generation, cogeneration, and energy conservation. He concluded that rigorous review and analysis by state regulatory commissions at the investment stage of major construction programs should help assure both investors and ratepayers that proposed facilities are needed and are the most economical option available to the utility.

Under this view, then, a serious effort at preapproval on behalf of state regulators may simply mean actually doing what some contend that regulators intended to do in the first place, i.e., thoroughly review utility construction programs before major expenditures have occurred. This forward looking effort could aid in eliminating unnecessary and overly costly facilities, while at the same time provide the commission with an opportunity to obtain additional information and become more actively involved in the development of utility plant expansion plans. Current regulatory procedure is largely after-the-fact ratemaking, and a public utility commission is hardpressed to deny a substantial part of a major utility investment after all or a majority of that investment has already occurred.

Assuming, provisionally, that it is desirable to do so, the difficulty in adopting this forward-looking stance here is two-fold. First, a state commission must be able to extract itself from the current never-ending

series of rate cases in order to focus time and resources on preapproval of utility investment decisions. This is no easy task. Second, commission preapproval must be "made to stick." That is, a preapproval decision granted by a commission at the beginning of a construction program would not casually be overturned at a later date by a new commission order. This may prove difficult to achieve since commissioner turnover is relatively high and major construction programs currently run six to ten years or longer. The longevity of commission preapproval may be enhanced, however, by improving the cooperation between the utility and the commission, including continuous oversight and reevaluation of the construction program while in progress, and by streamlining the licensing and certification process. Again, this is difficult to accomplish, but it may be an improvement over the current mechanism whereby a commission relies substantially on the information supplied by a utility that additional plant is necessary and is more-or-less obliged to provide revenues to the utility to support investments after they have taken place.

Having said all this in favor of activist commission participation in plant expansion decisions, it should be noted that a legitimate and common counter-argument can be made based upon both regulatory philosophy and practical politics. Any notion like preapproval that inserts a PUC early and deeply into what at a previous time have been called "management prerogatives" is antithetical to those commissioners who by statute or inclination see the proper role of a commission to be reactive and more narrowly defined in scope. More pragmatically, many commissioners may want to preserve their latitudes, reserve their criticisms, and avoid being co-opted, as it were, into becoming too close a party to major investment decisions which, however well reasoned initially, may subsequently go sour. It is understandable and likely that many commissioners in thinking about the concept of preapproval would want to array the rather substantial personal "cost" to them in terms of latitudes foregone against the benefits to the utility of reduced uncertainty. Translating these potent but ephemeral costs and gains to ratepayer net welfare probably defies calculation.

How Would a Preapproval Process Differ from Current State PSC
Practices?

As argued throughout, preapproval could involve a "preapproval of expenditures," of either all major utility investments or only certain types of utility investments; or preapproval could mean a "preapproval of actions" of either all major utility investments or only certain types of utility investment.

If the type of preapproval envisioned is a preapproval of actions, then the preapproval process might not differ greatly from the existing processes for certification of convenience and necessity and for prior approval of securities issuance. Like a process for certification of convenience and necessity, a preapproval of actions might involve review of the utility's demand forecast for the next ten or fifteen years in order to determine whether there is a need for the facility. Also, there might be the introduction of the results of optimal expansion planning models to establish that the right type and size of facility is being built. The preapproval of actions process would also guarantee support for reasonable and prudent expenditures undertaken to achieve the fulfillment of the approved action, perhaps reducing the perceived regulatory risk that another regulatory agency might not allow the completion or use of the facility. Also, preapproval of actions might permit a utility to lower costs by retiring economically obsolete coal plants without the threat that the replacement coal facilities would later be judged to be excess capacity. Like the present process, preapproval of actions would not guarantee that imprudent or unreasonable expenditures must be included in the rate base. Imprudent or unreasonable expenditures could still be excluded by the commission in retrospect in a rate case setting as they are now.

Preapproval of actions could incorporate a least-cost analysis of alternative investment strategies to meet the projected future forecast by taking into account the potential for conservation as well as the

possibility of further power pooling and of oil-to-coal conversion. A generic hearing could be held annually to reexamine the forecast, and to check whether the utility's proposed actions for the next year continue to have the approval of the commission. Annual "re-approval" of actions might reduce the risk of the commission disagreeing with the utility's planned actions and penalizing a utility for changing the size, accelerating or delaying, or abandoning the construction of facilities because of changing circumstances, such as shifting load forecasts or changing technologies.

If preapproval of expenditures is envisioned, then the preapproval process could be quite different from the existing certification of convenience and necessity and the prior approval given securities issuance. Preapproval of expenditures could involve either a substantial commitment of state public service commission staff in the day-to-day management of the utility investment expenditure to assure that the expenditures are being prudently made, or preapproval of expenditures could be a prospective guarantee that the utility's expenditures would automatically be included in the rate base without further consideration of whether the expenditures were reasonable and prudent. Inclusion would be either immediate in a state with CWIP, or upon completion of the construction when the facility is "used and useful." The latter, as a prospective guarantee that the utility's expenditures would automatically be included in rate base, would effectively shift some risk from the shareholder to the ratepayer.

This last also has the effect of diffusing risk from the utility to the commission, another divergence from traditional commission posture. As suggested previously, a commission, having participated in the initial planning and development of a utility's construction program, may be reluctant to abandon or substantially alter that program at a later date after considerable investment has taken place, even if events have rendered the initial program obsolete. This problem can be at least partially avoided by continuously evaluating the program while it is in progress, by seeing that construction takes place as rapidly and efficiently as possible, and by ensuring that any necessary alterations in the program are

accomplished in a timely manner. It also would allow a "cut your losses" approach to the project if that course of action was indicated.

There are, of course, various other mitigating actions that could be devised to balance these negative aspects of preapproval, but each of these has the effect as well of eroding the very certainty that is the point and purpose of the concept in the first place. For example, a commission might tie preapproval to a program of efficiency incentives. That is, it might support a construction program as long as it is completed on schedule and within budget. It might also tie continued approval of the program to utility maintenance of industry or regional average indices of utility performance measures, such as average heat rates, plant availability, or other measures.

With regard to incentives for efficiency, it is possible, or even likely, that commission preapproval of expenditures may inhibit management incentives to hold down costs, especially if a commission simply preapproves a construction program and then leaves it up to the company to complete the program with little or no commission oversight. This would be something like a "blank check" or cost plus agreement with the utility to proceed with its construction program. It is difficult to imagine that the company would have sufficient incentives to operate efficiently under this type of arrangement, since essentially all costs associated with the program would have already been approved by the commission. It is equally difficult to imagine that a state utility commission would readily enter into this type of arrangement. It is much more likely that a commission, once having granted preapproval, would involve itself as an overseer of the construction program to help assure that the program is conducted in an efficient manner and that unnecessary cost overruns do not occur.

Another incentive consideration involved here (a perverse one) is the worry that commission preapproval of major utility investments could alter the decision making process of utility management in favor of those types of projects most likely to receive commission preapproval. There is also

some concern that commission preapproval might inhibit incentives to operate efficiently, since commission support for those projects would be more or less guaranteed. On the other hand, given the current inflationary environment, if there is now a predisposition toward "safe" investment projects that might be more likely to achieve commission acceptance once they are completed, it could plausibly be argued that preapproval may help to counter it. This is because the commission would have more information about a variety of projects before actual investment occurs, and might be more willing to accept potentially beneficial programs such as coal conversion, where regulatory approval by other agencies might be questionable.

A preapproval process might or might not alter the current regulatory setting with respect to securing multiple permits, licenses, and certificates for a utility construction project. State coordination of siting and licensing activities within its own borders may be necessary if commission preapproval is to have a chance of working well. For their part, PUCs may be reluctant to preapprove a construction program allowing the utility to recover its full investment, if final approval by other regulatory agencies is highly questionable. The "who goes first" phenomenon can be a real problem here. On the other hand, commission preapproval might well involve the acceptance of a particular construction program before all necessary certifications and licensing arrangements have been achieved by the utility with other regulatory agencies. Indeed, this is one of the major reasons that the concept of preapproval of utility coal conversion and environmental facilities was developed in the first place. The likelihood of a utility acquiring all necessary licensing and certification from the various siting and environmental agencies simultaneously is very small. This brings up the possibility and desirability of state and federal regulatory commissions "acting in tandem" to achieve a coordinated certification and licensing procedure, either triggered by a preapproval action or incorporating preapproval into the collective process as one more element.

This type of coordination has been discussed for quite some time, with marginal success in implementation. Some state regulatory agencies attempt to coordinate their regulatory activities with each other and with federal agencies in an effort to streamline the regulatory process and avoid unnecessary delays in major construction programs. The degree of success in achieving this end, however, has been limited. The proposed Energy Mobilization Board that was recently considered by the United States Congress illustrates some of the organizational and administrative difficulties. The objective of the proposed board was to assure that proposals to construct key energy projects would be reviewed and ruled upon expeditiously, without sacrificing due process.¹⁵ The board was to establish a procedural timetable for all federal, state, and local regulatory commission decisionmaking necessary for the completion of designated facilities. Bills establishing the board were considered by several Sessions of Congress, however, the legislation was never enacted into law, due largely to the inability of lawmakers to agree on whether the board should have the authority to preempt existing federal, state, and local laws. This "Czar" approach federally had as its state counterpart a "one-stop shopping" scheme being tried in some places (e.g., Massachusetts). Returns are not yet in on these ideas, but problems of turf and territory, of differing constituencies and statutory requirements, of complexity of the issues to be considered, make the approach of agencies acting in tandem or on parallel tracks the most feasible near-term way to go. Preapproval could be a spur to such coordination.

Preapproval and Other Risk Reducing Measures

Perhaps the central task for classical public utility regulation is the matching of returns to risk with risk to the enterprise. At various times, in various ways, and with varying degrees of intensity and success, utility companies seek to shift part of the risk of doing business away

¹⁵"A Potential Solution for Power Pooling Roadblocks," by Richard Littell and Kenneth J. Neisses, Public Utilities Fortnightly, December 20, 1979, pp. 23-26.

from management and shareholders and toward ratepayers through public utility commissions. This inclination is endemic to the regulatory process and indeed (in other contexts) to the economic system itself.

Preapproval of either the "action" or "expenditure" variety is a relatively newly proposed device in that long tradition of risk avoidance. One way of appraising how well it "fits" with the current institutional framework is to array it alongside other risk reducing devices and practices on the current regulatory landscape.

Most state utility commissions currently have in force a number of regulatory mechanisms designed to reduce the uncertainty, shift the risk, and increase the cash flow of current utility operations. These mechanisms include fuel adjustment clauses (FACs), the inclusion of CWIP in the utility's rate base, normalized accounting for accelerated depreciation and investment tax credits, pancaking of rate increase requests, limiting commission time for rate case handling, use of future test years in utility rate cases, and attrition allowances. Depending on the likely effectiveness of preapproval in reducing risk to the utility and one's view of the current balance between risk and returns to risk, it could be concluded that either (a) the addition of preapproval to the landscape could make at least some of the existing mechanisms less necessary, or (b) that the risk reducing devices and practices already in place lessen the need for another one.

Viewed from one perspective, FACs are a form of commission preapproval. In this case, a major element of operating cost, the fuel component, is "preapproved" for recovery from ratepayers. The uncertainty of recovery that comes with full evidentiary hearings, investigation into purchasing practices, plant availability and operations, and, of course, so-called regulatory delay, is thus minimized. That this kind of preapproval for the fuel expense really matters to the cash flow of utility companies can be seen from the fact that in the twenty-five years before 1973, general rate increases nationally totaled \$6.3 billion, but since that last date,

utility revenues attributable to FACs amount to \$11 billion annually on the average.¹⁶

Inclusion of CWIP in a utility's rate base is a state commission prerogative designed to improve the cash flow of utilities by allowing them to depreciate and earn a return on all or a portion of plant investment before construction is completed and the plant is operational. Commission preapproval may produce results similar to those of adding CWIP to rate base investments. This would be particularly true if, in the course of commission preapproval, a commission allowed annual rate base adjustments covering preapproval facility investments. Even if such annual rate base adjustments did not occur, but investments in preapproved construction projects were immediately included in rate base upon completion, commission preapproval would eliminate much of the uncertainty currently associated with these projects and perhaps preclude the need for allowing CWIP.

With the present interest of utilities in broadening (and maybe even getting mandated) the use of CWIP federally and with states, it is unlikely that there would be much willingness on their part to trade a known CWIP device for a promised preapproval practice if this were the way the issue was posed. Some sense of the magnitudes involved here can be gotten from the following facts. In 1967, CWIP balances of large electric utilities amounted to \$4.4 billion or 8 percent of net investment.¹⁷ By the late 1970s, their CWIP balances exceeded \$42.0 billion, almost 25 percent of net investment. And during one recent six-month period, gross additions to CWIP totaled about \$16.5 billion.¹⁸

¹⁶R. Profozich, D. Jones, and G. Biggs, Electric and Gas Utility Rate and Fuel Adjustment Clause Increases, 1978 and 1979 (The National Regulatory Research Institute, The Ohio State University, Columbus, Ohio), September 1981, p. 3.

¹⁷Report of the Comptroller General, Construction Work in Progress Issue Needs Improved Regulatory Response for Utilities and Consumers (General Accounting Office, Washington, D.C.), June 23, 1980, p. 17.

¹⁸Ibid.

There is at least one other risk reducing experiment that can be mentioned as analogous to the preapproval concept. The New Mexico Cost of Service Index approach (COSI) is designed to lessen regulatory risk by heightening the certainty of earning an adequate (and maybe even a premium) rate of return. Recall that under COSI, a band of allowable earnings is prescribed. If the company's actual rate of return for a period falls below the lower level of the range, rates are automatically adjusted upward to bring earnings up to the minimum. As long as the earned rate of return is within the established range (including, of course, at the upper edge of the band), no adjustment of rates is made.

One of the main arguments for instituting the COSI arrangement was very similar to the rationale for preapproval that is the subject of this report, i.e., a reduction in the cost of capital to utility companies with a consequent stabilization of rates to consumers and reduced regulatory costs to commissions.

A 1979 study by The National Regulatory Research Institute on the COSI experiment in New Mexico found that, on balance, the arrangement did result in a temporary (but short-lived) financial advantage in the cost of capital to the company; no discernible impact on cost control or overbuilding; increased rather than decreased regulatory costs; and did not result in the utility earning its allowed rate of return on any consistent basis.¹⁹ Further, it was concluded that from the point of view of the financial community, the basic economic strength of the service territory and a company's ability to achieve its allowed rate of return are more important than the methods used.²⁰ Finally, it stated that there was nothing to indicate that whatever financial benefits resulted from COSI could not also have accrued through the operation of more traditional regulatory

¹⁹Alvin Kaufman and Russell J. Profozich, The New Mexico Cost of Service Index: An Effort in Regulatory Innovation (The National Regulatory Research Institute, The Ohio State University Columbus, Ohio), May 1979, p. v.

²⁰Ibid.

procedures.²¹ It is not implausible that preapproval of actions as here defined might be similarly judged but that preapproval of expenditures would have a considerably more powerful effect on utility finances.

In summary, then, the preapproval concept as here described fits partially and imperfectly in the present institutional framework of public utility regulation. Preapproval is consistent with several "trends" in commission regulation: (1) a new focus on plant investment decisions as extremely important to the cost and pricing of utility services, (2) a renewed focus on the financial strength of the utility sector, (3) a continued focus on minimizing regulatory delay, (4) an increased willingness to shift risk away from utility companies, and (5) the further erosion of what was earlier considered as management prerogatives. Preapproval would seem inconsistent with the long tradition of commissions maximizing their latitudes of commentary and criticism; avoiding being co-opted and remaining aloof as holders-to-accountability; and assuring that owners and managers of utility capital bear alone the risk of investment decisions where the returns to risk have been appropriately set.

²¹Ibid., p. iv.

CHAPTER 4
LEGAL CONSIDERATIONS OF COMMISSION PREAPPROVAL

Background

The potential impact of a disallowance of prudent utility expenditures on major utility investments became apparent in the recent Ohio Supreme Court Decision of Consumer's Counsel v. Public Utilities Commission.¹ The facts of the case are that the Central Area Power Coordination Group (CAPCO), which included the Cleveland Electric Illuminating Company (CEI), sought to achieve economies of scale and greater service reliability by jointly planning, constructing, and operating electric generating facilities. Because of forecasts of substantially increasing demand for electricity in the 1970s and 1980s, based upon the assertedly best data then currently available, the CAPCO group committed itself to build four nuclear generating plants. Later, these forecasts were revised substantially downward. In addition, the Nuclear Regulatory Commission in 1979 issued stringent and costly new standards requiring major redesign changes in the Babcock and Wilcox units that CAPCO planned to construct and operate. After much study of redesign, the CAPCO companies decided to terminate the four units on January 23, 1980. When CAPCO announced its decision to terminate its plants, the CEI share of the preliminary expenses in the four cancelled plants was approximately \$56.4 million.²

In reviewing a decision by the Public Utilities Commission of Ohio, that allowed CEI to recover this expense, the Ohio Supreme Court held

¹Consumers' Counsel v. Pub. Util. Comm. 67 Ohio St. 2d 153 (1981).

²Ibid. p. 154.

that the commission unreasonably and unlawfully exceeded its statutory authority when it approved amortization of CEI's investment in the four terminated nuclear plants.³

While the case was actually determined on the issue of whether the cancelled plant expenditures represent "the cost to the utility of rendering the public utility service for the test period" as required in Ohio's statutory language, the court set the test period considerations aside in its reasoning and disallowed the amortization on the grounds that the investment never provided any service whatsoever to the utility's customers.⁴ Thus, the disallowance of the utility investment as an expenditure that could be amortized was based upon a theory somewhat akin to the "used and useful" doctrine, which concerns the inclusion of plant in the rate base.

As noted in the Ohio decision, the overwhelming weight of authority from other jurisdictions supports amortization of the costs of a plant terminated before it is brought into service.⁵ However, Ohio is the only state in which the highest court of the jurisdiction has reached a decision. And while the Ohio Supreme Court based its decision on an Ohio statute, other states have similar statutes requiring plants to be "used

³Ibid., p. 166.

⁴Ibid., p. 164.

⁵For case allowing amortization see, Re San Diego Gas & Electric Co. (Cal. Pub. Util. Comm. 1979), 29 P.U.R. 4th 613; Re Potomac Electric Power Co. (Md. Pub. Ser. Comm. 1977), Order No. 6999; Re Consumer Power Co. (Mich. Pub. Ser. Comm. 1975), Case No. F-700; Re Public Service Electric and Gas Co. (N.J. Dept. of Energy, Bd. of Pub. Util. 1980), Dkt. No. 794-310; Re Consolidated Edison Co. of New York (N.Y. Pub. Ser. Comm.) Case No. 9187; Re Carolina Power & Light Co. (N.C. Util. Comm. 1979), Dkt. No. E-2, Sub. 352; Re Gulf States Utilities Co. (Pub. Util. Comm. of Texas 1979), Dkt. No. 2677; Re Virginia Electric & Power Co., (Va. Corp. Comm. 1979), 29 P.U.R. 4th 65; Re Wisconsin Electric Power Co. (Pub. Ser. Comm. of Wis. 1980), Case No. 05-C1-3; Re Potomac Electric Power Co. (D.C. Pub. Ser. Comm. 1979), 29 P.U.R. 4th 517. In only two instances had amortization been turned down, see Re Arizona Public Service Co. (Ariz. Corp. Comm. 1980), Decision No. 51009; Re Northern States Power Co. (Pub. Ser. Comm. of N.D. 1980), Case No. 10,097.

and useful" in order to be included in the rate base.⁶ It is questionable whether state commissions would allow such an expense for wholesale power because a plant terminated before it is brought into service can be amortized as an extraordinary property loss, since the FERC Uniform System of Accounts allows only for the amortization of "property abandoned or otherwise retired from service."⁷ The Federal Energy Regulatory Commission (FERC) has in the past ordered that cancelled plants be amortized.⁸ But, state public service commissions using the FERC Uniform System of Accounts are not necessarily bound by the FERC interpretation of its Uniform System of Accounts. Similar issues arise for jurisdictions using the NARUC Uniform System of Accounts, because Account 182 provides for extraordinary losses, net of income taxes, on property abandoned or otherwise retired from service.⁹ Thus, even though other state courts might give deference to the state public service commission's own administrative interpretation of its statutes, there can be substantial grounds for concern by the industry that other state supreme courts might reach a decision similar to Ohio's. If this happens, the utilities might be caught in a "double-bind." If the utility at the time of the load forecast prudently estimates a load that in time is shown to exceed actual demand and nevertheless the utility completes its construction, the plant might be excluded from the rate base as being excess capacity based on a "used and useful" doctrine. However, if the utility decides to terminate the plant, the prudent and reasonable costs up to the date the plant is terminated might be excluded from rate base because the plant was never brought into service and the expense was not service-related. Such a

⁶See footnote 2, chapter 3, supra, at pp. 419-21.

⁷18 C.F.R., Part 101, p. 324, emphasis added.

⁸See Northern States Power Co., Docket No ER79-616, Initial Decision Issued on Nuclear Plant Cancellation Loss (1981).

⁹Uniform System of Accounts for Class C and D Electric Utilities (National Association of Regulatory Utility Commissioners, Washington, D.C., 1973), p. 35.

result might be viewed as especially burdensome, or inequitable, or as making the utility business more risky than it has been considered historically.

State Public Service Commission Authority to Grant Preapproval

Most state public service commissions have existing authority that allows the commissions to require certificates of convenience and necessity or a determination of need for major additions to electric generation and transmission additions. It derives from enabling legislation, judicial interpretation, and/or administrative interpretation. Most state public service commissions also have similar authority to require commission approval prior to the issuance of major security offerings.¹⁰ However, most state public service commissions do not appear to have the legal authority to order conservation or other strategies as an alternative to constructing new power plants.¹¹

There are three basic sources of authority for state public service commissions to act: enabling statutes, administrative orders and interpretive rules, and judicial decisions. The basis for all the state public service commissions' powers is their enabling statutes. The administrative orders and interpretive rules of the state public service commissions allow them to fulfill their statutory obligation delegated by the state legislature. Although the courts normally defer to the state public service commissions in interpreting their scope of authority, the courts are often called upon to interpret whether a state commission has abused its discretion and acted in a manner that is beyond or contrary to its enabling legislation. While the distinction between these two actions may not be an obvious one, it can be demonstrated by an example. Suppose a state public service commission is authorized in its enabling statute to

¹⁰See footnotes 11-14, Chapter 3, supra.

¹¹Ibid.

set cost-based rates. Then, the state public service commission could interpret and apply its authority by requiring any one of a number of marginal, embedded, or accounting cost-of-service methodologies. However, the state public service commission could not require a value-of-service methodology because that would be contrary to or beyond the scope of its enabling statute. In order to institute value-of-service based rates, additional statutory authority would be required.

Preapproval of major utility actions concerning the addition of major facilities might require additional statutory authority. This is particularly true if the statutory provisions concerning the state's convenience and necessity certification or power siting proceedings and major security issuance proceedings are explicit about the procedures that the state public service commission is required to follow. If the language of these enabling statutes in a particular state is flexible or silent regarding the procedures a state public service commission is to follow in its proceedings covering convenience and necessity, power siting, and prior approval of major securities issuance, then the state public service commission might be able to combine the hearings and broaden the scope of the proceedings. This can be done through administrative interpretation to include load forecasting and the planning of optimal capacity expansion, with the latter involving consideration of the least cost alternative to meeting demand.

Even if a state public service commission could initiate a "preapproval of actions" by means of administrative interpretation, statutory changes might be necessary to make it clear that the state commission has the authority to preapprove actions by the utility and that the expenditures incurred in pursuit of the preapproved action could be amortized or included in the rate base as long as they are prudent and reasonable. Otherwise, preapproval of utility actions concerning major utility additions might, instead of reducing regulatory risk, actually aggravate the regulatory risk of a utility. This could occur if the state public service commission ordered or persuaded a utility to take actions,

appearing at the time to the commission to be prudent and reasonable, which later are blocked by another agency or need to be terminated, or if a subsequent commission changed its administrative interpretation and did not allow the utility to recover its prudent and reasonable expenditures.

Even though most state public service commissions do have authority to determine the need for a major facility addition, either in a certification of convenience and necessity or a power siting setting, and have the authority to require prior commission approval of major securities issuance, it is unlikely that many state public service commissions have the authority to preapprove major utility expenditures as here described. A "preapproval of expenditures" (as opposed to actions) which guarantees that future expenditure will be recoverable, either in the rate base or as an amortized expense, could require specific legislation because it may be judged to be an abrogation of the "used and useful" doctrine or related doctrines concerning prudent and reasonable expenditures of a utility.

Statutory changes might also be necessary for a preapproval of actions. The statutes may need to be clarified so that the state public service commission can proceed on a regular basis (say annually) in order to ascertain whether conditions (e.g., the load forecasts of the utility, capacity expansion planning, the actions of other agencies) have not changed the circumstances of the utility so that the course of actions previously preapproved is no longer prudent and reasonable. If the commission or the utility found that circumstances had changed, the proceeding would provide a setting for determining what the new prudent and reasonable course of action might be. The state public service commission would allow expenses based on its previous decisions because the actions previously taken were considered prudent and reasonable at the time. However, the state public service commission would then define the new prudent and reasonable course of action.

Advocacy and the Administrative Setting

Ratemaking was historically a function of the legislature, and rates were initially set by legislation. State legislatures began to delegate their authority to set rates to state public service commissions in the 1870s. The first state to delegate its authority to set rates for electric utilities was Massachusetts in 1887.

Traditionally, state public service commissions have used trial-type hearings in ratemaking. Many state statutes require adjudicative hearings for ratemaking. Yet, most state public service commissions are explicitly or implicitly authorized to set their own procedures and may opt for procedures that are less adjudicative. A state public service commission might choose to have procedures that better reflect its legislative function, as long as its enabling legislation is silent as to the type of proceeding to be held in a particular context.

Ratemaking (i.e., in the primary sense of fixing rates for the future) can be deemed to be either legislative or adjudicative in nature.¹² If a rate case is considered legislative in nature because it deals with policy decisions that effect an entire industry¹³ and which involve expert opinions and forecasts that cannot be decisively resolved by testimony,¹⁴ then there need not be an adjudicative, evidentiary hearing in order to fix rates. In such a case, any enabling legislation that calls for adjudicative evidentiary hearings would still be binding upon the state

¹²Davis, Administrative Law Text (West Publishing Co., St. Paul, 1972) p. 368. Also for a case deeming rate case to be legislative, see Prentis v. Atlantic Coast Line Co. 211 U.S. 210 (1908).

¹³For a case deeming rate case to be judicial, see People ex rel. Central Park, N. & E. River Ry. v. Willcox, 194 N.Y. 383 (1900).

¹⁴Ibid., p. 165. Also see Hunt Oil Co. v. FPC, 424 F. 2d 982,985 (5th Cir. 1970).

public service commission. However, the statutes need not have been written to call for adjudicative hearings. If a rate case is considered to be adjudicative in nature, because the fixing of rates for the future might be based upon past facts in the form of a historical test period which remains static, then a trial-type hearing would be required due to judicial interpretations.¹⁵ Even if a rate case is considered to be legislative in nature, a trial-type hearing is often utilized in order to determine issues of specific fact concerning the test period as well as broader policy issues such as rate design.¹⁶

In either case, the opportunity for advocacy in the form of notice and hearing whether in an adjudicatory setting or in the legislative setting of rulemaking, is essential to meet the constitutional requirements of procedural due process.¹⁷ While the normal procedure for rulemaking is submission of written comments, not a trial type hearing,¹⁸ the opportunity for advocacy, at least in the form of written comments, goes to the heart of the administrative process.

A preapproval process is even more likely to be deemed legislative in nature by state courts than are rate cases. Preapproval of either a utility's actions or expenditures would entail expert opinions on future events: forecasting of the utility's load pattern, planning of optimal capacity expansion, as well as explicit or implicit determination of basic considerations about the likelihood of a particular energy option being the

¹⁵Ibid., p. 164. Also see American Airlines v. CAB, 123 U.S.App.D.C. 310, 359 F. 2d 629, 633 (1966).

¹⁶Ibid., p. 140.

¹⁷Ibid., p. 165. See Marine Space Enclosures, Inc. v. Federal Maritime Commission, 137 U.S.App.D.C. 9, 21-22 (1969).

¹⁸Ibid., p. 166.

best policy alternative for meeting projected demand growth.¹⁹ However, there might be potential pitfalls in a rulemaking procedure that might not occur in a full trial-type hearing. For instance, one potential pitfall in demand and energy forecasting might be the subjective discretion of a forecast analyst who prepares the input data for the forecasting model and interprets the results. The forecasting model results might be sensitive to variation in the input data and thus sensitive to the analyst's subjective discretion. Another potential pitfall is the possible use of energy and demand forecasting models that incorporate assumptions with which the commission does not necessarily agree. Each of these potential pitfalls might be examined better in a hearing where there is an opportunity for cross-examination of witnesses. On the other hand, a full trial-type hearing often leads to regulatory delay that can add substantially to the ultimate cost of constructing a plant. A preapproval process, it could be agreed, could be handled better by rulemaking which could allow a more expeditious procedure than a trial-type hearing.

The Degree to Which Preapproval May Be Binding

A key issue is whether preapproval of expenditures or preapproval of actions is subsequently binding on a commission. This issue can be considered through a discussion of the legal concepts of res judicata (a case being binding on its parties), estoppel (judicial estopping of inequities), and stare decisis (the precedents created by a case) as they might be applied in various administrative settings for both preapproval of expenditures and preapproval of actions. The essential purpose of res judicata is to prevent the parties in a proceeding from unnecessarily litigating the same question a second time or litigating piecemeal. The

¹⁹A related risk is that the state commission staff by becoming involved in the day-to-day management of the utility may intrude on the utility's "managerial prerogatives," if commission staff interfered with sound business practices of the utility. For instance, see Consumers Counsel v. P.U.C. 56 OS2d 319 (1978).

doctrine of res judicata is designed for adjudication and works best when applying law to past facts that remain static. The principal problem with res judicata in a public service commission setting is that a commission works with changing facts and shifting policies.²⁰ Res judicata does not apply to a rate order, whether or not fixing rates for the future is deemed to be legislative or judicial, principally because conditions change. The rate for one period may well be inappropriate for another period.²¹

Shifting policy decisions, as well as continually changing circumstances, might be involved in preapproval of major utility investments. Load forecasts, environmental and safety regulations, and the range and types of technologies available to satisfy customer demand change over time. A state public service commission needs to have the flexibility to react to these changes in its policy decisions. Therefore, res judicata would appear to be inappropriate in a preapproval setting.

There is, however, the possibility that a court might attempt to apply res judicata to a preapproval proceeding and thus bind a commission to the past decisions of earlier commissions. This possibility is greatest when the administrative procedure used in a preapproval process purports to be judicial in nature.²² The possibility would lessen if there is a recog-

²⁰Davis, Kenneth Culp, Administrative Law Text (West Publishing Co., St. Paul, 1972) §18.01, at p. 359, et seq.

²¹Davis, *Ibid.*, §18.08 at p. 368. Professor Davis cites Prentis v. Atlantic Coast Line Co., 211 U.S. 210, 29 S. Ct. 67, 53 L.Ed. 150 (1908) as an example of rate cases being deemed to be legislative. He cites People ex rel. Central Park, N. & E. River Ry. v. Willcox, 194 N.Y. §83, 87 N.E. 517 (1900) as an example of a rate case being considered judicial in which res judicata would not be applicable.

²²Davis, *Ibid.*, §§18.01, 18.02, 18.03, 18.08; at pp. 359-363, 368-369. Note that Professor Davis cites §70 of the Restatement of Judgments to support his contention that "whenever the traditional doctrine of res judicata does not work well as applied to particular administrative action, it may be relaxed or qualified in any desired degree without destroying its essential service in preventing the same parties... from unnecessarily litigating the same question a second time or litigating piecemeal."

nition by the legislature or the courts that the preapproval process is legislative in nature even though this may be a trial-like hearing.²³

Even in jurisdictions where the courts tend to view the preapproval process as being judicial in nature, there would be little risk of res judicata being applied to a preapproval process if this process would take the form of a rulemaking²⁴ or informal ruling process.²⁵ The informal ruling process could take the form of advisory opinions and rulings similar to those used by the Internal Revenue Service. If an informal ruling were not a formally considered, formally issued statement, it is unlikely to be reviewable by the courts.²⁶ In this case, the issue of res judicata would not arise. Such an informal ruling, while seemingly persuasive, might also have little real effect.

The doctrine of res judicata would not apply when the state public service commission sets forth in clear language in its orders that it is continuing the original proceeding and only entering an interim order allowing the state commission to account for changing circumstances. This would prevent res judicata since there would be no final action on the merits upon which res judicata can be based.²⁷

The doctrines of stare decisis, estoppel, and retroactive law making probably would not in and of themselves bind a future state public service commission from changing a past policy, nor from creating new law and

²³Ibid., §18.08, at p. 368.

²⁴Ibid., §18.08 at p. 368 where Professor Davis states that "even if an exercise of the rulemaking power depends on a finding of facts, neither the rule nor the finding is regarded as res judicata."

²⁵Ibid., §4.11 at p. 118.

²⁶Ibid.

²⁷Ibid., §§18.06, 18.09, at pp. 365, 369-370.

applying it prospectively.²⁸ The issue, then, becomes one of whether or not a state public service commission could be prevented from disallowing expenditures based upon either preapproval of expenditures or preapproval of actions. The doctrine of estoppel, either explicitly recognized or implicitly applied,²⁹ becomes extremely relevant in this case. The key to estoppel is justifiable reliance and a detrimental change in position.³⁰ The doctrine of estoppel operates to prevent miscarriages of justice. This doctrine might prevent a state commission from disallowing either expenditures or expenses prudently and reasonably incurred by a utility. Without the operation of an estoppel, neither preapproval of expenditures nor preapproval of actions would have any effect different from the present administrative processes concerning major utility expansion plans. Estoppel would operate only if a utility could justifiably rely on a state public service commission's preapproval of an expenditure or an action. Justifiable reliance by the utility upon the actions of the commission would be more certain if clearly established in statutory language.

A state public service commission, which preapproved a utility's expenditures without explicitly providing that the expenditures must be prudent and reasonable, might encourage a utility to make expenditures that are not prudent and reasonable, although in such a case there might be an issue as to whether the utility's reliance was justifiable. A well-drafted public service commission order preapproving a utility's actions toward a specified end and allowing only prudent and reasonable expenditures toward that end could avoid this problem.

²⁸Ibid., §17.07, at p. 352. Professor Davis cites Linkletter v. Walker 381 U.S. 618, 85 S. Ct. 1731, 14 L. Ed.2d 601 (1965) as the leading case which he states is probably fully applicable to administrative adjudication.

²⁹For example, see Moser v. United States, 341 U.S. 41 (1951).

³⁰Cf. Davis, Administrative Law of the Seventies (West Publishing Co., St. Paul, 1976) §§ 501, 505, and also Equitable Estoppel of the Government 79 Column. L. REV. 551, 552-58 (1979).

Possible Effects If Preapproval of an Investment Is Denied

If there is a hearing on preapproval of a utility investment, one possible outcome of the hearing is to refuse preapproval. There are three potential effects of a denial of preapproval. One effect could be that the utility would not be permitted by statute, judicial interpretation, or administrative interpretation to make an investment in a major addition to its facilities. The second potential effect is that the utility would not invest voluntarily in a major addition to its facilities because there would not be an adequate guarantee that the expenditures would be recoverable if the construction were abandoned or if it results in excess capacity. The third potential effect is that the utility would go forward with its investment knowing full well that there was no guarantee that its investment would be recoverable if its course of action was determined to be unreasonable or imprudent, due to changing circumstances.

The first of these three potential effects is not substantially different from the potential effect of a denial by a state agency of a certificate of public convenience and necessity, or a denial of power siting on the basis of a lack of need.³¹ The second and third potential effects of a denial of preapproval would result in a utility making its own managerial decision to go forward with or cancel its plans for major facility addition. This may or may not be much different from the current situation of no preapproval hearing--depending on whether preapproval denial is judged to represent either (a) withholding the special status of those few actions that qualify for commission encouragement or (b) the view of the commission on whether action is prudent and reasonable and, thus, recoverable in rates. In any event, such denial could be a problem if the major addition to utility facilities was deemed necessary by the utility to fulfill its legal obligation to provide adequate service.³² How such a

³¹See footnotes 1-3, chapter 3, supra.

³²See an excellent discussion by Robert Poling of the legal concept of the duty to provide adequate service in Unplanned Electric Shutdowns: Allocating the Burden (The National Regulatory Research Institute, The Ohio State University, Columbus, Ohio 1980) at p. 40-52.

dilemma would be resolved is unclear and may represent a severe disadvantage of the preapproval concept.

Summary

State public service commissions might presently have authority to grant preapproval by combining and broadening the scope of existing proceedings through administrative interpretation. However, in most states it is likely that a statute to allow a preapproval process would be necessary, either because of the present statutory language setting up the existing procedures or because of the possibility of statutory language or a judicial interpretation disallowing prudent utility expenditures on major utility investments that never come into service.

If a state public service commission initiates a preapproval process, it must attempt to balance the need to handle the process efficiently with the need for cross-examination in order to avoid potential pitfalls such as those created by the subjective discretion of the forecast analyst. The commission might minimize the potential for its staff being co-opted in working too closely with the utility by developing independent forecasting and expansion planning capabilities, if its budget permits.

Preapproval might be binding due to the doctrine of estoppel. This binding effect could serve to promote fairness and equity if commission orders made clear that the commission was maintaining continual jurisdiction and would intermittently review the prudence and reasonableness of a major addition to facilities. This could be done through the use of interim orders.

Finally, the effects of a denial of preapproval are uncertain and would depend on the commission's posture: on the one hand, denial might be a virtual order prohibiting the new construction; on the other hand, it might leave the utility in a state of even greater uncertainty regarding the appropriate course of action.

CHAPTER 5
THE FINANCIAL IMPACT OF PREAPPROVAL

In describing the financial consequences of preapproval, it is necessary to recall the working definition of chapter 2. Preapproval of expenditures is taken to mean that a utility commission guarantees that the expenditures for a capital good, plant or equipment, will be allowed in the rate base. As the term suggests, this guarantee is issued before the investment decision is implemented by the utility, and well before the final outcome of the expenditure is realized. With preapproval of actions, the commission agrees in principle to include an expenditure in the rate base only if it is prudently and reasonably expended. Rather than a far reaching guarantee of expenditures, in this case the commission agrees to limit its attention in the future to whether an expenditure was prudently and reasonably expended on a preapproval construction project.

Before turning to specifics, it is important that the reader understand the setting of this analysis. To begin with, it is assumed that regulation rapidly adjusts to economic changes. For the case at hand, this means if risk is reduced (increased) rates of return are reduced (increased). Secondly, the competitive model is taken as the benchmark for regulation. Finally, capital markets are assumed to be perfect, all transaction and information costs are assumed to be small enough to be safely ignored. Obviously these assumptions are imperfect; nevertheless, they provide a necessary foundation from which the analysis may proceed.

What Risk Does Preapproval Affect?

Although public utilities are subject to a variety of risks, it is useful to classify these risks into three categories: technological risks,

demand risks, and regulatory risks. The first of these, technological risk, is the general uncertainty associated with the supply side of business. The best way of doing things changes over time. These changes are due to many factors. First, the relative prices of inputs may change. An important and dramatic example of this is the recent changes in the price of crude oil. These stochastic shifts in relative prices may create widespread displacements in the optimal allocation of resources. Resources cannot be costlessly shifted from one production process to another; because of this, unanticipated relative price changes often have a large impact on the value of resources. Public utilities are a prime example of an industry that faces very high adjustment costs. Converting plants from natural gas or oil to coal is relatively expensive and some conversions, e.g., coal to nuclear, are infeasible. In contrast, consider the relative low costs of a retail outlet changing its line of products in response to changes in the relative prices of the items it sells.

While explicit changes in the relative prices of inputs may have an impact on the technological efficiency of a particular plant, implicit changes in relative prices are also important. These implicit changes in relative prices are often the result of actions elsewhere in society. A clear example of this is the major environmental legislation of the past decade. Often this legislation has resulted in very substantial changes in the allowed technology. Noteworthy examples are the conversion of plants from coal to natural gas in an attempt to preserve clean air and the subsequent conversion from natural gas to coal in an attempt to conserve natural gas. More recently, there have been widely publicized attempts to close or prevent the opening of nuclear plants. These implicit price changes have often resulted in more dramatic changes in the economic efficiency of capital than have explicit changes in relative prices. Even though the prices of certain inputs may increase, these inputs are still available. Because of this, managers may fine tune the process of changing technology over time; that is, trade-offs can be made between adjustment costs and higher input prices. The ability to optimize this trade-off reduces the aggregate effect of relative price changes. However, in the case of legislated

changes in technology there is no guarantee that managers will be permitted to change slowly and therefore minimize adjustment costs. The reason for this is that the firm's self interest is not viewed as being coincident with that of the rest of society. Take the case of pollution, for example. While pollution is not regarded as desirable by firms, firms are not forced to internalize all the costs they impose on the rest of society. Accordingly, the rate at which firms would voluntarily reduce pollution is regarded as too slow; hence, we have environmental regulations.

The more obvious type of technological risk is that associated with the promulgation of invention. The rate of progress in society reduces the relative usefulness of existing processes. This type of technological risk may be analyzed in the same manner used to analyze changes in relative prices. New technologies allow less expensive inputs to be used in the production of goods. This means that the optimal input mix changes and, therefore, production processes themselves must be altered. Sometimes these changes are implemented at low costs; other times the costs may be very high.

The rate of technological change is sometimes steady and predictable; however, there are clear cases when the rate has been rapid and unpredictable. The telecommunications industry is an obvious example. Dramatic changes in the underlying processes used in the electronics industry in general have substantially reduced the cost of its products. This made much of the existing communications hardware obsolete and virtually valueless. (The possible financial impacts of these types of changes is illustrated by a now famous case of Lloyds of London. Lloyds had the unfortunate experience of insuring cancellable computer leases at a time when computer technology was changing rapidly. The result, of course, was a rather large loss for the associates of Lloyds.)

Public utilities are largely insulated from the technological risk associated with the obsolescence of generation facilities. Since public utilities are not disciplined by the forces of competition, technologically

obsolete facilities will yield the allowed rate of return on investment as long as they meet the "used and useful" requirement. However, there are risks associated with facilities under construction, and preapproval may shift this technological risk from utilities to consumers, especially if there is no guarantee that the expenditures on the new generating plant are prudent and reasonable.

The second major type of risk faced by utilities and other companies is due to unanticipated changes in the demand schedule for a particular good or service. Almost all outputs are inputs into some other production process. For example, the coal industry's output is an input in the production of other goods such as electricity, and electricity is used to make aluminum. In other instances, an industry's output might be used by consumers directly as input in fulfilling their wants. Consumers use automobiles to provide transportation. Transportation is a necessary input in many activities consumers regard as desirable such as the distribution of products to retail stores.

Both the relative efficiency of an industry's production process used to produce its output and the desired level of all inputs to that process are uncertain over time. Firms and consumers change their demands for various inputs due to technological changes and changes in relative prices. For example, the reduction in the cost of automobiles leads to a decline in the buggy industry, and recent increases in the price of gasoline reduced the demand for large automobiles. In the case of energy, increases in the cost of production have induced both consumers and firms to substitute other inputs for energy. These include capital equipment that uses energy less intensively and insulation. In addition to substitution among inputs, changes in the level of economic activity effect the desired quantities of energy and other outputs. Since these changes cannot be fully anticipated, firms often suffer losses due to excess capacity or inappropriate production processes.

The final type of risk to be discussed is regulatory risk. This is the risk that regulators' policies will impose costs on the utility industry. Regulation is a social process, and like all social processes it responds to a societal market. In this market, certain interest groups sometimes succeed in using regulation as a means of redistributing wealth or restricting the use of some inputs (e.g., coal). Regulatory risk involves not only economic regulation by state and federal commissions, but also environmental, occupational, health, safety, and nuclear regulations. The unpredictability of regulation interjects an additional risk element into the economic environment of public utilities.

All the risk that a public utility faces must be borne by some individuals. When we think of risk bearing in our economy, it is traditional to focus on stockholders and other securityholders. This mental picture is the free market model; however, it is not necessarily the outcome in a regulated environment. Just as regulation may transfer resources among producers and consumers or among consumers themselves, it may also transfer risks from producers to consumers. Nevertheless, in the aggregate, some individuals must be bearing the risks faced by public utilities. In a world of risk averse individuals, risk bearing is generally not a free good. Because of this, the reduction of risk is desirable. It is equivalent to society becoming more efficient at using any of its scarce resources. The next question to be considered is the impact of risk elimination on security holders and consumers.

The Impact of Risk Reduction

The impact of risk reduction is examined from the perspective of a single utility. Capital markets are assumed to be efficient; that is, security prices are assumed to reflect fully the underlying characteristics of the securities. Also, it is assumed that all individuals are risk averse. This means that all individuals would choose to avoid risk if the risk avoidance price was zero. In a world where all individuals are indifferent or neutral to risk, the price of risk bearing services is zero and

risk reduction has no impact. However, in the real world, because individuals are not indifferent to risk, the price of risk bearing service is not zero. In considering the impact of risk reduction, the analysis limits attention to security holders and ratepayers (consumers). These groups are focused on for two reasons: (1) in a capitalistic system security holders are the providers of risk bearing services and (2) in a competitive equilibrium the beneficiaries of risk reduction are the consumers (less of one input is required to produce the output). When risk is reduced security holders provide less risk bearing service and therefore require less compensation for this service.

Risk Reduction and Security Holders' Welfare

In equilibrium all securities must provide the same risk-adjusted returns after taxes. If risk-adjusted returns after taxes were not equated, investors could earn arbitrarily large arbitrage profits. This conclusion in no way depends upon a formal pricing equation. No matter how risk is priced in capital markets, equivalent securities must sell for equivalent prices: the law of one price. This is true for a risk neutral world where all securities are equivalent in terms of risk; it is also true for a world where prices are set as in the capital asset pricing model of Sharpe and Lintner--securities with equal betas are of equal risk. The existence of a riskless asset, or nearly riskless asset, means that the risk-adjusted returns after taxes for all assets must equal the after-tax return on this riskless asset. As previously discussed, the analysis assumes that expected returns on securities are adjusted to reflect their underlying risks; however, no specific assumption is made about the form of the adjustment.

It should be clear that if all securities have equivalent after tax risk adjusted rates of return, the riskiness of a particular security is (in theory) of no concern to investors. All securities are priced correctly, regardless of risk. For example, if a mutual fund which is currently invested in a high risk industry is worth \$100,000, the owners of

this mutual fund anticipate receiving a return commensurate with the high risk of the investment. If this mutual fund decides to sell the high risk investment and purchase riskless securities, the expected return of the mutual fund is now lower but so is its risk. However, its risk-adjusted return, after taxes, is the same for the high risk investment and the riskless investment. Stated in terms of after tax risk-adjusted returns, the mutual fund owners' welfare is unchanged, because the mutual fund's decision to replace the high risk investment with a riskless investment had no effect on the wealth or investment opportunities of the owners.

In considering this example, the reader is reminded of the underlying assumptions of the analysis. It was assumed that capital markets are perfect: security prices reflect all relevant information including the riskiness of securities, and the cost of transactions is considered small enough to be ignored. Because changing the riskiness of a particular security has at most an imperceptible change on investors' opportunity sets, investors are always able to restore the desired level of riskiness to their portfolios at no cost. Thus, if investors' wealth remains unchanged, their welfare remains unchanged.

What is true for mutual fund owners is also true for stockholders of a public utility. If the risk of a utility is reduced, the expected return of its stock must fall if the stock's risk adjusted return after taxes is to remain the same. Maintaining the assumption that regulators adjust the allowed rate of return in response to the reduced risk, the utility stockholders will be neutral to risk reduction: their wealth will be the same, and their opportunity set will not have changed. Naturally, if the assumption is violated and the allowed rate of return is not changed, stockholders will be wealthier and therefore better off; however, this would also be true if allowed rates of return were increased when risk remained the same.

The conclusion of neutrality for stockholders follows because the payments that stockholders anticipate receiving are compensatively adjusted

for the reduced risks. For bondholders this is not the case. The payments bondholders receive are contingent upon the value of the underlying firm, and are never more than the promised amount. If a promised payment to bondholders exceeds the value of the firm's assets, the firm defaults. If a firm reduces its risk, the chances of default are also reduced. The reduction of default risk means that the required yields on the firm's bond have been reduced; however, the firm is unable to change its payment to bondholders. The result is that risk reduction increases the value of bonds that are subject to default risk. Bonds that are initially default free are, of course, unaffected by risk reduction. Also, the benefits of risk reduction will not accrue to prospective bondholders; their payments will be adjusted by the market place to reflect the reduced risks.

Risk Reduction and Consumers' Welfare

If utility rates fully reflect the capital cost of the utility, then, everything else remaining the same, higher levels of risk imply higher rates. This is simply a restatement of the principle of equal risk-adjusted returns after taxes. Because of this, risk reduction, with one exception, benefits consumers. The exceptional case is when default by a utility is certain. If default is a certainty, bondholders will fully capture the benefits of risk reduction. This is because under these conditions bondholders are the true residual owners, but their payments may not be adjusted to reflect the reduction in risk. Even though risk is decreased, their contractual rates remain the same, and therefore the rates paid by consumers are unchanged. For nearly all utilities, default is far from certain. Therefore, bondholders will rarely capture the entire benefit of risk reduction. The benefit is shared between consumers and bondholders and, to the extent that a utility's bonds are default free, the benefit accrues entirely to consumers.

If risk reduction, on balance, is discernible, then stockholders are indifferent, and bondholders and consumers are better off. As no one is worse off and some individuals are better off, risk reduction improves

aggregate welfare. If preapproval reduces the risk at no cost, preapproval would be beneficial to implement. However, before resolving this issue, the effects of risk shifting need to be considered.

The Impact of Risk Shifting

Risk Shifting and Security Holders

From the viewpoint of security holders, shifting of risk to consumers is equivalent to risk reduction. In both cases, the risk bearing service provided by security holders is reduced. As was previously demonstrated, stockholders are neutral to this change if there is an appropriate reduction in return. The current bondholders, on the other hand, may benefit due to the contractual nature of their payments if the default risk of the existing bonds is reduced. If the riskiness of the bonds is reduced because of risk shifting, bondholders receive a windfall at the expense of consumers.

Risk Shifting and Consumers

In the case of consumers, there are important differences between risk reduction and risk shifting. In both instances, the risks security holders bear are reduced. This will result in lower required rates of return. In this case, however, a reduction in the allowed rate of return does not necessarily translate into lower rates for consumers. The reason is very simple: risk has not been reduced; it has simply been shifted from security holders to consumers. Instead of having security holders bear the cost of adverse events, consumers now face the prospect of higher future rates. If future events are worse than anticipated, consumers will be faced with higher rates in the future. Similarly, consumers will receive the benefits if future events turn out favorably. In short, consumers' rates instead of investors' capital are at risk.

Because consumers will enjoy both the cost and benefits of risk bearing, it might seem that consumers should be indifferent to the shifting of

risk. This conclusion is incorrect for two reasons. First, the payments to current bondholders are contractual and may not be reduced by public utility commissions. Thus, risk reduction may increase current bondholders' wealth instead of consumers' wealth. This means that consumers do not receive the full benefits from sharing the risks with the security holders. The second reason is somewhat more subtle. Our society has developed numerous institutions which facilitate an efficient and voluntary shifting of risk among individuals. The voluntary provision of risk bearing services insures that only those individuals who are most capable bear the risks. The voluntary competitive provision of risk bearing, through a market mechanism, results in the minimization of the price of risk bearing services. This is not the case if risk is shifted from securityholders to consumers. This shifting is involuntary, and there is no reason to believe that consumers in general would choose to bear these risks at the terms that are offered in capital markets. In our economy, investors are the providers of risk bearing services and have made the explicit choice to bear this risk. It is certainly no accident that consumption of goods does not require individuals to bear the risk inherent in producing the goods. The separate provision of risk bearing is more efficient.

The above argument may be further illustrated by comparing a voluntary and involuntary employment system. Imagine that the labor force consisted of one hundred individuals and that one hundred jobs existed in two professions. Further, suppose that one profession is preferred by all individuals, although the relative preferences are not the same for all individuals. In a voluntary system, those individuals with the strongest preferences will avoid the unpleasant profession, and those with the weakest will be induced, by higher wages, to accept it. Even though the unpleasant profession will command a higher wage, the wage will be less than the wage required to induce the average person to accept the profession. In contrast, an involuntary system will price according to the average preference and therefore be inefficient.

In contrast to risk reduction, risk shifting has an undesirable impact on welfare. Because of this, it is important to consider what preapproval achieves. Does it reduce or shift risk? From the viewpoint of society, if it reduces risk, it is desirable. If it shifts risks, it is undesirable.

Does Preapproval Shift or Eliminate Risk?

While the title of this section is rather specific, it could just as well pose the question: can public utility regulation have any effect on the total of risk in the economy? The answer is a rather obvious one. The risks inherent in society are, for the most part, the result of underlying economic processes. Using the definitions of the previous classifications of risk, there is no clear and direct connection between technological risk and public utility regulation. A similar conclusion follows for demand-related risk. While it would be a pleasant state of affairs if regulators could reduce the risk society faces, it is unrealistic to believe that regulation could have any impact on these underlying economic processes.

Naturally, the form of regulation may have an affect on regulatory risk. If the social contract between utilities and ratepayers is improved, it would seem reasonable that regulatory risk would be reduced, which would benefit consumers and bondholders at no expense to stockholders. But, because regulation has no impact on the level of technological and demand risk, it follows that preapproval will not reduce these risks. It can only shift these risks from security holders to consumers. Whether preapproval reduces regulatory risk is an open question. It depends almost entirely on specific details of alternate preapproval plans. We now turn to the question of what might be done from a financial perspective.

Risk reduction is desirable, but the shifting of risk from security holders to consumers is undesirable. To reiterate, the involuntary shifting of risk may result in a reduction of society's welfare. Extensive preapproval would shift risk from security holders to consumers, and, because of this, the effect of extensive preapproval on regulatory risk is left

unknown. If the effect of preapproval on regulatory risk is limited to a form that does not shift risks to consumers but does assure the prudence and reasonableness of future regulation, regulatory risk could be reduced without the deadweight loss of risk shifting.

The Effect of Commission Preapproval on
Electric Utilities' Cost of Capital

The analysis of the previous section assumed that a reduction in risk would result in a reduction in the cost of capital for electric utilities, and that the shifting of risk from security holders to electricity consumers might reduce the risk premium required on utility securities. Yet the theory of portfolio management raises questions as to whether the type of risk which is shifted or reduced by commission preapproval will actually result in a reduction in the cost of capital for electric utilities. This section is devoted to exploring the implications of the capital asset pricing model (CAPM)¹ for preapproval and its impact on the cost of capital for utilities.

The results of the CAPM model are summarized in the following equation:

$$(5-1) \quad k_s = R_f + B (k_m - R_f)$$

where k_s is the rate of return which a specific utility must pay to raise capital. Any security (common stock, preferred stock, bonds or debentures) issued by a utility will have its own required rate of return (k_s). The required rate of return on a new utility bond is the interest rate which the utility must pay in the market to obtain funds. A utility common stock meets its required rate of return through expected future dividends and capital gains.

¹William S. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk," Journal of Finance 19 (September 1964): pp. 425-42.

R_f is the rate of return on a risk free² investment such as a U.S. Treasury note or bond. This return on a riskless investment serves as a standard by which the returns on more risky investments can be judged. The term, k_m , is the required market rate of return reflecting the average rate of return on a portfolio of all stocks. This market rate of return can also be thought of as the rate of return on a stock which contributes an average amount of risk to a well diversified portfolio.

The difference between the market rate of return and the risk free rate ($k_m - R_f$), is known as the market risk premium, which must be paid on a stock that contributes an average amount of risk to a diversified portfolio of stocks. Multiplying this market risk premium by beta, B , yields the specific security's risk premium.

The coefficient beta (B) measures the correlation in volatility of the particular security relative to that of a portfolio of all securities. The beta value of a utility common stock indicates the degree to which the price of this stock will fluctuate with the stock market. A beta value of one indicates that this particular utility stock's price should fluctuate exactly as the average of the movement of the stock market as a whole. Betas greater than one indicate a stock whose price gyrations exaggerate fluctuations in the stock market. Hence, adding a stock whose beta is greater than one to a market portfolio³ will increase the risk of the portfolio.

The beta coefficients of some typical industrial stocks are given in table 5-1. These beta coefficients measure the risk that each of these

²Note that interest rate risk (i.e., the risk of capital loss due to an increase in interest rates) is not considered in this simple model.

³A market (or well diversified) portfolio is composed of a weighted average of all stocks in the market. Such a portfolio reflects overall fluctuations in the stock market as a whole.

stocks would contribute to a well diversified portfolio. Hence, these beta coefficients determine the risk premium which each of these companies must pay to acquire funds through new common stock issues. For example, if the riskless rate of return on treasury bonds is 14%, and the return on a well diversified portfolio of stocks is 16 1/2%, then Xerox could issue new stock at the current market price, which would yield a cost of capital of 17% (i.e. $k_{\text{xerox}} = 14\% + 1.20 (16.5\% - 14\%)$). Xerox would pay a risk premium of 3% [i.e. $1.20 (16.5\% - 14\%)$], which is slightly above the typical market risk premium of 2 1/2% (i.e., $16.5\% - 14\%$). Using the beta coefficients for Amdahl Corporation and Exxon, the respective required rates of return on these stocks are 18% and 16 1/4%.

TABLE 5-1
BETA COEFFICIENTS OF SEVERAL INDUSTRIAL FIRMS

Common Stock	Beta
Amdahl Corporation	1.60
Dow Chemical	1.20
duPont	1.05
Exxon	.90
IBM	.95
Texas Instruments	1.20
Xerox	1.20

Source: Value Line Investment Survey 1980-81.

In regard to understanding commission preapproval of utility investments and its effect on the utility's cost of capital, the chief contribution of the CAPM model is the distinction it makes between market risk and company specific risk (also known in finance literature as systematic and unsystematic risk, respectively). The total risk of a security is made up of company specific risk and market risk. Company specific risk is associated with the various random factors affecting a company's earnings. A stockholder can eliminate company specific risk through adequate diversification of his portfolio of securities. Hence, company specific

risk is not relevant in determining the risk premium appropriate to a security. The only relevant risk in determining the risk premium of a security is the security's market risk.

Market risk reflects the tendency of a stock's price to move with the stock market as a whole. Such risk is nondiversifiable and thus cannot be eliminated in a diversified portfolio. The beta coefficient serves as an indicator of the degree of market risk of a specific security. Since only those risks which are synchronized over time with the risks of a well diversified portfolio influence the risk premium, stocks with high beta coefficients and high risk premiums are very often investments in good firms which, over the business cycle endure disproportionate earnings declines during recessions and earnings growth during periods of prosperity.

Typically, the long lead time associated with major utility investment projects requires that the decision to begin or cancel construction of new generation facilities must be based on a forecast of the long-term growth in electricity demand which has little or no correlation with the transitory fluctuations in the current business cycle. Because there is little or no correlation between decisions to cancel utility investment projects and fluctuations in the current business cycle, any risk reduction or risk shifting involved in preapproval would tend not to be related to market risks. Thus, it would appear that any risk reduction or risk shifting due to preapproval would tend to be a company specific, diversifiable risk, unlikely to affect the company's risk premium and unlikely to have a major affect on the company's cost of capital.

The risk premium on utility stock is already quite low compared to the market. A stock which contributes an average amount of risk to a portfolio would have a beta coefficient of one. As indicated in table 5-2, electric public utilities have below-average levels of market risk (i.e., beta coefficients less than one). This can be attributed to the relative insensitivity of the demand for electricity to changes in the current

TABLE 5-2
BETA COEFFICIENTS FOR
SELECTED ELECTRIC UTILITIES

Utility Common Stock	Beta
Cleveland Electric Illuminating	.65
Consolidated Edison	.65
Detroit Edison	.60
Florida Power and Light	.75
Illinois Power	.60
New England Electric	.70
Pacific Gas and Electric	.55
Savannah Electric Power	.60
Southern California Edison	.65
United Illuminating	.50
Utah Power & Light	.75
Wisconsin Electric Power	.65

Source: Value Line Investment Survey 1980-81

level of business activity, as well as to the possibility of regulatory relief during times when earnings are threatened.

In conclusion, it appears likely that commission preapproval, by itself, will not have a measurable impact on utility market risk (as measured by the beta coefficient); and, hence, the risk premium paid by utilities. Most of the current high cost of capital for utilities is due to the effects of inflation and increased investor risk aversion on the general market risk premium [i.e., $(k_m - R_f)$], phenomena over which the utilities and those who regulate them have little control.

Comments on the Effect of Commission Preapproval
on Electric Utilities' Cost of Capital

As a part of the investigation of the concept of commission pre-approval of electric utility investments, several NRRI staff members

traveled to New York City to determine the views of members of the financial community regarding the possible effects of this as yet untried concept. The central theme of these discussions was the possible effect of commission preapproval on the cost of capital to the electric utility industry. Although this was the central theme, the discussions covered related issues including institutional factors and some legal considerations.

The discussions held with representatives of the financial community, and the comments contained herein, are intended to be representative views of the possible effects of preapproval on the cost of capital for electric utilities. These views are not intended to be comprehensive in nature. That is, they do not represent a survey of a cross-section of financial analysts' views of the concept of commission preapproval. Budget and time limitations prevented the undertaking of such a survey. An attempt was made, however, to interview senior financial analysts familiar with electric utility industry financing issues.

Interviews were held with Mr. Theodore J. Komosa, Vice President, Merrill Lynch White Weld Capital Market Group, Merrill Lynch, Pierce, Fenner and Smith, Incorporated; Mr. Raymond J. O'Conner, Senior Vice President, Bache Halsey Stuart Shields, Incorporated; and Mr. Mark D. Luftig of Salomon Brothers, Incorporated. A summary of these interviews follows. No view is associated with a particular analyst. Where there was agreement on a particular issue among those interviewed, the general viewpoint is presented. On those issues where analysts differed, contrasting viewpoints are presented.

With regard to the need for commission preapproval, one analyst was emphatically in favor of it; a second was indifferent; and the third said there was no need at all for such a device. However, this third analyst maintained that viewpoint for new construction: he favored preapproval of fuel conversion projects. The analysts generally agreed that the current financial condition of the electric industry is such that any device that

would act to improve the ability of utilities to earn their allowed rates of return would be welcome, but they disagree on whether preapproval would accomplish this. It was stated that the ratings of the quality of the regulatory environment for investors at state utility commissions, routinely issued by a number of brokerage houses, are an important factor in determining the cost of capital for electric utilities. These ratings are affected by such things as whether particular commissions allow CWIP in rate base, use future test periods, normalize investment tax credits and accelerated depreciation, and allow the use of fuel adjustment clauses. Potentially, the ratings would be affected by whether the commissions allow preapproval of utility investments. But no one of these factors alone would have a significant impact on the cost of capital to electric utilities; however, taken together, all of these factors do affect the utilities' cost of capital. But the level of impact of these devices on a utility's cost of capital (e.g., 10 or 20 basis points on the cost of long-term debt) cannot be measured. Yet, groups of these types of mechanisms are taken into account and have a significant effect on bond ratings and, therefore, on the utility's cost of capital.

The analysts agreed that the important thing is the end result of regulation, not the existence of particular devices. That is, do commissions allow a sufficient rate of return and do companies have a legitimate opportunity to earn that allowed rate of return? Examples were given of commissions with "good" ratings that did not employ mechanisms to prop up earnings, but did allow a high return--and of "poor" ratings where many mechanisms were used but earnings still suffered. Whether the cost of capital would be reduced in states with a preapproval mechanism would depend on how states without formal preapproval act when a potential disapproval case arises. If states without preapproval continue to be generally favorable to prudent actions, then states with a preapproval mechanism would not see a lower cost of capital. In general, the analysts would be willing to forego all risk reducing or risk shifting mechanisms in exchange for higher allowed rates of return actually earned by electric utilities.

There was some disagreement on whether or not commission preapproval would actually reduce risks to electric utilities. One point of view was that preapproval might actually increase regulatory risk since state commission staffs would likely become overly involved in the day-to-day operations of utilities, without the necessary expertise or ability to carry their activities through to completion. And there could be more construction delays. A second point of view was offered that state PUCs are already involved in utility management activities, such as encouraging energy conservation and alternative energy sources, and through siting requirements. The problem with this current arrangement, according to this viewpoint, is that state commissions are not held accountable for their actions, that is, after having approved the siting of a generating facility and determining the need for such a facility, commissions can later reverse their decision. The utility must then convince the commission to allow it to recover its investment in the cancelled plant.

In this context, the recent decision by the Ohio Supreme Court was frequently referred to as, perhaps, increasing the need for a commission preapproval mechanism.¹ Most state commissions in the past have more or less routinely allowed a utility to recover its investment in cancelled or delayed facilities. However, now that the Ohio Supreme Court has disallowed such an investment on the grounds that the plant was not "used and useful" in providing service, there is concern that commissions in other states may follow suit. Hence, there may be a greater need for commission preapproval now than there was in the past.

If state PUCs become involved in the planning and siting process early on and establish an official regulatory proceeding record certifying the need for a particular construction program, it is felt that the commission would have a more difficult time reversing its decision at a later date. In this way, the commission would be more accountable for its initial

¹However, our visits occurred on the day after the announcement of the Ohio decision.

decision and would, at least, be more likely to allow a utility to recover its investment in a construction program even if that program were cancelled at a later date.

On the possibility that commission preapproval could actually affect the amount of risk borne by electric utilities and therefore lower their cost of capital, it was generally agreed that if preapproval could actually be "made to stick" (i.e., if a commission would not later reverse its decision), it could have a significant downward impact on the cost of capital. There was, however, considerable skepticism about commission preapproval being assured. The high turnover among commissioners and commission staff was one reason cited for this skepticism. It was also felt that, for a commission with a history of decision reversals and disallowances of investments, the enactment of a preapproval mechanism would largely be discounted by the financial community.

All of the analysts questioned the legal authority of current commissions to bind future commissions to a preapproval decision. Several did state, however, that by approving an investment decision before expenditures take place and establishing a regulatory record that would indicate commission approval of that decision, future commissions would be more likely to at least allow the utility to recover its investment should circumstances change. One analyst felt that, if commissions are going to disallow a utility investment on the grounds that the investment is no longer needed, utilities should not build new facilities unless the state commission issues an order requiring a new plant to be built. That is, rather than continuing the current practice of building a new facility and then asking the commission to approve the investment after it takes place, utilities might decide not to build any new facilities unless specifically asked to do so by the state regulatory commissions.

It was also thought that commission preapproval, in general, would add a positive element to the financial standing of electric utilities. But, one analyst stated that preapproval would not "tip the scales" in a

utility's deliberation over whether to undertake a major construction project, such as a nuclear generating plant. Only other factors, for and against such an undertaking, would enter into the decision. This same analyst felt that commission preapproval, in and of itself, might not have a significant effect on regulatory risk associated with nuclear investments. However, he felt that preapproval in combination with annually adding nuclear CWIP to rate base would make a significant difference in the risk borne by a utility and thus in the cost of its capital.

With regard to whether commission preapproval might reduce the risk of electric utility investments or merely shift this risk to ratepayers, one analyst stated that there is a total bundle of risk to be borne by utility investors and there is no real risk shifting to ratepayers. A lower cost of debt results in a higher cost of equity, and vice versa; rates remain the same. The total investor risk premium is constant, and the ratepayer must pay for this risk. Therefore, he concludes that preapproval would not shift risk.

All conversations returned to the same thesis: the important factor is that electric utilities be given an opportunity to earn an adequate rate of return. Since then current rates of return were well below what each considered an adequate level, the question of shifting or reducing risk is not important.

With regard to alternatives to commission preapproval and risk reducing mechanisms in general, the analysts agreed that if electric utilities actually earned their allowed rates of return, there would be little need for these mechanisms. These mechanisms were generally viewed, not as devices to eliminate or shift risk, but as mechanisms designed to provide utilities with a better opportunity to earn their allowed rates of return.

A few concluding comments are worth noting. One analyst stated that it might be a good idea to implement a commission preapproval process because "there is little to lose and there could be much to gain" from such

a procedure. He also stated that state PUCs should be more involved in the electric utility planning and system expansion process because, after these decisions are made, all else, in terms of financing and revenue requirements, follows.

Another analyst said that "real and meaningful" preapproval with a measurable effect on the cost of capital would come from state commissions, environmental agencies, and the Nuclear Regulatory Commission, acting jointly to preapprove all aspects of a plan and to guarantee the timetable for construction.

Finally, it was stated that, putting aside the questions of whether preapproval could work and how it could be implemented, it would be a long process and difficult to achieve.

CHAPTER 6
SUMMARY AND CONCLUSIONS

In order to summarize this report the following issues are addressed: whether preapproval is already occurring, and if so, whether preapproval has any discernible effect on cost reduction; whether any additional or new type of preapproval would have an effect on cost reduction; whether preapproval could be "made to stick"; and whether preapproval would upset (to a poor result) the traditional values of utilities as active managers and regulators as aloof holders-to-accountability.

Something similar to a "preapproval of actions" currently occurs in most states. Most state public service commissions review the need for a major utility investment in one hearing, either a certification of convenience and necessity or a power siting hearing, and then review the need for a major securities issuance in another hearing. Thereafter, the usual course of events is that those expenditures prudently and reasonably undertaken in major utility construction are included in the rate base, either on an ongoing basis (CWIP) or at the completion of the construction program (AFUDC), after the commission has had an opportunity to examine retrospectively the capital expenditure for prudence and reasonableness. However, while this description might be similar to that of a "preapproval of actions", it is not quite the same.

The present regulatory process differs from a "preapproval of actions" because the preapproval is implicit, not explicit. Public service commissions do not explicitly approve the utility's construction plans nor find that the issuance of a security will not harm the company's ability to provide service, i.e., a financial finding. And because there is no explicit preapproval of the utility's construction plans, the commissions

are not necessarily bound to include prudent and reasonable capital expenditures in the rate base. For instance, there have been at least four instances in the last year where utilities have been denied recovery of capital expenditures.

In the first case, the Missouri Public Service Commission declared the Kansas City Power and Light Company's interest in its Iatan generating Unit No. 1 was in excess of its system's needs, and refused to recognize any costs associated with the plant in fixing rates. The commission held that the company's actions fell short of rational planning and management prudence.

In the second case, the Minnesota commission held that concerns about the need for a generating plant may bar its inclusion in rate base as construction work in progress, even though the utility had previously been granted a certificate of need and had expended funds on the project. Northern Power Company had obtained a certificate of need from another agency, the Minnesota Energy Agency, for its Sherco Unit 3 in 1975. When reduced demand forced the utility to postpone the in-service date and propose joint ownership for the plant, the Minnesota Energy Agency decided, in 1980, to reconsider the need issue. On this basis, the commission found an absence of the requisite "substantial certainty" that the plant would be used and useful, and it excluded expenditures on the plant from the rate base as construction work progresses.

In the third case, slower load growth and financial problems led the Arizona Public Service Company to cancel units 4 and 5 of the Palo Verde nuclear project. The company sought to recover its costs associated with its interest in these units. However, the Arizona Corporation Commission refused any recovery of sunk cost, notwithstanding its staff's recommendation that a five-year amortization be allowed.

In the fourth case, in a recent Ohio Supreme Court Decision reversing a decision by the Public Utilities Commission of Ohio, the Ohio Supreme Court held:

that the commission unreasonably and unlawfully exceeded its statutory authority when it approved amortization of CEI's investment in the four terminated nuclear plants.

In that case, the disallowance of the utility investment as an expenditure that could be amortized was based upon a theory somewhat akin to the "used and useful" doctrine, which concerns the inclusion of plant in the ratebase.

While the overwhelming weight of authority from other jurisdictions supports amortization of the costs of a plant terminated before it is brought into service, Ohio is the only state in which the highest court of the jurisdiction has reached a decision. And while the Ohio Supreme Court based its decision on Ohio statute, other states have similar statutes requiring plants to be "used and useful" in order to be included in ratebase.

The point of these four cases is that (1) the results of the present regulatory system are not necessarily binding on the commissions, and (2) these case results, reflecting slower load growth than forecasted and a high cost of equity, are new.

Because this type of case results is new, if a kind of preapproval is already taking place, it has had little discernible effect. Of course, little discernible effect would be expected because such preapproval is not necessarily binding on the states.

The next question is whether any additional or new types of preapproval would have the effect of cost reduction. Preapproval is unlikely to have any significant effect on the cost of capital. Even though it might be possible that preapproval could potentially result in a reduction of regulatory risk, regulatory risk is of the company-specific kind that investors can eliminate by diversifying their portfolios. Preapproval would have little or no effect on the market risk of utility securities and, hence, would have little or no effect on the cost of capital for a utility's securities.

Preapproval may have some slight effect in encouraging cost reduction if a preapproval process were to encourage selection of the least cost alternative in capital expenditures to meet forecasted demand. On the other hand, preapproval might result in greater costs if it inhibits incentives for operational efficiency because commission support for a preapproval project would be more or less guaranteed. The next issue is whether preapproval can be "made to stick." Preapproval might be binding upon state public service commissions if the doctrine of estoppel were invoked. The doctrine of estoppel, either explicitly recognized or implicitly applied, is based upon justifiable reliance and a detrimental change in position; the doctrine of estoppel operates to prevent miscarriages of justice. Estoppel might prevent a state commission from disallowing either expenditures or expenses prudently and reasonably incurred by its utility only if a utility could justifiably rely on a state public service commission's preapproval of an expenditure or an action. Justifiable reliance by the utility upon the actions of the commission would be more certain if the requisites for justifiable reliance were clearly established in statutory language and if the commission specifically set forth in its orders that it intended justifiable reliance by the utility upon the order. Without the operation of an estoppel to make preapproval binding, neither preapproval of expenditures nor preapproval of actions would have any effect different from the present administrative processes concerning major utility expansion plans.

The final issue is whether preapproval would upset (to a poor result) the traditional roles of utilities as active managers and regulators as aloof holders-to-accountability. The degree of state public service commission involvement under certain schemes of "preapproval of expenditures" of major facility additions might be no greater than the present level of commission involvement in that the state public service commission could simply preapprove expenditures after examining load forecast, capacity expansion plans, and any securities issuance to finance the expansion. In other words, the degree of state public service commission involvement might be no greater than the present level of

involvement in the power siting or certification of convenience and need, and approval of securities issuance processes. However, if such is the case, the utility might lack sufficient economic incentives to ensure rigorous cost control, in effect gold-plating a project by allowing construction cost escalation. This situation might be mitigated if preapproval of the utility's expenditure is set at a particular level so that the utility would not have an incentive to exceed that amount.

Even so, there might be no guarantee that the utility's expenditures under a "preapproval of expenditures" would be prudent and reasonable, unless there were continual interaction between the public service commission and the utility management. This would be so because the definition of "preapproval of expenditures" does not provide for the traditional post-construction review of whether the expenditures were prudent and reasonable before the expenditures are placed in the rate base. There are at least two risks to such a course of action. One risk is that the commission might in effect be co-opted by the utility so that the commission might not only lose its objectivity and independence in determining the appropriateness of expenditures, but also be estopped (i.e., prevented) from disallowing any expenditures it would have otherwise determined to be imprudent and unreasonable. Another risk is that the state commission staff by becoming involved in the day-to-day management of the utility may violate the utility's "managerial prerogatives", especially if commission staff interfered with sound business practices of the utility.

The degree of state public service commission involvement in "preapproval of actions" need not be greater than the existing level of commission involvement, except that it might consolidate several of the present proceedings into one. Of course, if the preapproval of actions process involves checking intermittently for changing circumstances, such checking would probably mean, in most states, increased commission involvement. Such involvement would neither necessarily co-opt the staff by involving them in the day-to-day managerial decisions of the utility,

nor necessarily encroach on the utility's managerial prerogatives. Rather, the involvement might be a periodic review of the circumstances and give the utility guidance on whether its present course of action is prudent and reasonable in the view of the commission. However, this would definitely change the role of the regulator from being an aloof holder-to-accountability to a manager of the utility's long-range plans.

Is preapproval a risk shifting or a risk reduction device? Preapproval of expenditures can be viewed as shifting risks from the stockholder to the ratepayer because there is no guarantee that the utility's capital expenditures will be prudent and reasonable. Preapproval of actions, on the other hand, might be viewed as either risk shifting or risk reducing.

In conclusion, preapproval of major utility investments is a concept that state public service commissions might find useful to examine, particularly if the state public service commission is of the opinion that regulatory risks, i.e., the risks that prudent and reasonable capital expenditures will come to naught due to the risks of changing regulations, ought to be reduced. Care must, nevertheless, be taken when implementing preapproval so as to avoid shifting demand risk and technology risk from the stockholder to the ratepayer. Even if the state public service commission is of the opinion that reduction of regulatory risk is possible, it might decide to avoid "preapproval of expenditures" because of the likelihood of shifting demand and technological risk.

Preapproval of actions might be a viable risk reduction alternative in states where the costs of cancelled plants are amortized. It might be useful because it would allow the state public service commission to review the utility's construction program explicitly; it would consolidate existing proceedings, and it would send a regulatory signal to utilities so that they might not be inhibited to invest in coal conversion, nuclear plants, and other major investments which have a high degree of regulatory risk. Even so, special care would need to be taken when implementing

preapproval of actions to avoid the darker side of preapproval. Care should be taken to maximize the latitude of commissions to comment and criticize, to avoid co-option of commissions, to allow commissioners to remain as holders-to-accountability, and to assure that utility stockholders alone bear the risk of investment decisions where the returns to that risk have been appropriately set.