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# THE REGULATION OF PUBLIC UTILITIES

ALFRED L. PARKER\*

Some time ago I came across this quotation reported to have been spoken by an aged west coast Indian sitting on a rock and looking out to sea, under circumstances which I do not know. It reads as follows:

Lighthouse, him no good for fog. Lighthouse, him whistle, him blow, him ring bell, him flash light, him raise hell; but fog come in just the same.<sup>1</sup>

I would suggest that in a sense today's federal and state regulatory commissions can be likened to the "lighthouse." These regulatory commissions have not proved to be really adequate as a substitute for competition in fulfilling its functions of preventing monopoly prices and profits, checking price discrimination, reducing costs, inducing technical progress, and promoting wider use of utility services while providing a fair return to investors. But as in the case of the lighthouse, this failure is no cause for destruction or elimination.

## I STATEMENT OF THE PROBLEM

The term public utility refers to concerns supplying services essential to the home, industry and government; particularly electricity, gas, water, telephones and transportation, under circumstances that preclude the establishment of competitive market conditions. These industries are also described as natural monopolies, i.e., industries in which the efficient scale of plant is so large, relative to the size of the market, as to permit the operation of only one plant of efficient scale. Thus, efficiency considerations discourage any attempt to establish and maintain competitive market conditions.

Back at the turn of the century, countrywide experience had demonstrated that public utilities could not be left free to operate under unrestrained market conditions; they had to be regulated in the public interest. The task of regulation has been assigned to legislatively established state public utility commissions.

In New Mexico the New Mexico Public Service Commission has the principal function of regulating public utility rates to the con-

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1. W. L. Prosser, *Lighthouse No Good*, 1 J. Legal Ed. 257 (1948).

sumer of gas, electricity and water. The Commission and its powers and duties were established in 1941 under legislation entitled the New Mexico Public Utility Act. (Jurisdiction over transportation and communication public utilities, such as railway and telephone companies, is vested by the state constitution in the State Corporation Commission.) The New Mexico Public Utility Act requires that the rates charged by regulated utilities be just and reasonable, and that the service rendered be adequate and efficient. These tasks, common to all state regulatory commissions, have been complicated by a lack of definite objectives, standards and procedures, as well as by the resulting conflict of private and public interest.

## II FIXING REASONABLE RATES

When are rates charged to consumers by a public utility reasonable or fair? In general, rates are reasonable or fair if they provide sufficient revenue to cover the total costs properly incurred in furnishing the required service.<sup>2</sup> Total costs include the following four cost categories: (1) Operating expenses; (2) depreciation charges; (3) taxes and (4) return on investment. Although each cost category has contributed to the problems encountered by regulatory authorities it is the fourth category, return on investment, that is primarily responsible for the conflict of consumer and investor interests and for complicating the processes of rate making.

The return on investment, the so called "fair return" to which the company is entitled, is calculated by multiplying the "fair value" of the properties used in public service by a "fair rate of return." It is clear that both multiplicand and multiplier are quite indefinite and nonfactual in content.<sup>3</sup> The process of determining the fair value of the properties or the rate base is known as valuation. It is not possible to determine directly from corporate accounting and statistical records either the value of properties or the rate of return that should be permitted. This information must, therefore, be the result of judgment findings by the commission based on opposing expert opinion evidence.

In the absence of legislative direction providing standards or measurements of reasonableness, state regulatory commissions have proceeded to fix rates within the patterns of reasonableness that have been stated or implied by court opinions in rate case decisions.

The first attempt by the court to provide a standard by which to

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2. J. Bauer, *Updating Public Utility Regulation: Assuring Fair Rates and Fair Returns* 1 (1966).

3. *Id.* at 12-13.

judge the reasonableness of commission valuations was provided in its decision in the famous case of *Smyth v. Ames* in 1898.<sup>4</sup> In this case the Court concluded:

... that the basis of all calculations as to the reasonableness of rates to be charged by a corporation ... must be the fair value of the property being used by it for the convenience of the public.

What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it ... than the services rendered ... are reasonably worth.<sup>5</sup>

The Court said that rates must be high enough to afford a fair return on the fair value of invested capital but did not define either fair return or fair value. The Court did provide an outline of matters to be considered in the determination of fair value, concluding that each must be given "such weight as may be just and right ..."<sup>6</sup> Both original cost and reproduction cost (or present cost) were identified as matters to be considered in valuation. The controversy that developed as to whether original or reproduction costs should be given exclusive or primary weight in the determination of fair value dominated regulation for the next forty years.

This emphasis on fair value determination which had monopolized the attention of utilities, commissions, and the courts, came to an end in 1944. In *Federal Power Commission v. Hope Natural Gas Co.*<sup>7</sup> decided in 1944, the Supreme Court said:

Rates which enable the company to operate successfully, to maintain its financial integrity, to attract capital, and to compensate its investors for the risks assumed certainly cannot be condemned as invalid, even though they might produce only a meager return on the so-called "fair value" rate base.<sup>8</sup>

The effect of the *Hope* decision was to abandon the judicial criteria of "fair return" on "fair value" with the inference that regulatory commissions will be permitted to establish rates in any way that *will produce reasonable end results*. What the measure of such reasonableness would be upon judicial review was left undefined. The Court did provide an indication of the direction the regulatory commission

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4. 169 U.S. 466 (1897).

5. *Id.* at 546-47.

6. *Id.* at 547.

7. 320 U.S. 591 (1944).

8. *Id.* at 605.

might or should go in order to attain proper end results. The Court said:

From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock.<sup>9</sup>

The clear implication of this statement is to point to the *cost of money* as the key criterion of fairness to investors. Thus the attention of regulatory commissions and the courts has been shifted from fair value determination to the *rate of return*.

### III

#### PUBLIC UTILITY REGULATION SINCE THE HOPE DECISION

More than 25 years have now elapsed since the Hope decision. During this period some state commissions have remained tied to the indefinite and imprecise "fair value" rate base and rate of return. In most states, however, commissions have had wide latitude in devising and applying appropriate standards for effective rate control. As a result there exists wide variation in rate-making processes among the states. Of particular interest is the divergence on the rate base issue of whether original cost or reproduction cost is taken as the primary approach to rate base determinations. At one extreme a statutory prescription requires the Ohio commission to use reproduction cost-new, less observed depreciation, as the sole bases of valuation for rate-making. At the opposite extreme the Maine statute specifically precludes consideration by the commission of "current value."

It is possible to group all of the state commissions into two general groups:<sup>10</sup> (1) commissions that adhere to the original cost rate base; and (2) commissions adhering to a fair-value concept requiring that reproduction costs be given weight in the determination of fair-value.

Some 40 state commissions (including that of Maine), plus those of the District of Columbia and Puerto Rico, have been holding to an original cost less depreciation or net investment rate base. These commissions thus avoid much of the uncertainty and confusion accompanying reproduction cost in fair-value determinations. Obtain-

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9. *Id.* at 603.

10. This grouping is not intended to provide a precise and definite classification of rate base determination. In fact there is considerable overlapping of the groups and important adjustments in the rate base determination of many states. For example the adjustment may consist of adopting the rate base at the end of the period instead of the average of the period. Some states include in the rate base plants under construction or even add projected net additions expected in the near future. For a more detailed discussion of this subject see Bauer, *supra* note 2, ch. 4.

ing original cost figures is usually a simple accounting and statistical job for the amounts are generally definite and undisputed. Uncertainty and controversy, however, does remain in estimating deductions for depreciation and in determining special adjustments to be made under continuing inflation and other unusual circumstances.

There are 10 state commissions (including that of Ohio) which admit evidence of current costs, i.e., reproduction costs, and give such current data weight in determination of fair value. This is either because their statutes specifically require that reproduction costs be included or because their state courts have interpreted the statutes to require that weight be given to reproduction costs. The ten states included in this group are Alabama, Delaware, Minnesota, Mississippi, Missouri, Montana, New Mexico, North Carolina, Ohio, and Pennsylvania.<sup>1 1</sup>

The New Mexico Public Service Commission and its powers and duties are found in N.M. Stat. Ann. § 68-3-1 through 68-8-16 (1953). § 68-5-14 entitled "Valuation by the Commission" contains the following excerpt:

When in the exercise of its powers and jurisdiction, it shall be necessary for the commission to consider or ascertain the valuation of the properties or business of a public utility, it shall, in arriving at such valuation, give due consideration to the history and development of the property and business of the particular public utility, to the original cost thereof, and to the cost of reproduction as a going concern, and to other elements of value recognized by the laws of the land for the rate making purposes.

The problems, conflicts of interest, and inherent difficulties encountered by the New Mexico Public Service Commission and other state commissions who are, or feel, bound to give substantial weight to reproduction cost in their findings of fair-value are obvious. "All are faced with conjectural and conflicting claims, with questionable weight to be accorded to the dubious amounts, and with burdensome, time consuming, costly, and inconclusive task of making the required determination."<sup>1 2</sup>

This situation is particularly discouraging when it is realized that this struggle must be repeated at each successive rate-making proceeding. The state regulatory commissions simply do not have adequate staff to effectively administer fair value determinations, especially during periods of continuing inflation.

11. Minnesota statute including "current value" among the factors to be given "due consideration" applies only to telephone rate making. Bauer, *supra*, note 2 at 52, 67-69.

12. *Id.* at 59.

A second important element in the fixing of rates is the rate of return findings. These figures multiplied times rate base quantities, provide the amount of return to be authorized. These amounts plus operating expenses, current depreciation and taxes add up to the total cost of services to be covered by the approved rates.

Since the Hope decision regulatory commissions have tended, where possible, to predicate their rate of return findings on direct ascertainable costs of record.<sup>13</sup> Thus contractual returns, e.g., interest on capital debts, and preferred stock dividends, can be directly determined and included in the computation of the total return to be authorized. Of course no contractual or actual return costs are available for common stock or equity capital. Rate of return findings for this form of capital must therefore be estimates based on collateral data placed as evidence in the proceedings.

There remains great variety among state regulatory commissions in method of approach and emphasis in rate-of-return determinations. New Mexico is one of fourteen states in which regulatory commissions use historical cost of debt capital, preferred stock and current data to determine cost-of-equity capital. The New Mexico commission in its rate-of-return considerations is concerned with estimating the cost of capital to the utility concerned, including among its considerations, present or expected money market conditions.<sup>14</sup>

Since the Hope decision, rate-of-return proceedings have come to assume considerable importance. This is particularly so in states that have chosen, or been required, to adopt the net investment rate base approach. As emphasis has shifted to rate-of-return determination, rate-of-return proceedings have become increasingly a time consuming, costly, and frustrating procedure. As expressed by John Bauer, "The continuing problem before the commissions is how to base their fair-return determinations as closely as possible on uncontroverted facts of record and so simplify and expedite rate case decisions."

The time consuming procedure presently involved in fair value and/or rate-of-return determinations may help to explain the failure of the regulatory commission to take effective action in related areas of responsibility. Specifically, state commissions have shown little interest in investigating and controlling the quality of the service or the structure of rates. Similarly, few state commissions have sought to control operating expenses; and while all have prescribed ac-

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13. *Id.* at 60.

14. *Id.* at 61, 72.

counting systems, few have attempted to enforce them through effective auditing procedures.<sup>15</sup>

#### IV THE EFFECTIVENESS OF STATE REGULATION

Given the problems developed above, have state regulatory commissions achieved a reasonable balance in protecting public and private interests? There is no simple answer to this question for it is not an easy task to measure the results of utility regulation. Standards by which to accurately measure the quality of service, the reduction in costs, the promotion of efficiency or the reduction of discrimination are simply not available.

Although rates are quoted in standard units, comparisons of utility rates are complicated by differences in the structure of rates. Differences in customer classification and the relative importance of the different classes further obscure the meaning of such comparisons.

Comparisons can be made, as presented below, in terms of monthly bills for like quantities of like services, but such comparisons may still be open to criticism. It is clearly recognized that many factors other than the actions of regulatory commissions affect the level of rates. For example, rate variation may reflect differences in operating costs due to varying scales of plant technology (e.g., hydro or steam electric power generation), costs of raw materials and/or costs of transmission.

Noting this limitation, current data on electric utilities permit certain generalizations concerning electric rates. First, these rates vary greatly from state to state and from city to city. This is evident from Figure 1 which shows weighted average monthly bills for 250 kwh of residential consumption for each state and the District of Columbia. The average monthly bill for 250 kwh varies from a high of \$10.12 in Alaska or \$9.02 in New York to \$4.67 in Tennessee. Similar variation is found in all residential consumption categories.

Second, rates charged by privately owned utilities, under regulation, have generally been higher than those charged by publicly-owned utilities.<sup>16</sup> Third, the current trend of average residential bills appears slightly upward for the lower consumption categories (100 and 250 kwh) and slightly downward for the higher categories (500, 750, and 1000 kwh).<sup>17</sup> The current trend for weighted average com-

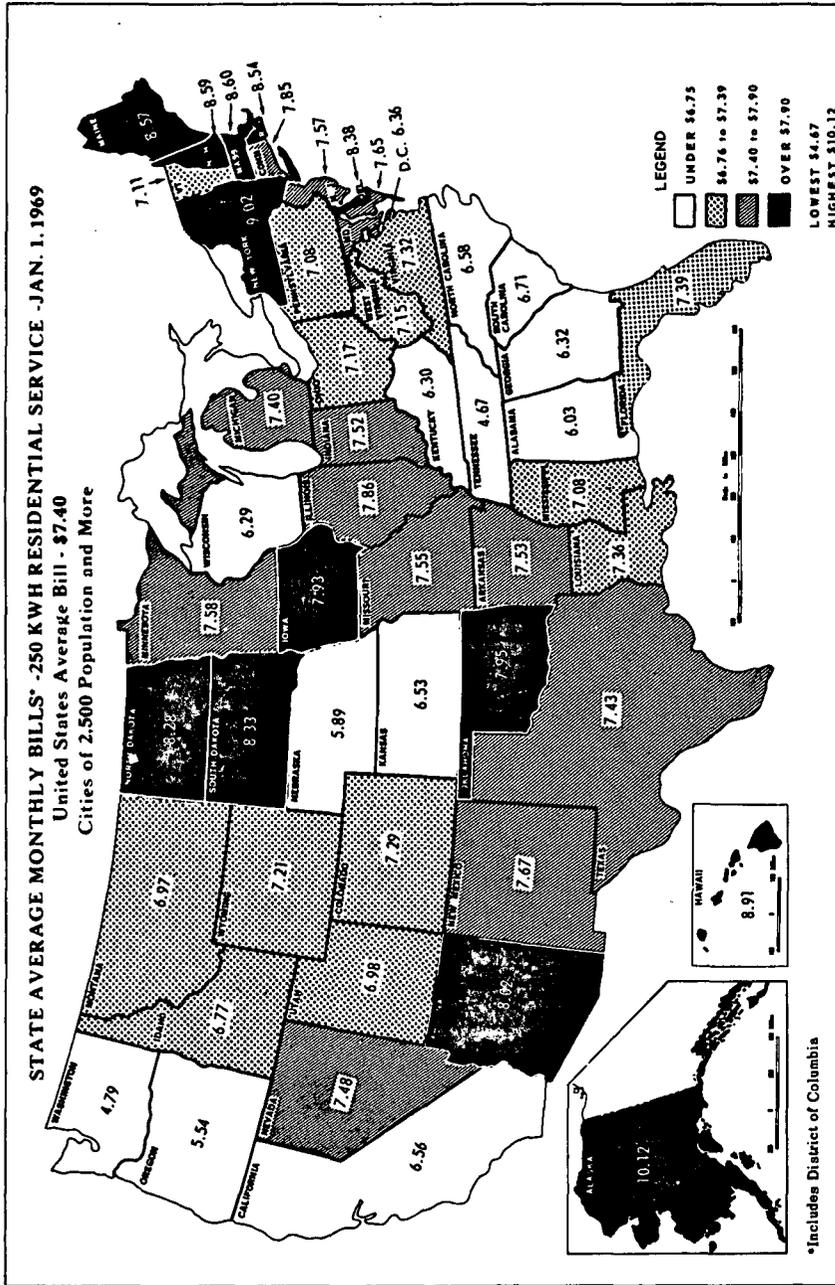
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15. *Id.* at 65-66.

16. C. Wilcox, *Public Policies Toward Business* 358 (3rd ed. 1966).

17. *Id.* at 358, *see also*, Fed. Power Comm'n, *Typical Electric Bills 1969 VII-VIII* (1969).

Figure 1



Source: Federal Power Commission, *Typical Electric Bills, 1969*, (Washington: U.S. Government Printing Office, 1969), p. XII.

mercial and industrial bills is upward in all consumption categories.<sup>18</sup>

These generalizations, based on aggregate data, provide little evidence of the success or failure of specific state regulatory commissions. However they do provide a background against which to examine the performance of a specific state commission—the New Mexico Public Service Commission.

Data provided by the Federal Power Commission permits a comparison of average electric utility rates in New Mexico with those of other states and with national averages. Table 1 shows the comparative rank of New Mexico average monthly residential, commercial and industrial bills. As indicated in Table 1, for residential service in all consumption categories there are more states with *lower* average monthly bills than there are states with *higher* monthly bills than New Mexico's. For example the table shows New Mexico ranking 36th in the 250 kwh consumption category. Thus there are thirty-five states with average monthly bills *lower* than New Mexico's and only fourteen states with *higher* average monthly bills. It should also be noted that New Mexico's average monthly bill is higher than the national average in three of the four consumption categories.

Average monthly bills for commercial service show a considerably different situation. Average monthly bills for commercial service are *below* the national average for all consumption categories. However, for all but the lowest consumption category, more states have *higher* than *lower* average monthly bills than New Mexico's.

New Mexico average monthly bills for industrial service also display a unique pattern. For the lower two consumption categories (30,000 kwh and 60,000 kwh) New Mexico's average monthly bill is below the national average. But in the high consumption category, (200,000 kwh), the New Mexico average bill is more than 7% above the national average. The high average monthly bill for this consumption category is also reflected in the ranking of this bill. Only seven states had higher average monthly bills than New Mexico's for this consumption category on January 1, 1969.

Greater detail on New Mexico average monthly residential bills is provided in Table 2. This table records the average typical bill charged by electric utilities serving New Mexico communities of 2500 population or more. Municipal utilities not under the jurisdiction of the New Mexico Public Service Commission have been omitted from this tabulation. Table 2 indicates considerable variation in rates in each consumption category. The New Mexico average

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18. Typical Electric Bills, 1969, *supra* note 17, at XX, XXI, XXV.

Table 1  
STATE AVERAGE TYPICAL RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL BILLS  
NEW MEXICO RANKING (LOW TO HIGH) AMONG THE STATES

Residential Service [Cities of 2,500 population and more]					
Consumption Categories	250 kwh	500 kwh	750 kwh	1000 kwh	
Ranking <sup>1</sup> Jan. 1, 1969	36	26	30	33	
Average Monthly Bill					
New Mexico	\$ 7.67	\$10.17	\$14.17	\$ 18.38	
United States	7.40	10.32	13.97	18.03	
Commercial Service [Large cities only]					
Consumption Categories	6 kw-750 kwh	12 kw-1500 kwh	30 kw-6000 kwh	40 kw-10,000 kwh	
Ranking <sup>1</sup> Jan. 1, 1969	29	23	19	20	
Average Monthly Bill					
New Mexico	\$27.16	\$47.78	\$147.19	\$215.89	
United States	\$26.82	\$50.91	\$160.85	\$236.51	
Industrial Service [Large cities only]					
Consumption Categories	150 kw-30,000 kwh	300 kw-60,000 kwh	1000 kw-200,000 kwh		
Ranking <sup>1</sup> Jan. 1, 1969	25	28	43		
Average Monthly Bill					
New Mexico	\$571	\$1116	\$3683		
United States	\$636	\$1163	\$3436		

Source: Federal Power Commission, *Typical Electric Bills 1969*, (U.S. Government Printing Office) pp. XIV, XXIII, XXIV, XXVII and XXVIII.

<sup>1</sup> Averaged monthly bills are ranked from low to high.

Table 2  
TYPICAL ELECTRIC BILLS-RESIDENTIAL-JANUARY 1, 1969  
(COMMUNITIES OF 2,500 POPULATION AND MORE)

Utility Serving Community	Consumption Categories				
	100 kwh	250 kwh	500 kwh	750 kwh	1000 kwh
Pub. Serv. Co. of N.M. <sup>1</sup>	\$3.68	\$7.18	\$ 9.78	\$13.98	\$18.38
Southwestern Pub. Service Co. <sup>2</sup>	5.40	8.63	10.46	13.48	18.85
Jemez Mountains El.Coop Inc. <sup>3</sup>	4.75	7.25	11.50	16.50	20.50
New Mexico Elec. Service Co. <sup>4</sup>	4.32	7.25	9.22	13.32	17.82
Cont.Divide Elec. Coop Inc. <sup>5</sup>	3.25	7.00	9.35	14.05	19.05
El Paso Electric Co. <sup>6</sup>	3.75	6.75	9.25	13.25	18.25
Community Public Service Co. <sup>7</sup>	5.15	8.65	11.25	15.85	20.85
Lea County Elec. Coop.Inc. <sup>8</sup>	4.30	7.45	9.00	12.70	16.90
Socorro Electric Coop.Inc. <sup>9</sup>	5.50	9.25	13.10	16.70	21.70

Source: Federal Power Commission, Typical Electric Bills—1969 (U.S. Government Printing Office), pp. 57-58.

<sup>1</sup> Serving Albuquerque, Armijo, Atrisco, Belen, Bernalillo, Deming, Five Points, Las Vegas, Los Duranes, and Santa Fe.

<sup>2</sup> Serving Artesia, Carlsbad, Clovis, Portales, and Roswell.

<sup>3</sup> Serving Cuba.

<sup>4</sup> Serving Eunice, Hobbs, and Jal.

<sup>5</sup> Serving Grants and Milan.

<sup>6</sup> Serving Las Cruces.

<sup>7</sup> Serving Alamogordo, Lordsburg, Silver City, and Tularosa.

<sup>8</sup> Serving Lovington.

<sup>9</sup> Serving Socorro.

(from Table 1) and the range (from Table 2) for four consumption categories are as follows:

	Average	Range
250 kwh	\$ 7.67	\$ 6.75 - \$ 9.25
500 kwh	10.17	9.00 - 13.10
750 kwh	14.17	12.70 - 16.70
1000 kwh	18.83	16.90 - 21.70

A careful examination of Table 2 also reveals considerable variation in the percentage increase from one consumption category to another. For example, the increase in the average monthly bill ranges from 20.8 percent to 58.6 percent when moving from the 250 kwh to the 500 kwh consumption category. When moving from 500 kwh to 750 kwh and from 750 kwh to 1000 kwh, the percentage increases range from 27.5 to 50.3 and from 24.2 to 39.8 respectively.

A further indication of the performance of the New Mexico Public Service Commission and the electric utilities serving New Mexico communities is provided by the Congressional Record June 1, 1970. Here is recorded net income as a percent of gross utility operating revenues for the 206 major privately owned electric utilities in the

United States. Net income figures were recorded for five electric utilities serving New Mexico communities as follows:

Electric Utility	Net Income percent of gross utility operating revenues
Public Service Co. of New Mexico	19.1
Southwestern Public Service Co.	19.7
New Mexico Electric Service Co.	12.1
El Paso Electric Co.	21.8
Community Public Service Co.	9.2

These five electric utilities serving New Mexico averaged a net income equal to approximately 16.4 percent of gross operating revenues. The 206 privately owned electric utilities averaged 15.4 percent. It should also be noted that only 26 of the 206 electric utilities netted 19 percent or more.

## V CONCLUSIONS

The data presented in the preceding section relating to the electrical utility industry of New Mexico is clearly insufficient to permit a general condemnation or commendation of New Mexico's regulatory commissions. In fact, the significance of these data lies not in the questions they answer, but rather in the questions they raise. The following questions are explicit or implicit in Federal Power Commission Data on the level and ranking of New Mexico's average typical electric utility bills:

What factors explain the relatively high ranking of New Mexico's average monthly residential bills?

Why does the ranking of New Mexico's average monthly electric bills vary so markedly between consumption categories and between consumer classes?

Is the price discrimination<sup>19</sup> reflected in the variation in the ranking of average monthly bills for different consumer classifications, i.e., residential, commercial and industrial, socially desirable?

Is the price discrimination reflected in the variation in the ranking of average monthly bills for different consumption categories socially desirable?

Does the existing rate structure tend to encourage and/or discourage certain commercial and industrial classifications?

Are existing public utility rate structures in accord with state and local programs designed to promote industrial development?

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19. Price discrimination arises when the same service or product is sold at different prices to different buyers.

What factors explain the variation in the level of rates and the rate structure among electric utilities serving New Mexico communities?

The figures supplied on utility income raise this additional question:

Why is net income as a percent of gross utility operating revenues well above the national average for most electric utilities serving New Mexico?

It is these and related questions which must be answered if New Mexico's regulatory commissions are to become effective, aggressive instruments of public policy. To supply the answers to these important questions it is essential for New Mexico to make a thorough survey of conditions and needs in the regulated industries. This survey would provide a basis for statutory and administrative revision of the regulatory processes.

In basic terms the regulatory statutes of New Mexico have not been changed since the passage of the New Mexico Public Utility Act in 1941. It would, therefore, not be surprising if such an investigation would find that important revisions are now required.

The needed investigation, findings, and recommendations is not a task that should be undertaken by existing state regulatory commissions. Preferably it should be made by a public body especially created for the purpose. It would be the basic objective of this body to change the existing system of state utility regulation to provide a system better suited for the conservation and promotion of the public interest and the clear and consistent protection of the private interest.