M I N U T E S

SPECIAL COMMITTEE ON ENERGY

June 9-10, 1977

Members Present

Representative Donald E. Mainey, Chairman
Senator Donn J. Everett, Vice Chairman (June 10)
Senator Arnold Berman
Senator Bill Morris
Representative Tim Holt
Representative J. Littlejohn
Representative Charles J. Schwartz

Staff Present

Ramon Powers, Kansas Legislative Research Department
Hank Avila, Kansas Legislative Research Department
Ron Smith, Kansas Legislative Research Department (June 10)
Emalene Correll, Kansas Legislative Research Department (June 10)

Conferees Present

James Newman, Regional Administrator, Federal Energy Administration
Tom VanBebber, Commissioner, Kansas Corporation Commission
R.C. "Pete" Loux, Commissioner, Kansas Corporation Commission
Bill Gray, Commissioner, Kansas Corporation Commission
Staff Members of the Kansas Corporation Commission
Bruce Mormon, Wichita, Elmer Fox, Westheimer & Company
Mike Wright, Topeka, Elmer Fox, Westheimer & Company

June 9, 1977

Chairman Mainey called the meeting of June 9 to order, and reported to the Committee that Seantor Donn J. Everett, Vice Chairman, would not be able to attend, but would be present the following day. He also said that Representative August (Gus) Bogina and Representative Robert H. Miller could not attend the June meeting.

Chairman Mainey introduced the Committee Secretary, Shirley McClure, and asked Ramon Powers of the Legislative Research Department to introduce other staff members of the Legislative Research Department who will be working with the Committee. These staff members are Hank Avila, who was present, and Ron Smith, Julie Mundy, and Emalene Correll, who were not present.

Chairman Mainey directed the attention of Committee members to a letter from Governor Robert F. Bennett with an attached letter from the Kansas Energy Office recommending certain subjects for interim study. It was explained that if the Committee wanted to consider any of the Energy Office proposals, it must consider the recommended topics under the proposals which were assigned to the Committee or request that the Coordinating Council assign the topics to the Committee as separate proposals. Chairman Mainey then asked Ramon Powers to outline the proposals which were assigned to the Committee. Mr. Powers furnished Committee members with memoranda on Proposal Nos. 19, 20, 22, 23, and explained that memoranda on Proposal Nos. 21 and 24 were being completed and would be available next week. (Copies of these proposals are attached to the minutes.) Mr. Powers explained the proposals and summarized the memorandum on each of the following:

Proposal No. 19 - State and Federal Energy Conservation Activities
Proposal No. 20 - Rate-Making Principles and Rate Structures
Proposal No. 21 - Energy Research and Production
Proposal No. 22 - Construction Work in Progress
Proposal No. 23 - Municipal Utility Rates and State Jurisdiction
Proposal No. 24 - Wheeling of Electrical Power

Following the review of the proposals, Mr. Powers said that a review of rate-making principles has been arranged and would be presented by representatives of Elmer Fox, Westheimer and Company, at the Friday meeting in Hearing Room B of the Kansas Corporation Commission offices.

Chairman Mainey then introduced James Newman, Regional Administrator of the Federal Energy Administration (FEA). Mr. Newman gave Committee members a brief listing of the major goals of the National Energy Plan. A copy of the Plan was handed out to members, with additional copies available at the Kansas Energy Office. Mr. Newman emphasized the seven goals for 1985 of the Plan which are:

1. To reduce the annual growth of total energy demand to below 2 percent;
2. To reduce gasoline consumption 10 percent below its current level;
3. To reduce oil imports from a potential level of 16 million barrels per day to 6 million, roughly one-eighth of total energy consumption;
4. To establish a strategic petroleum reserve of one billion barrels;
5. To increase coal production by two-thirds, to more than one billion tons per year;
6. To bring 90 percent of existing American homes and all new buildings up to minimum energy efficiency standards; and,
7. To use solar energy in more than 2½ million homes.

Mr. Newman also pointed out that there are 112 individual issues requiring legislation to implement the National Energy Plan. He said that all states had been asked to submit energy conservation plans, and federal funding would be distributed for implementation for those plans. Kansas, to date, has not submitted a plan to the regional office of FEA, however, one is forthcoming in the immediate future. Mr. Newman was asked to comment on other state energy plans he had seen, but said he had not studied other state plans sufficiently to comment at this time. He did comment that he expected the Kansas plan to be quite different from the plans submitted by Nebraska, Iowa, and Missouri because of differences in natural resources of the states.

Mr. Newman was asked to interpret the fourth paragraph on page 67 of The National Energy Plan. The question was posed, "Is the federal government on the verge of regulating power plant siting to assure implementation of the Clean Air Act?" Mr. Newman stated that he did not believe the federal government will pre-empt the state's right to decide on locations for power plants.

Chairman Mainey thanked Mr. Newman for appearing before the Committee, and Mr. Newman offered his assistance to the Committee in its interim study work.

The request was made to have Acting-State Energy Director, Dr. Robert Robel of Kansas State University, appear before the Committee to explain his reason for criticisms of President Carter's National Energy Plan.

Following a short recess, the Committee set dates for the future meetings, and agreed to determine, at a later date, any additional meetings which may be necessary. The schedule of meeting dates for the interim is as follows:

July 11-12
August 22-23
September 21-22
October 13-14
November 10-11

It was suggested that the Committee review the activities of the Division of the Environment as it relates to energy in the Committee's study of one of its proposals.

Chairman Mainey pointed out the problem of completing interim committee reports, and suggested that the Committee not plan for a December meeting in order to allow the staff sufficient time to complete the Committee's reports. He also suggested that a letter be directed to the Legislative Coordinating Council with the suggestion that all interim committees complete their studies prior to December 1.

Ramon Powers asked that the Committee advise him as to conferees the Committee woudl like to have present at future meetings. It was suggested that the Department of Administration be contacted to discuss its purchases of automobiles for the state motor pool; the question was asked why the state continues to buy large four-door sedans.

It was also suggested that the authors of original draft of the State Energy Conservation Plan be present at the meeting when the Plan is reviewed. A letter requesting information on the status of the conservation plan was suggested. Finally, it was suggested that publicity be given to the issues being studied by this Committee so that the Committee can get input from the general public for future hearings.

Chairman Mainey stated that all meetings of the Special Committee on Energy are open to the public. He announced that, following noon recess, the Committee would reconvene at 1:30 p.m. in Hearing Room B of the Kansas Corporation Commission offices on the fourth floor of the State Office Building.

The Committee recessed for lunch.

The Committee reconvened at 1:30 p.m., in Hearing Room B of the Kansas Corporation Commission. After calling the meeting to order, Chairman Mainey turned the meeting over to Commissioner G.T. VanBebber who introduced Commissioners Pete Loux and Bill Gray, and other members of the Kansas Corporation Commission staff who were present.

Committee members were given copies of "Summary of KCC: Organization, Objectives and Effect on Economic Development," and pamphlets entitled "Guide to Meter Reading," and Guide to Rate Hearings" (both published by KCC), and an organizational chart of the Commission. These materials are attached.

Commissioner VanBebber briefly reviewed rate regulating, explained the structure of the Corporation Commission, and summarized the jurisdiction of the Commission. His presentation centered principally on the Commission's jurisdiction over public utilities and its responsibilities in the area of the conservation of gas and oil.

In his discussion of the jurisdiction of the KCC, Commissioner VanBebber outlined the procedure followed by the Commission in hearing a rate case. He explained that first there is an application for a rate increase which staff reviews. Then follows the field work which might take three to four months in a typical case. Pre-filed testimony is presented by the applicant, intervenors, and staff. Finally the Commissioners hear testimony in a formal hearing. A staff attorney is provided to help members of the public present testimony to the Commission. Following the formal hearing, the Commissioners deliberate before issuing an order in the case. According to Commissioner VanBebber, the Commission's activities are fully open to the public; the Commissioner's deliberations in any particular case involve discussions among the members of the Commission which are protracted in nature, consequently there generally is no formalized closed process even in the deliberations on cases.

Discussion then focused on the cost of an investigation in a rate case. It was revealed that the expense to a utility of applying for a rate increase is considered a legitimate business expense and eventually is borne by the rate payer. The Commission does have some latitude in determining whether every expense attributed to developing a case is an allowable business expense for rate-making purposes. The Commission's authority in allowing such expenses is set by law and has been interpreted in certain instances by the Courts.

The question then arose as to how much of a utility's advertising is a legitimate business expense and allowed to be placed in the rate base. Again, the Commission has some latitude, according to Commissioner VanBebber, to determine whether certain advertising expenses should be allowed. The Commission does deny the inclusion of promotional advertising in a rate case, and lobbying expenses are disallowed. To completely eliminate advertising expenses from the rate base, a statute would be required, according to Commissioner VanBebber. Reasonable contributions must be allowed although there is no formula for determining the meaning of "reasonable." The Commission has not allowed all contributions as an allowable business expense in the past.

There followed a brief discussion of whether the KCC should be the state agency that should administer, develop, and implement the state energy conservation plan. Commissioner VanBebber suggested that the Commission was concerned with certain elements in the plan, and that other state agencies also had a vital interest in the development of other elements to the Plan. He suggested that technical expertise from the appropriate agency should be used by the Kansas Energy Office. Commissioner VanBebber did state that the KCC was not consulted by the original authors of the first draft of the energy conservation plan, however, the KCC was consulted and did make suggestions for revisions of the Plan.

The question was then posed as to when there will be a decision on the construction-work-in-progress (CWIP) issue. Commissioner VanBebber stated that it was his understanding that the Supreme Court had not decided whether it or the Court of Appeals will hear the case. After the brief discussion of CWIP, Commissioner VanBebber stated that the consultants will discuss the issue more fully the following day in their review of rate-making principles.

A legislator then asked if the Commission had the power to require a certain level of oil and gas production. Commissioner VanBebber stated that by statute the KCC is authorized only to fix allowables (maximum rates of production) for producing wells and to set the spacing of wells. This authority is only in the area of protecting the wells for conservation and safety purposes.

The issue was then raised as to whether Kansas could enact legislation to keep its own production of natural gas in the state. This was proposed in S.B. 233 during this past Session. It was the opinion of Commissioner VanBebber that federal constitutional requirements concerning interstate commerce prohibit the state from restricting sales of gas produced in the state to users in the state. The KCC does not have control over long range sales of gas unless they are in the intrastate market, according to Commissioner VanBebber.

In the matter of the environmental aspects of central power plant stations, the KCC has no jurisdiction except in rate setting according to Commissioner VanBebber. The waiver granted to Empire District Electric Company to use higher sulphur coal was granted by the Division of the Environment of the State Department of Health and Environment, not the KCC, he noted.

Commissioner VanBebber then discussed briefly the activities of the KCC involving statewide investigations:

1. Single certification districts (i.e. the territories bill, 1975 H.B. 2047 passed in the 1976 Session). The KCC has engaged an outside engineering firm to do the mapping. The target date for completion of the mapping is July 1, 1978.

2. Establish a Uniform Plan of Curtailment. The KCC hired consultants and after a thorough study of the matter, an order establishing the Plan was issued.

3. Uniform Fuel Adjustment Clauses. Again the Commission hired consultants to do the study which has been completed and an order recently issued to provide for uniform fuel and purchased gas adjustment clauses.

4. Insulation Standards. The KCC issued a show cause order and held a hearing on the matter. Issuance of an order implementing the insulation standard has been delayed until the fall. (The order was issued June 28, 1977.)

Commissioner VanBebber then stated that the KCC was considering issuing orders in the following areas:

1. Investigation of line extensions of phone companies and their charges.

2. Investigation of late charges and deposit requirements of utility companies.

3. Conduct survey of conservation gas and alternative rate structures for electric utilities under H.C.R. 5031.

In a discussion of the curtailment powers of the KCC, Commissioner VanBebber noted that curtailments do not extend to the end use of natural gas. A curtailment schedule, he stated, is based on the tariff filed by a particular company with the KCC. (A tariff is the filing with the KCC of the rate or condition of service of the company.) The KCC only has the statutory authority to approve or disapprove tariffs that have been filed with the Commission.

The discussion returned to the matter of utility rates. Commissioner VanBebber stated that there are sometimes questions about the quality of management of a particular company. Recently the Commission ordered management audits of two utilities, but those audits have not been completed. The problem is determining whether a particular company is being run efficiently and competently so that the Commission is assured that when it allows certain expenses in its rate case, it is assured that the company will be able to operate efficiently with a certain assured rate of return.

The question was raised as to KCC jurisdiction over the wheeling of electrical power as it relates to Proposal No. 24. Staff briefly reviewed the background of the proposal. Commissioner VanBebber stated that the KCC does not have jurisdiction over the Twin Valley Electric's purchase of electricity from KPL. It was also stated that the fuel adjustment costs are always attached to any sales for resale whether they are intrastate or interstate.

In a discussion of fuel adjustment reporting, the question was asked as to how soon the Commission staff picked up discrepencies. Under the present monthly reporting system, discrepencies are picked up after the end of each month, according to Commissioner VanBebber. Under the old reporting system the problem was not in the timeliness of reporting, but in the fact that each system had its own accounting procedure which made the post auditing of the accounts more difficult. It will be much easier under the new system, according to the Commissioner.

If the municipal utilities were placed under the jurisdiction of the KCC, the subject of study Proposal No. 23, how many additional utilities would be brought under the KCC, a Committee member asked? Commissioner VanBebber first stated that the KCC has jurisdiction over 181 utilities (46 telephone companies, 36 rural electric companies, 6 investor-owned utilities, 18 gas companies, 12 radios, 6 water systems, and the reamining are municipals over which the KCC has jurisdiction over part of the system, i.e. municipals that extend beyond the three-mile perimeter of a city). If municipals were put under the KCC's jurisdiction, a total of 131 additional utilities would be involved according to Commissioner VanBebber, and additional staff and space would be needed to handle the load.

When questioned about work done on rate structure changes, Commissioner VanBebber answered that no studies have been conducted on "Time-of-Day" rates and that the Commission has ordered cost of service studies and encouraged seasonal rate use. The KCC has declined to order a "Life-Line" rate study since statutory change would have to be made before a "Life Line" rate could be implemented. KCC has encouraged utilities to study "Time-of-Day" rates, and one such plan has been submitted by Kansas Gas and Electric Company (KG&E). He told the Committee that "Time-of-Day" rates which have been extensively used in Europe are now being discarded, and he noted that new studies show that "Time-of-Day" rates are not a real conservation tool. The Commissioner stated that he personally felt the better way would be to permit utilities to shut-off certain appliances at peak periods (ripple control), but there is need for more data in this area.

Commissioner VanBebber described briefly the Electric Power Research Institute's function. He noted that a surcharge on all electric bills of customers of investor-owned utilities funds the Institute. For the first time research funds of the Institute will be used in Kansas, according to the Commissioner.

In a brief discussion of the proposed coal slurry pipeline, Commissioner VanBebber stated that if it is built, jurisdiction over the pipeline would probably be with the Interstate Commerce Commission.

A question was raised as to the financial condition of the Oil Well Plugging Fund. The fund fluctuates considerably depending on drilling activity, but there was a fund increase in 1976, according to the Commissioner, and he anticipated no serious problem with the Fund.

The Commissioners reported on the recently approved Commission order regarding the solar rate application of KG&E which allows homes partially heated by solar systems to qualify for all-electric rates if the homes contain storage for solar energy.

Chairman Mainey thanked the Commissioners and their staff for the review, and he requested that the Committee have a KCC staff member present at their meetings on the proposals being studied. Commissioner VanBebber said that the Commission wants direction from the Committee as to what the KCC should do in regard to H.C.R. 5031.

The Committee members were taken on a tour of the entire offices of the Kansas Corporation Commission, and the meeting was recessed until the following day.

During the tour, the Commissioner stated that the Commission needs some additional personnel such as an economist and a rate design engineer to more effectively fulfill its responsibilities in regulating utilities. These additional professional staff would enable the Commission to make less use of expensive services of outside consultants.

June 10, 1977

Chairman Mainey called the meeting to order at 9:00 a.m. and introduced Commissioner VanBebber, who in turn introduced the representatives of Elmer Fox, Westheimer & Company, a public accounting firm that does consulting work for the Kansas Corporation Commission on rate cases. Representatives of the firm were Bruce Morman, and Mike Wright. Prior to their presentation, the consultants distributed an outline of the presentation and informed the Committee that they welcomed any comments or questions from the people present concerning the presentation.

The presentation began with a description of the characteristics of a utility. The consultants explained that a utility operates best in a natural monopoly situation because of the capital requirements needed to provide their product, i.e., energy. They stated that competition is impossible within the utility industry because of these capital investments requirements. Further, it was explained that a utility is allowed to earn a reasonable rate of return but that it is not guaranteed that they will earn that profit. Because there is a lack of natural competition, the regulatory agency such as the KCC, acts as a substitute for this lack of competition to protect the consumer and control excess profits. In addition, it was explained by the consultants that there are at least three various levels of regulatory agencies existing in the United State ranging from local regulatory agencies in various states to the federal regulatory agencies.

In the discussion of what constitutes generally accepted rate making principles, a question was asked by one Committee member about the use of management audits in addition to financial audits in rate cases. The consultants answered that management audits are used occasionally to supplement the financial audits in order to enlarge the scope of factors considered in the determination of a rate case. The problem is that there is not set procedure for providing incentives for well managed companies and penalizing badly managed companies in monopoly enterprises.

Next a definition of various key terms used throughout the remainder of the presentation on the prinicipals of rate making was presented. Some of these key terms were: capital intensive, rate base, income statements, synchronization, capitalization, test year, reserve deficiency, normalization, annualization, use and required to be used, below the line, cost of service formula, and AFUDC. Each of these terms were carefully defined by the consultants. In explaining the concept of synchronization, that is matching income produced with the rate base used to generate the income and the capitalization financing the rate base, the consultants used data supplied from a previous rate case filed by KG&E to explain the three major factors involved in this process. These three major factors are: (1) operations; (2) capitalization; and (3) rate base.

Components of operations are: operating revenues and operating expenses. Components of capitalization are: debt, preferred equity, customer related equity, and common equity. Components of the rate-base are: plant in service, material and supplies, prepayments, and working capital. The presentation then moved into a detailed explanation and analysis of the three major factors mentioned above in the process of synchronization.

The first factor which was discussed at length was rate base. The major components of a rate base are: the electric plant in service, the reserve for depreciation, and either plants held for future use, which is identified in an allowance for funds used during construction (AFUDC) account or construction working progress, (CWIP). Also in the rate base is a component that is known as working capital. This includes the fuel stock, plant materials and operating supplies, pre-payments, and cash flow. In considering the above components used in determining a utilities rate base, an accounting firm, such as Elmer Fox and Westheimer, also considers the valuation of the property resources involved, the proper accounting treatment of the various components, the idea of used or useful rendering of a utility, whether there is an obsolete or retired plant included in the rate base, and the normal levels of working capital items. It was noted by the consultants that Kansas uses the original cost of a plant to value the assets that the utility owns, and also that the overhead costs are included with the original costs to determine the value of assets.

There are two primary methods of computing a rate base, the average or the end of period method. The average method is when a utility has had an extreme fluctuation in income generation and expenses, and, has decided that they want to average out these factors over a given period of time. The end of period method takes a specific date at the end of a year which they would decide to use. Use of the end of period rate base reduces the regulatory lag which results in periods of high inflation when the average year is used. Some states are experimenting with the use of a projected year for electric utilities. Using either one depends on the utility's business cycle preceding the rate request.

A question was raised as to an explanation of cash working capital. The consultants stated that cash working capital is the money allowed a utility to pay bills off prior to receiving revenues from rate payers. A Committee member asked for a more detailed explanation of reserve for depreciation. It was stated that a reserve for depreciation is set up by a utility because an asset wears out every year that it is in use, but at the same time it also is generating revenue each year. The wearing out of the plant is then charged to the operations. Sometimes there is a need to change the depreciation schedule periodically to maintain its accuracy. The principle purpose of an accounting audit is trying to match the usage with revenue of a plant over a period of years.

Next in the discussion of rate base were the two controversial principles of either using CWIP or AFUDC. In their discussion of CWIP, the conferees stated that CWIP throws off the entire process of synchronization between the three factors mentioned earlier, that is: operations, rate base, and capitalization. Because CWIP is placed under operating capital but does not produce or generate any income, it creates an in-balance between the three factors. Briefly stated, the consultants noted the arguments against CWIP could be summarized as follows:

1. Who should pay for the plants, i.e., current customers for future use or future customers who use it?

2. A future plant is not used to serve the present customers.

3. In terms of this generation of rate payers, some may pay now but never use it. This is especially true when considering the high rate of migration among the American populace.

4. CWIP tends to shift the risk of building plants from the utilities themselves to the customers.

5. CWIP tends to make the rate payer a creditor to the company the same as the stockholder.

Arguments that favor CWIP can be summarized as follows:

1. The problems encountered in raising large amounts of capital for future plants dictates the need for raising some of the revenue now in order for the plants to be built.

2. The time required to build new plants is of such length, that the money needed to build that plant has to be spread out over a period of years.

3. CWIP brings in greater cash flow to the utility.

4. By gradually rolling in the increase in rates to pay for the plant, the customer will not have a severe rate increase at one time when the plant goes into operation.

5. Overall, the utility's claim that including CWIP in a rate base would lower the total cost to ratepayers.

Following this part of the presentation on CWIP, a question was raised as to what CWIP in the rate base does to the taxes that a utility pays. The consultants explained that with CWIP in the rate base, the income tax will take $1 of every $2 that are accumulated through this method.

In explaining the allowance for funds used during construction (AFUDC), the consultants pointed out that during the time a plant is being constructed, the utility is incurring a capital expense that they are not making any money on. Because of this, AFUDC provides the utility a method of getting back a return on the money it has tied up in construction but charging the customers for it only after the plant is put in service.

Components of the operation factor can be put into a working formula that will give you the cost of the service. The formula reads: RR = E + D + T + R. What this represents is: revenue requirements equal expenses plus depreciation plus taxes plus the rate of return times net plant in service. This formula will give you the rate base necessary to operate a utility. In determining the cost of operations, accountants look for the following items: (a) a representative test year, that is a 12-month period in which the utility is going to base the rate application on. (Is this test year representative of the overall past operation?); (b) proper matching of income statement with the present rate

base. (There are two major adjustments that accountants make in matching the income statement with the rate base. The first one is annualization which spreads certain items that a utility pays for on an annual basis, such as taxes, over a full year. The other major adjustment is normalization. This is the adjustment to a historically determined normal level, the operating abnormalities that may have occurred in the designated test year, such as an extreme amount of maintenance required within one 12-month period over and above what is usually required in that 12-month period); (c) a proper mix of sales, fuels and purchases vs. generation is taken into account; (d) making out of period adjustments; (e) consideration of the depreciation rates; (f) taking into account the cut-off at the beginning and end of the test year; and (g) income taxes. (In relation to income taxes there are two approaches used by accountants for figuring a utility's taxes. The first one is called the flow-through process. In the flow-through process, a utility is allowed all the deductions it is eligible for and at the same time then the rate payer is allowed the same deductions. The other process is called normalization. This is where the rate payers are paying more in taxes than the utility and therefore the accountants move towards normalizing the tax pay outs. What normalization of taxes does is that it increases the cash flow of a utility.)

In the discussion of the last major factor in the synchronization process, it was pointed out that there are four major components to capitalization or capital structure. They are: debt which is made up of mortgage bonds, pollution control revenue bonds, and notes payable or commercial paper. Secondly, preferred equity is made up of what is termed preferred stock. Thirdly, customer related equity is derived from customer advances, customer deposits, accrued interest on customer deposits, reserve for injuries or damages, deferred income taxes on liberalized depreciation, and deferred investment tax credits. Finally, common equity consists of common stock, premium on capital stocks sold, job development investment credit, and retained earnings.

Following the presentation, extensive discussion was carried on by the Committee with the consultants on various aspects of the presentation. Chairman Mainey expressed his appreciation for the consultants' time for their excellent presentation. The Committee was adjourned.

Prepared by Ramon Powers

Approved by Committee on:

July 11, 1977

MEMORANDUM

June 6, 1977

TO: Special Committee on Energy

FROM: Ramon Powers, Kansas Legislative Research Department

RE: Proposal No. 20 - Rate-Making Principles and Rate Structures

The Special Committee on Energy is charged with conducting a study of rate-making principles and alternative rate structures which have been adopted in other states; and a review of bills from the 1977 Session concerning utility rates and the implementation of H.C.R. 5031 by the State Corporation Commission which directs the Commission to study rate structures.

At this first meeting of the Committee, a discussion with members of the State Corporation Commission has been arranged so that the Committee can review the Commission's proposed implementation of H.C.R. 5031. On the second day of the meeting, a review of rate-making principles by representatives of Elmer, Fox, Westheimer, and Company of Wichita, consultants to the State Corporation Commission on rate-making matters, is scheduled.

This memorandum reviews bills from the 1977 Session concerning utility rates and alternative rate structures which have been promoted or adopted in other states.

1977 Session Bills and Resolutions Concerning Utility Rates

House Bill No. 2405 would have prohibited retail electric suppliers from charging any residential or commercial customer who had installed a solar energy system an electric rate above the rate to which the customer would normally be entitled.

This bill passed the House and the Senate Energy and Natural Resources Committees. The Senate Committee of the Whole amended into the bill a provision whereby no late payment penalty or interest could be charged until after the payment had been overdue 30 days or more. Also the late payment penalty could not exceed two percent per month on the unpaid charge. H.B. 2405 was in conference committee when the Legislature adjourned.

House Bill No. 2476 would have directed the State Corporation Commission to require monthly reports on fuel adjustment charges made by public utilities. The Commission would have been directed to use the reports in monitoring the effects of energy cost adjustments and would have been required to audit the reports. The Commission would have been further instructed to establish uniform energy adjustment clause language and methods for calculating adjustments.

This bill remains in the House Energy and Natural Resources Committee. During the 1977 Session the Commission issued an order directing utilities under its jurisdiction to provide extensive and uniform reporting of fuel adjustments.

House Bill No. 2472 proposed to set maximum rates for natural gas and electricity which could be charged to senior citizens (60 years and older) whose income is less than $4,000 per year. The rate limit for those eligible under this proposal would be three cents per kilowatt hour for the first 5,000 kilowatt hours of electricity and $1.00 per mcf for the first 100 mcf of natural gas used. The identification of eligible Kansas citizens would be determined by the State Corporation Commission with the assistance of the Kansas Department of Revenue.

The bill remains in the House Energy and Natural Resources Committee.

Senate Bill No. 182 would have prohibited the State Corporation Commission from including in any public utility's rate base the costs incurred by the utility in its advertising programs or in its lobbying efforts. The bill would have further disallowed from inclusion in the rate base that portion of any employee's salary which exceeds the statutory salary of the Governor.

This bill remains in the State Transportation and Utilities Committee.

H.C.R. 5031, which was enacted, directs the State Corporation Commission to study the feasibility of permitting gas utilities under its jurisdiction to consider "conservation gas" (gas saved as the result of properly insulating homes, equipping thermostats with automatic controls, and installing furnace modifications designed to improve efficiency) as an additional natural gas supply option. The commission will consider in its study the possibilities of financing these improvements by including the incurred costs in the rate bases of the utilities or recovering the costs from the benefitting customers. The study will also include an evaluation of the feasibility of permitting electric utilities to finance and install energy conservation improvements in residential structures and procedures for recovering the costs of the improvements.

H.C.R. 5031 also directs the State Corporation Commission to study alternatives to existing rate structures of jurisdictional electric utilities. The Commission is to report its findings and recommendations to the President of the Senate and the Speaker of the House of Representatives by the 1978 Legislative Session.

In directing the Commission to study alternatives to the present rate structures of electric utilities, the Legislature included in H.C.R. 5031 a list of subjects to be considered in the study:

(1) Discount prices for consumers who achieve a decrease in their consumption of electricity.

(2) Placing all future rate increases on the tail blocks of the existing decreasing block pricing structure so that in time an increasing block pricing structure will be achieved.

(3) Inverting the rate structure to achieve immediately an increasing block pricing structure.

(4) Requiring new metering which would enable higher prices for consumption of electricity at the demand peaks each day.

(6) Marginal cost pricing, that is, pricing of all electricity at the cost of producing the last unit of electricity at the most recent plant, rather than average cost pricing which is currently used.

The State Corporation Commission is to report its findings and recommendations to the President of the State Senate and the Speaker of the State House of Representatives no later than the commencement of the 1978 Session of the Kansas Legislature.

Alternative Rate Structures

In a recent hearing before the State Corporation Commission, the Gas Service Company proposed to structure its prices so that the big users of gas will pay a higher amount of increases than residential customers. The utility is requesting authority to raise its rates by $12 million. The rate design in the application proposed to raise the cost of gas to large industrial and commerical users by about 15 percent and increase the cost of residential customers by about 9 percent. The proposed rate change represents a fundamental change from rate designs in the past because it will reallocate the rates by moving in the direction of assessing the same rate to all types of customers, i.e., flattening the rate instead to allowing larger users to pay a lower rate. The proposed new rate design by Gas Service Company in Kansas symbolizes the trends that are taking place throughout the country in changing the allocation of costs for utility services. The major changes being proposed in utility rate design, however, are in the electric utility industry under the authority of state regulatory commissions. The following is a review of utility rate design structures principally as they relate to electricity and alternative rate design structures presently being considered in various jurisdictions.

Electric rates were usually established on the basis of the cost of servicing various classes of customers. These costs are of three types:

1) Customer service cost;

2) Energy cost, or the cost for delivery of each kwh of electric energy;

3) Capacity cost, meaning the customer's contribution to the requirement for system plant capacity. It is in the last category, the manner in which capital costs for system capacity are allocated among customers, together with the inherent technical difficulty in assigning such allocations, that is primarily the subject of current debate.

In the period 1966 to the present, utility rate increases have become common place, particularly during the last half of the period. In the electric utility industry there has been financial stress; this was particularly evidenced in the period 1973-75 as it became increasingly difficult and costly to obtain capital for required expansions. During the same period, the overall efficiency of use (load factor) for existing generating facilities dropped substantially, from 65.3 percent in 1967 to 61.2

percent in 1974. At the same time there have been, and continues to be, tremendous jumps in the cost of fuels. These developments in the electric utility industry have resulted in higher electric bills and an increasing demand for reform in the industry. As stated in the March 7, 1977 issue of Energy Report to the States: "The states are being called upon to restrain the rising costs of electricity. The demands are plain; limit costs increase, ensure that price matches the cost of service, and protect the poor or limited-income person from unavoidable price inflation." (page 2)

With increasing pressure for rate reform, there has been a trend in which the declining block system of energy charges is being gradually altered and, in some instances, abandoned. In many states a variety of rate structures is being evaluated by utilities, regulatory commissions, research organizations, and the federal government. These changes range from a simple flattening of rates (charging all customers the same rate), to an inclining block system (charging a higher rate for larger usage), to rates which vary with the time of usage. These alternatives are being considered in order to meet various objectives:

1. Accurately signaling the utility's costs to customers;
2. conservation of energy;
3. improving capacity utilization;
4. relief for the needy;
5. maintaining the financial viability of the utility; and
6. lessening the impact of rates on residential customers.

The most commonly discussed price system designed to meet some or all of these objectives are: (1) inverted rates, (2) peak-load pricing, (3) lifeline rates and energy stamps, (4) customer-energy-demand rates (CED) and (5) marginal cost pricing.

Traditionally, the declining block rate has been the basis for pricing electricity. Under this pricing structure, each successive block of kilowatt hours is cheaper than the preceding one. Consequently, the more kwh's you use the less you pay per kwh. The large commercial and industrial customers which benefit from such a pricing structure do have to pay an additional demand charge. Demand (or load) relates to the maximum amount of power (kw) use at one time. The aggregate peak demand of customers creates a peak demand for the overall system.

It is the peak demand of the system that determines the capacity of the utility which must be available at any given time. The problem is to provide incentives for consumers to change their energy use habits so that the growth of the peak demand is slowed down which therey improves the efficiency of the power plant.

Inverted Rates. Inverted rates are the opposite of declining block rates. With each successive block, the price per kwh for the block rises. According to Alan Finder, in his recent The States and Electric Utility Regulation, "Inverted rates, or inclining blocks, signal customers they should conserve at all times to reduce their bills

and the utility's costs. The price system (under inverted rates) further implies that increased use and capacity expansion increase unit electricity costs." Few regulatory commissions have directed implementation of inclining block because customers have responded to calls for conservation by limiting overall usage except during the peak periods. By decreasing the base-load consumption which is the less expensive electricity to produce, there is an increase in the unit cost of production because the utility must still provide for the peak load capacity which is expensive to produce. It is believed that inclining blocks will have the same effect as conservation proposals.

Peak-Load Pricing. The peak load is the maximum demand on the utility's entire system during a one-hour interval. That one-hour interval can be for any period - for a year, a season, a month, a week, or a day. In utility regulation, the concern is for the peak period during a year, a season, or a day.

The annual peak is significant because it establishes the amount of capacity that a utility must have installed and be able to produce.

Seasonal rate differentials have been adopted in many states as a result of the increased use of electric air conditioning and heating. Utilities have sought to balance the two largest seasonal peaks of summer and winter in order to use their capacity most efficiently. At present, utilities will offer incentives to either winter or summer prices in order to curb the growth of the larger peak. Such rates charge higher prices for larger volumes of use (generally over 1,000 kwh) during a specific season. Because seasonal rates do not distinguish between daily peak and off-peak periods, there is no signal to the customer to conserve at the hour when the actual seasonal peak occurs. Also, seasonal differentials do not necessarily discourage growth of seasonal peak demand.

Time-of-day rates, which charge more for the energy consumed during peak hours and less for that used during off-peak periods, are widely regarded as the way to solve problems of capacity utilization and expansion created by the very large peak loads. According to Alan Finder, "time-of-day pricing is the option most likely to meet all of the six objectives of pricing system reforms." By charging more per kwh during certain peak hours and less for off-peak hours, the price charged for electricity varies not only with the amount and rate of electricity consumed but also with the time of consumption.

The problem with time-of-day rates is that residential customers must install special metering equipment which vary in cost from $40 to $250 per customer. However, according to most authorities, the cost is justified if it is accompanied by a reduction in peak capacity requirements.

Several agencies and organizations are testing time-of-day pricing. The Federal Energy Administration, the Tennessee Valley Authority, and the Electric Power Research Institute (the research arm of the investor-owned electric utility industry) have contracted with private and public utilities as well as regulatory commissions to test aspects of peak-load pricing, including the use of metering and load control equipment. As of August 1975, commissions in New York and Vermont had ordered the implementation of peak-load pricing, and those in California, Missouri, and Wisconsin were planning to do so.

Advocates of peak load pricing have three primary goals: (1) load management, or a way of reducing future system capacity requirements by raising load factor; (2) "efficient" pricing, or a desire to price electricity at its true cost, taking into account time variations in demand; and (3) escape from the cost spiral, that is, to devise a rate structure with which a consumer can choose to reduce his costs, although perhaps at his or her own inconvenience.

Relief for the Poor and the Elderly. The cost of electricity has a disproportionate impact on the various income groups in society according to research. As income decreases, the proportion of it required to pay for electricity increases; consequently the poor and elderly on fixed incomes must spend large portions of their incomes on electric service. Two methods had been suggested for dealing with the problem of providing minimum levels of service to the poor and elderly; lifeline rates and energy stamps.

The lifeline rate generally is a low, uniform charge for the first several hundred kwh of consumption per month for those who qualify. The base amount is to cover the necessary minimum service requirements for cooking, heating, and lighting. Most proposals have established a minimum service amount ranging from 300 to 700 kwh.

The lifeline rate can be specifically designed for certain persons who must qualify through a procedure established for that purpose. Or, the lifeline rate would apply to all residential users whose consumption does not exceed the lifeline amount. In this instance, the lifeline rate operates like the inverted rates whereby the cost per kwh is lower for the first block of electricity as compared with subsequent blocks. In either case there are problems in administering either type of lifeline rate whether it is in identifying those in need of the benefit or allowing even the wealthy to benefit.

In Ohio, a proposed constitutional amendment providing 700 kwh lifeline rate was defeated in 1976. Little Rock, Arkansas voters and the California legislature approved likeline rates during 1976. In 1975-76, a pilot study of lifeline rates was conducted by a utility in Maine. Winfield, Kansas adopted a lifeline rate for electric and gas utilities for people who qualify. That program is still operating.

An alternative method is energy (fuel or utility) stamps similar to federal food stamp subsidy programs. The government (either local, state, or federal) would subsidize in varying amounts the energy or electricity purchases of qualifying individuals. To receive the subsidy, individuals would have to pass eligibility tests. Once eligible, individuals could purchase coupons at a cost which would vary according to their income. Participating utilities would accept the stamps at their face value as payment for service.

Energy stamps would have to be supported by tax revenues either from local, state or federal sources. The largest burden of taxation would fall upon the individual taxpayer consumer ratepayer who cannot pass his or her costs on through the sale of goods and services. The type of tax used would have important implications for the collections and distribution of capital in the society.

CED Rates. Another suggested reform is the customer-energy-demand (CED) rate which is also called three-part rates. It is a refinement of existing tariffs for large industrial and commercial users. CED proposes to price electricity to all customers through three specific charges:

1. A flat customer charge per month regardless of consumption which recovers metering, billing, and other customer charges;

2. A uniform energy charge per kwh, perhaps with some modifications, to recover variable production costs such as labor and fuel;

3. A demand charge per kw to recover capacity, transmission, and distribution costs.

The CED rate informs the customers of the specific and varied nature of the utility's costs used in rate-setting. Also, by figuring the demand each electrical device requires, customers can stagger equipment usage and minimize their bills. However, CED does not promote conservation of energy and it does not improve capacity utilization. And, unless it is modified (which can be done easily), the rate does not signal the advent or occurance of a peak.

Marginal Cost Pricing. This pricing system is aimed at making consumers pay the true marginal (incremental) cost of adding one more kilowatt to the electricity "stream." In contrast to the present practice of basing rates on average embedded facility costs, this pricing theory suggests that the incremental cost associated with future equipment requirements be the cost basis for pricing. Economists generally agree on the validity of pricing according to marginal cost principles. They disagree, however, on methodology. Some advocate long-run incremental pricing (LRIC), which is generally interpreted to mean pricing based on the cost to produce electricity at some future point (e.g., in five to ten years);others advocate marginal cost pricing based on the cost of electricity at a more recent point in time.

Finally, in evaluating rate structure options, some regulatory commissions have conducted a comprehensive review and overhaul of all rates under their jurisdiction. Hearings are held at the commission's own initiative with the goal of setting objectives and structures for rates which will be the model for all rates in the commission's jurisdiction. This comprehensive approach to rate design is intended to produce a uniform structure so that rates among companies can be easily compared. This redesigning of rate structures has been completed in California, Florida, and North Carolina; it is nearing completion in New York; and it will soon be undertaken in Connecticut, Maryland, New Hampshire, and Utah.

Congress made its first move to consider some new concepts in electric rate design in the 1976 Energy Conservation and Production Act (ECPA), which requires the FEA to submit the proposals to encourage energy conservation, minimize the need for new electrical generating capacity and minimize the costs of electric energy to consumers. The act specifies that these rates are to reflect "marginal cost of service, or time of use service, or both." They would build in a cash incentive for consumers to change their energy use habits that should slow down the growth of peak demand and improve powerplant efficiency.

MEMORANDUM

June 8, 1977

TO: Special Committee on Energy

FROM: Ramon Powers, Kansas Legislative Research Department

RE: Proposal No. 22 - Construction Work in Progress

On December 29, 1976, District Judge Charles M. Warren of the District Court of Linn County, Kansas issued an order in the case Kansas City Power and Light Company v. The State Corporation Commission of the State of Kansas, et al, which concludes that K.S.A. 66-128 "not only expressly authorizes the (Kansas Corporation) Commission to include CWIP (Construction Work in Progress) in the utility's rate base, but requires such inclusion as part of the Commission's statutory duty." The order, if upheld, will significantly change the procedure whereby the cost of building new utility plants is computed and assessed to the ratepayers.

Investor-owned utilities under the jurisdiction of the Kansas Corporation Commission are regulated as to the rates they can charge to customers. Traditionally the KCC has held that the proper accounting procedure in allowing rates is to match revenues and expenses. It is the KCC's contention that K.S.A. 66-128 prohibits them from including CWIP in a rate base because it would allow the recovery of capital costs of a new plant as it is incurred rather than using the traditional method of capitalizing these costs through an income account "allowance for funds used during construction." The KCC interprets 66-128 to prohibit including CWIP in the rate base because it is not being "used or required to be used" in its services to the public.

The 1977 Legislature considered H.B. 2070 which proposed to prohibit the State Corporation Commission from including CWIP in any utility's rate base. The bill would have amended K.S.A. 66-128 by adding the following provisions: ". . . property of any public utility which has not been completed and dedicated to commercial service shall not be deemed to be used or required to be used in said public utility's service to the public." H.B. 2070 remains in the House Energy and Natural Resources Committee, and the Committee recommended the issue of CWIP for interim study.

The fundamental issue is the question of how, for rate making purposes, capital expenditures which have not yet been placed in the service of customers (i.e., ratepayers) should be be treated. On the one hand, public utility regulatory agencies have generally followed the principle that only items which are "used or useful" should be included in the rate base of a utility. Some regulatory agencies interpret "used or useful" to include construction work in progress which is then included in the rate base of utilities. On the other hand, some regulatory agencies which interpret "used or useful" as excluding CWIP from the rate base recognize that the expense of financing construction that will be of service to customers (i.e., ratepayers) is a legitimate expense to be borne ultimately by the ratepayers.

The expense of financing construction is allowed through an accounting provision whereby the allowance for funds used during construction (AFUDC) is included to show the interest on funds used during construction which is added to the rate base when the new facility is brought on line. Ratepayers do not avoid paying for the financing costs of the new facility; they merely delay paying until after a new plant is in service.

If CWIP were included in the rate making process, it would involve adding the total of the CWIP account into the value of the plant in service which would give the total value of the utility plant. It would involve, however, subtracting the Allowance for Funds Used During Construction from the CWIP account which would no longer be allowed if CWIP is included in the rate base. Since utilities have been permitted to capitalize their AFUDC, it would be necessary to provide for a phasing in of CWIP and a phasing out of AFUDC.

As noted previously, AFUDC is essentially a non-cash item that the utility adds on to the cost of a facility as a means of giving the utility some return on the funds tied up in construction. AFUDC is a computed percentage rate (7½ to 8.9 percent is currently used by Kansas utilities) to the CWIP account balance. That amount is added to the CWIP account each year until the plant is put in service at which time the entire balance of the CWIP account, including AFUDC, become part of the rate base. This amount, along with other rate base items, is then amortized over the life of the plant as elements in tariff computations.

For accounting purposes, the AFUDC has to be recorded as an income item in the year it accrued. In other words, AFUDC is included as current income even though the actual funds will not be available to the utility until the construction project is finished and added to the rate base.

The pressure to change from the AFUDC to CWIP in rate making is the result of increased costs of new plant construction, longer lead time in construction, and the reduced amount of cash flow available to finance expansion with a corresponding increase in borrowing and interest charges.

In determining the rate base of a utility, the KCC has to establish the value of the plant in service (and, if CWIP were allowed, it would be added to that figure). Accumulated provision for depreciation is then subtracted from that figure, and the value of certain inventories and prepayments is added. That figure represents the total investment in the utility plant.

The utility is granted a certain rate of return on its investment (usually less than 9%). The amount of the investment times the rate of return would be the amount required to operate the utility. Then, the operating income for the test year (certain adjustments are made to achieve a normal test year to annualize and normalize revenues with an end-of-year rate base)

is subtracted from the amount determined necessary to operate the utility given a specified rate of return. The difference would be the increase of operating income required by the utility for the future to assure the allowed rate of return. An income tax of 51.51 percent would then require a doubling of the amount of increase required. The total would then equal the added revenue required by the utility.

To determine an average increase cost per KWH to the ratepayer, the added revenue required by the utility would be divided by the total KWH sales by the utility for the test year. Clearly, if CWIP were added to the rate base of a utility, the amount of operating income required by the utility would be greater than without CWIP. However, if AFUDC is allowed instead of CWIP, the amount of operating income required by the utility when the new plant is placed in operation will be even greater than if CWIP had been permitted.

The following is a summary of arguments in favor of including CWIP in the rate base of utilities followed by a summary of argument against including CWIP in the rate base.

ARGUMENTS IN FAVOR OF CWIP IN THE RATE BASE

Growth in Demand for Electricity. The Federal Energy Administration (FEA) supports inclusion of CWIP in the rate base of electrical utilities. FEA argues that the demand for electricity will grow an expected five or six percent per year after leveling off in 1974 and 1975. The increased demand for large facilities and the shift from natural gas as a fuel will require large amounts of capital by utilities for new construction. The FEA states that the impact of AFUDC has had an adverse impact on the ability of utilities to generate internal and external funds and "may be creating a bias against investment in capital intensive facilities." The amount of earnings attributable to AFUDC has risen from $94 million to just under $1.6 billion in ten years. The amount of external funds required by the utility industry has jumped from $1.4 billion in 1965 to $12 billion in 1975.

Problem of Raising External Capital. According to the FEA, "The long delay between capital cost expenditures for new plant and cost recovery increases the risk of capital investment." Utilities might decide to pay the higher cost of fuel on a less capital intensive plant rather than engage in building capital intensive facilities that are more efficient over the long run, but which involve long delays before the large capital costs are recoverable.

CHART A

CONSTRUCTION WORK IN PROGRESS (CWIP) RELATED TO TOTAL UTILITY PLANT
(End of Year)

	1966	Ratio	1976	Ratio
Kansas Gas and Electric (KGE)				
Utility Plant in Service	$209,086,267	89.48	$471,174,567	71.03
Construction Work in Progress	24,582,808	10.52	192,172,082	28.97
TOTAL GROSS UTILITY PLANT	$233,669,075	100.00	$663,346,647	100.00
Kansas Power and Light (KPL)				
Utility Plant in Service	$293,101,037	97.82	$500,218,000	77.01
Construction Work in Progress	6,540,361	2.18	149,291.000	22.99
TOTAL GROSS UTILITY PLANT	$299,641,398	100.00	$649,509,000	100.00
Kansas City Power and Light (KCPL)				
Utility Plant in Service	$397,763,308	97.27	$779,861,993	79.66
Construction Work in Progress	11,146,909	2.73	199,102,952	20.34
TOTAL GROSS UTILITY PLANT	$408,910,217	100.00	$978,964,945	100.00

The following chart indicates the total of AFUDC in 1966 and 1975 for KG&E, KPL, and KCPL. Also included is the interest rates applied for AFUDC in 1966 and 1976.

CHART B

ALLOWANCE FOR FUNDS USED FOR CONSTRUCTION

	1966	1975
KG&E	$889,001	$5,090,448
KPL	261,126	1,957,397
KCPL	337,000	5,475,000

INTEREST RATE APPLIED FOR ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION

	1966	Last ½ 1976 Present
KG&E	6%	7½%
KPL	6%	8½%
KCPL	6%	8.9%

In 1974, AFUDC represented 31 percent of the reported earnings of utilities. Since these are paper earnings for which no immediate income is realized, the quality of earning of utilities may be reduced which could increase the cost of debt and equity financing. All other rate making factors remaining constant, inclusion of CWIP in the rate base would increase the amount of internally generated funds available for investment, it would increase interest coverage ratios, and it would reduce the interest offered on new bonds.

The electric utility industry today has a major problem attracting the necessary capital on a reasonable basis to support essential construction programs. Including CWIP in the rate base would increase internal cash generation by improving coverage needed to support the issuance of long-term debt and preferred stock and by the contribution to operating revenues and cash flow that would ensue. Utilities argue, however, that inclusion of CWIP in the rate base should be phased into the rate base.

The chart on page 4 reveals the amount of CWIP related to the value of the total utility plant in service for three Kansas utilities.

Reduces Rates in the Long Run. In the long run, according to the FEA, the inclusion of CWIP in the rate base will result in lower, not higher, rates to consumers. Rates would increase for consumers during construction of a plant for which they are not receiving immediate benefit, but when the full value of the new plant is put in the rate base after the plant's completion, it could be as much as 20 to 25 percent less than without CWIP because the value of the plant will be reduced by the amount of AFUDC that would otherwise have been included. According to the FEA, consumers would pay an increase of four or five percent of the value of the plant on average for a period of three to five years if CWIP is included in the rate base, but they will save an average of two to three percent of the cost of plant for the next 30 years.

Minimize Dramatic Rate Increase. If CWIP were included in the rate base, utility rates would not suddenly increase due to the transfer of CWIP and associated AFUDC into the rate base upon bringing a new plant on line because the pay-as-you-go methods avoid a build-up of financing costs in the rate base. This would be particularly true if a utility were allowed an incremental adjustment of its rate base to provide for CWIP, i.e., increments on a monthly basis.

CWIP Fits the Category Used or Required to be Used. According to various authorities and the recent district court opinion in Linn County, Kansas, CWIP may not provide any immediate service, but it does provide an assurance that utility service will continue to be available in the future.

ARGUMENTS OPPOSED TO CWIP IN THE RATE BASE

Proposal Does Not Confront Basic Issue. Rather than provide capital to utilities by the device of allowing CWIP in the rate base, the regulatory agencies should operate through the normal rate making process and increase the allowed rate of return to the utility after convincing proof has been presented to the regulatory agency if utilities require additional funds. Wisconsin has adopted this approach to the issue.

Proposal Violates One of the Principles of Rate Making. The traditional rate making procedure includes only property that is "used or required to be used" in a company's rate base. That is the contention of the Kansas Corporation Commission (KCC) in its brief in the Kansas City Power and Light case.

Proposal Is Based on Unrealistic Projected Growth Rate of Electricity Consumption. Senator Lee Metcalf of Montana stated before the FPC that a Congressional Research Service has calculated that a growth rate of 2 percent in 1975 and 3 percent annually thereafter would reduce the electric utility industry's demand for external capital by $57.8 billion over the next five years. The FPC argument for such large quantities of capital for utility construction in the future is based on a 4 percent growth rate in 1975 and 6.5 percent annual growth thereafter.

Proposal Would Force Customers to Bail Out Inefficient Utility Managements. The proposal would remove any incentive by management to bring plants on line expeditiously. Inclusion of CWIP in the rate base would provide incentive for utilities to build capital intensive facilities having long lead times (such as nuclear) and provide disincentive for utilities to complete the construction in an expeditious manner.

The Kansas Supreme Court in Kansas Gas and Electric Co. v. State Corporation Commission, 218 Kan. 670, expressed agreement with a KCC "Finding No. 89" which reads: "regulatory agencies cannot grant carte blanch authority to construct huge plants just barely more than experimental in nature and allow the company to charge the expense entirely to the ratepayer -- at least not until it works to a substantial benefit to the ratepayer or its within reasonable limits of anticipation of benefit."

Proposal Is Highly Inflationary. Including CWIP in the rate base will have an inflationary effect of raising prices without producing any benefit in return. FPC's Office of Economics projected that its inclusion in the rate base of all U.S. utilities would cost consumers $22.1 billion over the next five years. A Congressional Research Service paper provided information whereby one could calculate the inclusion of CWIP in the rate base; it indicated that the overall level of rates would be raised by approximately nine percent.

Proposal Would Not Encourage the Efficient Use of Resources. Including CWIP in the rate base of utilities would run counter to the KCC charge to promote and encourage interconnection and coordination for the purpose of achieving the greatest possible economy with regard to the proper utilization and conservation of natural resources. In Kansas, the Kansas Electric Cooperatives, Inc., has offered to each investor-owned electric utility to raise the REC's full share of capital to finance, on a joint ownership basis with investor-owned utilities, the REC's proportion of any new major generation and transmission facilities which will be needed in the state to meet the future needs of REC members. Including CWIP in the rate base of investor-owned utilities would perhaps minimize the incentive to those companies to accept the REC's proposal for any joint ownership program.

Adverse Impact on Wholesale Customers. Inclusion of CWIP in the rate base will adversely affect wholesale power purchasers who would be forced to involuntarily contribute capital to investor-owned companies who will construct facilities for future use without any ownership rights or privileges accruing to the wholesale purchasers for their contributions. According to Public Systems (an association of public utilities), the long-term effect of this proposal would be significantly higher rates to consumers because it would lead to a greater share of the total electric utility investment being financed by investor-owned utilities. As a result, public-owned systems would not be able to construct their own generation facilities because of the double cost of paying the carrying charges on their own construction and at the same time paying for the cost of construction by investor-owned companies from whom they purchase electricity.

One-Half of CWIP Would be Lost to Taxes. A major objection to inclusion of CWIP in the rate base is that for a utility to receive an extra dollar for construction purposes by including CWIP in the rate base, the utility must increase rates by $2 because approximately half of an increase in revenues is absorbed by income taxes. Investor-owned utilities, however, raising capital in the financial markets can count each dollar received through the sale of securities to be a full dollar available for capital expenditure.

Proposal Places Premium on Growth. Including CWIP in the rate base of utilities puts a clear economic incentive upon growth because the larger the work in progress, the larger the rate increase which would be awarded. According to many authorities, the U.S. needs to conserve energy resources and such a proposal is an inappropriate incentive for new construction.

Eliminates Risk of Investor in Utility Stocks and Bonds. The proposal would transfer the risk of investment from the stockholder or bondholder of an investor-owned utility to the ratepayer. There is no provision for any return to the ratepayers now that they are required to provide a capital contribution to the utility. The reply brief of KCC staff counsel states:

> "The inclusion of CWIP in rate base will result in a shifting of the risks associated with construction projects from the stockholders to the ratepayers. This necessitates a corresponding reduction in the recommended return on equity to reflect the reduced economic risk to the Company's stockholders. However, the record contains no evidence as to the extent of the reduction that would be appropriate."

Undue Discrimination Against Present Customers. Including CWIP in the rate base of a utility forces present customers to pay for the construction of a plant from which they might not receive any benefit.

Utility Companies Not in Financial Danger. According to various sources the financial crisis for utilities has passed. In regard to the situation in Kansas, reply brief of the KCC staff counsel states in regard to the KCPL case that:

> "Applicant has not justified its alleged cash flow needs. It has engulfed the Commission with evidence and testimony as to the Company's cash flow requirements that will exist as a result of the Company's projected construction program. However, Applicant has failed to project revenues in comparison to projected costs so as to clearly define its cash flow needs. Without this evidence, the record herein cannot support allowing CWIP in rate base to alleviate Applicant's supposed cash flow deficiency."

And, in reference to the erosion of the quality of KCPL earnings if CWIP is not added to the rate base of the company, reply brief of KCC staff counsel states:

> "The record developed in this docket belies Applicant's contention that the failure to include CWIP in rate base will effect an erosion of the quality of Company's earnings. Statements of the Company's witnesses coupled with the recent issue of Aa rated first mortgage bonds negate that contention. Similarly, there is no evidence in the record to support Applicant's claim that the Company cannot maintain its credit ratings unless the Commission includes major CWIP in rate base."

MEMORANDUM

June 6, 1977

TO: Special Committee on Energy

FROM: Ramon Powers, Kansas Legislative Research Department

RE: Proposal No. 23 - Municipal Utility Rates and State Jurisdiction

Background

At the present time, State Corporation Commission regulates the rates of investor-owned utilities and utility cooperatives (primarily rural electric associations). Municipally-owned utilities, however, set their own rates under the authority of or subject to appeal to the governing body of the municipality. Authority for cities to regulate their own utilities is given in K.S.A. 12-801 et seq. Those statutes provide that when a municipally-owned utility services an area outside of its city limits, it may fix the rates in a zone extending three miles from the municipal boundaries. Utility services provided by a municipally-owned utility beyond the three-mile boundary are regulated as to rates that can be charged by the State Corporation Commission.

Utilities have developed historically as natural monopolies. Since the normal laws of the market place do not function to protect the consumer of the utility's services, it has been necessary for the state to intervene and assure that the monopoly business would not take advantage of its position to earn more than a reasonable rate of return on its investment. Consequently, utilities are businesses "affected with the public interest." A legal framework for state regulation of electric utilities has developed with regulatory authority usually granted to state corporation commissions. In 1886, in Wabash, etc. RR vs. Illinois, the Supreme Court of the United States confined the state's rate-setting jurisdiction to intrastate transactions, confirming that commerce clause of the Constitution delegated jurisdiction over interstate commerce to the federal governments. In Kansas as noted above, the State Corporation Commission has rate regulating authority over investor-owned and cooperative-owned facilities.

When a city provides utility services to its citizens, the rates for those utility services are under the ultimate control of the elected representatives of the rate-payers. Historically, Kansans have accepted this argument as a reason for excluding municipal utilities from jurisdiction of the State Corporation Commission.

The Committee is directed to study the utility rates charged by municipally-owned utilities and the feasibility of placing municipally-owned utilities under the jurisdiction of the State Corporation Commission.

This issue has been the subject of a previous study, Proposal No. 109 - Municipal Utilities, by a 1973 interim Special Committee on Utilities. (See Reports of Special Committee to the 1974 Kansas Legislature, p. 109-1.) That Committee recommended that the State Corporation Commission not be given the authority to regulate municipal utility rates "at this time." In the 1977 Session of the Legislature, H.B. 2301 was introduced which proposed to delete the exemption of municipally-owned utilities from the jurisdiction of the State Corporation Commission. That bill remains in the House Energy and Natural Resources Committee. The House Committee did recommend the issue for interim study.

According to the fiscal note on H.B. 2301, approximately an additional 120 municipal electric systems, 75 municipal and private one-town natural gas systems, and 179 municipal water systems would be brought under the Commission's jurisdiction. The Commission would also exercise full regulatory authority over an additional 19 municipal electric systems and 18 municipal gas systems over which the Commission now exercises authority beyond the three mile limit. A total of 408 utilities would be added to the 145 utilities presently regulated. The fiscal note also reveals that the Commission would have to spend approximately $2,000,000 for investigating and reviewing the books and records of the municipal systems in preparation of extending jurisdiction over them. This cost, however, would be incurred over a number of years and would be assessed back to the municipal utilities. An additional expense of $256,290 for personnel costs and related expenses would be incurred by the Commission.

1977 Proposed Bills Concerning Municipal Utilities

Other 1977 bills which relate to municipal utilities are as follows:

H.B. 2153 would have amended K.S.A. 1976 Supp. 66-104 by expanding the definition of "public utility" to include any plant or equipment, whether or not municipally owned, which is used to manufacture or distribute synthetic fuels.

This bill was designed to place the coal gasification plant proposed for Wichita under the jurisdiction of the State Corporation Commission. The bill remains in the House Energy and Natural Resources Committee.

H.B. 2515 would have amended K.S.A. 12-822 by providing that public or municipally owned utilities in Kansas pay customers a rate of not less than three percent (amended to five percent) per year on their security deposits. Present law provides for a rate of interest of three percent per year. The bill would also make the interest payable at the office of the utility in cash or on demand of the depositor.

The bill passed the House, but remains in the Senate Transportation and Utilities Committee.

S.B. 152 which was enacted, permits any two or more Kansas municipalities operating electric generating systems during 1976 to create a municipal energy agency. Such agencies will allow municipalities to jointly plan, finance, construct, and operate, or otherwise participate in, electric power generation and other energy facilities. The bill specifies procedures to be followed in establishing a municipal energy agency and delineates the powers which the agency can exercise. Amendments to the bill as enacted provide that such municipal energy agencies will be under the jurisdiction of the State Corporation Commission.

S.B. 187 would have prohibited any utility, public or municipal, from charging late payment penalties or interest on any delinquent residential bills.

This bill remains in the Senate Transportation and Utilities Committee.

Municipal Utility Rates

The 1973 interim committee report on municipal utilities analyzed municipal utility rates. The report states that:

> The Committee staff took a sampling of the utility rates of private and municipal suppliers in each classification of cities in Kansas. Electric utility rates were found to be generally higher when service was supplied by municipal utilities in all classes of cities in Kansas. The natural gas provided by municipal utilities for their customers was significantly higher only in the case of some third class cities. The Committee found, however, that municipal utilities make transfers from their utility funds to the various funds of the city in many cases, or supply utilities to the city and its departments without charge. It is very difficult to assess this additional contribution to the city's financial well-being compared with the slightly higher rates. In effect, many cities are using their utilities as a tax gathering agency.

Attached is the survey of municipal utility rates which the Kansas League of Municipalities publishes each year in the May issue of the Kansas Government Journal.

Municipal Utilities Annual Report

According to a survey conducted by the League of Kansas Municipalities, total revenue collections for Kansas municipal utilities reached almost $108 million in 1976, $14 million more than was reported in 1975.

Questionnaires were sent to 689 municipally-owned utilities: 492 water, 65 gas, and 132 electric. Shown below is a tabulation showing 1976 revenue of those municipal utilities reporting, along with corresponding information for 1975.

City Utility Revenue Summary

	1975		1976	
	No. of Systems Reporting	Revenue (in thousands)	No. of Systems Reporting	Revenue (in thousands)
Electric	94	$45,656	95	$ 52,504
Water	347	43,014	347	50,224
Gas	45	4,831	44	5,031
Total	486	$93,501	486	$107,759

The charts showing data for the calendar year 1976 which appear on the following pages were compiled from information provided by city officials. Appreciation is expressed to city clerks, managers and utility superintendents for their cooperation in furnishing the information and for making this report possible.

Although the data contained in this report are generally accurate, extreme caution should be used in making comparisons because of incomplete data, changes in reporting methods, etc. (See "Explanations and Cautions.")

This year's report on water systems shows limited financial data, while more detailed information is reported on production and distribution facilities and on treatment. Information concerning water treatment and sources of supply was furnished by the Water Supply Division, Kansas Department of Health and Environment. The key to water treatment symbols appears on the next page.

Detailed financial data on water systems appear every other year, along with water rates. This information last appeared in the May 1976 issue of *Kansas Government Journal.*

Water Systems

According to survey respondents, per capita water consumption increased almost 30 percent between 1960 and 1970 in cities with municipal water systems. In 1960, 262 cities reported selling a total of 39.2 billion gallons of water. This was equal to an annual per capita consumption of 38,243 gallons. In the report for 1970, 290 cities reported selling 65.0 billion gallons of water, which is equal to an annual per capita consumption of 49,266 gallons. In 1974 a total of 299 cities reported total water consumption of 70.7 billion gallons. Per capita consumption per year increased to 61,701 gallons. In 1976, a total of 337 cities reported total water consumption of 50.2 billion gallons and per capita consumption of 38,000 gallons.

In 1960, 19 cities out of 452 reporting were adding fluoride to the water. In 1976, out of 347 cities reporting, the number had grown to 25. In addition, an undetermined number of cities have natural fluorides in their water supplies.

Outstanding bonded indebtedness on municipal water systems totaled $69.1 million in 1960. Of this amount, approx-

ately 14 percent was in general obligation bonds and the remainder in revenue bonds. In 1976, debt of reporting city water systems amounted to $75.2 million. Of this sum, $10.8 million was in general obligation debt. The remaining $64.4 million was in the form of revenue bonds. In 1950, there were 70 cities reporting bonded debt on their water systems; by 1976, this number had increased to 195.

Electric

The table, Average Annual KWH Customer Consumption, shown below indicates the usage trend of electrical power.

Average Annual KWH Customer Consumption

	1950	1960	1970	1976
All city systems reported avg. KWH per customer	5,578	5,465	12,218	15,919

Minimum Bill. In 1976 the minimum charge varied from a low of $1 to a high of $8. A larger minimum monthly bill does not necessarily mean that the per kilowatt hour charge was higher, since the number of KWH included in the minimum varies. The average minimum electric bill in cities over 5,000 amounted to $1.88; in cities 1,000 to 5,000, $2.38; and in cities of less than 1,000, $3.17.

Energy Charges. The basic cost for 500 KWH, excluding variable surcharges applied in many cities, varied in this year's report from a high of $34.40 to a low of $13.00. The average 500 KWH basic charge in cities over 5,000 was $15.55; in cities 1,000 to 5,000, $19.92; and in cities of less than 1,000, $20.85.

Fuel Adjustment Charges. The cities were asked to indicate if the city had authorized a special surcharge to reflect higher costs of producing or purchasing electric power. A total of 75 cities reported fuel adjustment charges ranging from a high of .5740 cents per KWH to a low of .00005 cents per KWH in August of 1976 and from a high of .9570 cents per KWH to a low of .0012 cents per KWH in January 1977.

Gas

The per customer use of gas in city owned systems increased by approximately 16 percent between 1950 and 1970. But between 1970 and 1976, consumption decreased 10 percent. The table, Average Annual Customer Consumption, shows the changes in usage by the average customer.

Average Annual Customer Consumption (Cubic Feet)

Population	1950	1960	1970	1976
1,000 and over	195,431	116,788	111,384	219,540
Under 1,000	165,560	191,239	228,102	160,660
All Cities	192,314	223,861	223,638	200,660

Minimum Bill. A minimum gas bill has been used by all cities since the mid-1950s. In 1976, the lowest minimum charge for gas service by city owned systems (those reporting) was $1.50. The highest minimum monthly charge was $4.75 for 1,000 cubic feet. The table, Minimum Gas Bills, indicates the summary data for selected periods beginning in 1950.

Minimum Gas Bills

Population	1950	1960	1970	1976
Cities over 1,000				
High	$1.50	$2.00	$2.58	$4.75
Low	.50	.70	1.25	1.50
Average	1.03	1.31	1.90	3.34
Cities under 1,000				
High	1.25	2.50	2.50	6.00
Low	-0-	1.00	1.00	2.25
Average	.82	1.68	2.11	3.26

Service Charges. Service charges for 10,000 cubic feet of gas have increased for the average customer approximately 169 percent since 1970 in cities over 1,000 population, and 105 percent in cities of less than 1,000. The table below reviews this trend.

10,000 Cubic Feet Charge

Population	1950	1960	1970	1976
Cities over 1,000				
Average Cost	$4.45	$5.85	$6.78	$18.28
Cities under 1,000				
Average Cost	4.20	6.83	8.57	17.63

Cautions and Explanations

In some instances, funds of one utility are combined with funds of another utility. These are included thus: W/E, meaning water and electric; W/S, meaning water and sewage. The letter "C" after the figures further indicates combined funds. Caution should be used in comparing these combined figures with the figures of other cities.

Most column headings are self-explanatory. Following is an explanation of various categories.

"Current revenue" includes revenue earned in 1976. It excludes sales tax collections, proceeds from bond sales and any unencumbered 1975 balance figures.

"Current expenditures" excludes sales tax collected and remitted to the state. It includes all expenditures made in 1976, except debt financed expenditures, including operation and maintenance; capital improvements from operating revenue or sinking or reserve funds but not from proceeds of a bond sale; debt payments for principal and interest due in 1976 on bonds and emergency warrants from utility funds, but not from a bond tax levy. Also included under "expenditures" is the transfer of cash to city funds other than for utility debt payment.

"Difference" is the amount current revenues are more or less than current expenditures. Revenue may be less than expenditures because of expenditures made from revenue earned prior to 1976.

"Amount set aside" is the amount set aside from 1976 earnings for bond sinking funds or depreciation funds for future expenditure. It does not include end-of-year balances or operating reserves.

"Debt reserve" includes amount in sinking funds or other reserves for future debt payments.

"Operating and other funds" covers cash and securities in other reserves and end-of-year balances not for debt payment.

"Paid on bonds" includes payments on bonds, interest and emergency warrants, including money from any bond tax levy. Amounts outstanding are as of December 31, 1976.

"Capital improvements from bonds" shows the amount spent in 1976 from proceeds of a bond sale. It includes only actual disbursements for improvements in 1976.

The preparation of this report was financed in part through a comprehensive planning grant from the U.S. Department of Housing and Urban Development. This program is administered in Kansas by the Planning and Research Division of the Kansas Department of Administration.

Treatment Methods

Treatment methods are coded as follows:

Type of Plant
- M - Lime softening
- N - Lime-soda softening
- O - Iron and or manganese removal
- UR - Clarification

Treatment or Device
- A - Aeration
- B - Prechlorination
- C - Coagulation
- D - Rapid mechanical mixing
- E - Slow mechanical mixing
- F - Other mixing
- G - Sedimentation
- H - Sedimentation upflow
- I - Slow sand filter
- J - Rapid sand filter
- K - Patented filter
- L - Pressure filter
- P - Hydrogen sulfide removal
- Q - Ion exchange
- R - Stabilization
- S - Taste and odor control
- T - Fluoride adjustment
- U - Disinfection
- V - Demineralization

Electric Rates

City (By Population)	DOMESTIC Minimum Basic Chrge	Incl Fuel Adj.	100 KWH Basic Chrge	Incl Fuel Adj.	500 KWH Basic Chrge	Incl Fuel Adj.	1,000 KWH Basic Chrge	Incl Fuel Adj.	COMMERCIAL 100 KWH Basic Chrge	Incl Fuel Adj.	500 KWH Basic Chrge	Incl Fuel Adj.	1,000 KWH Basic Chrge	Incl Fuel Adj.	5,000 KWH Basic Chrge	Incl Fuel Adj.	10,000 KWH Basic Chrge	Incl Fuel Adj.	Value Free Serv.	Adj Chrg per KWH Aug.1976	Adj Chrg per KWH Jan.1977
10,000-19,999																					
Garden City...	$1	NA	$4	NA	$20	NA	$40	NA	$5	NA	$23	NA	$44	NA	$174	NA	$329	NA	NA	NA	NA
Coffeyville...	2	2	5	6	15	16	26	27	6	6	20	21	33	34	123	130	219	233	76,397	.0022	.0089
McPherson.....	3	5	3	5	13	16	22	30	4	5	20	25	39	49	131	180	280	344	0	.0163	.0172
5,000-9,999																					
Wellington....	1	1	5	6	14	19	25	34	6	7	18	23	33	43	116	165	208	305	6,401	.0055	.0097
Iola.....	2	2	5	5	16	18	29	34	6	6	20	22	33	38	125	149	235	284	25,000	.0040	.0049
Augusta.....	0	0	5	5	15	16	26	29	5	9	18	19	30	33	139	154	235	266	41,530	.0046	.0117
Russell.....	3	3	5	5	14	15	25	28	5	5	15	16	28	30	118	129	230	252	70,521	.0065	.0074
Colby.....	2	2	6	6	18	19	33	34	8	8	27	27	48	50	170	175	312	322	100,000	.0125	.0099
Clay Center...	1	1	5	6	15	18	27	32	6	9	22	35	37	59	133	210	253	400	0	.0148	.0192
1,000-4,999																					
Larned.....	4	4	4	5	14	18	22	29	5	6	15	18	25	32	95	129	170	238	0	.0136	.0068
Hoisington....	2	2	6	7	16	18	26	30	11	11	25	25	40	45	160	184	310	357	0	.5740	.9570
Osawatomie....	2	4	6	7	19	28	32	44	9	10	28	37	52	70	224	314	439	557	NA	.0133	.0179
Beloit.....	2	NA	7	NA	19	NA	34	NA	7	NA	24	NA	43	NA	175	NA	305	NA	9,000	NA	.0089
Kingman.....	2	NA	8	NA	21	NA	37	NA	10	NA	30	NA	49	NA	179	NA	342	NA	0	NA	NA
Neodesha.....	3	3	6	7	17	22	29	39	6	7	22	27	39	49	123	173	291	391	0	.0100	.5000
Norton.....	4	NA	8	NA	22	NA	39	NA	10	NA	32	NA	55	NA	193	NA	365	NA	1,050,519	NA	NA
Mulvane.....	1	0	5	6	15	18	28	33	7	8	27	30	48	53	140	166	240	292	5,000	.0064	.0052
Holton.....	3	NA	5	NA	18	NA	34	NA	8	NA	25	NA	44	NA	NA	NA	NA	NA	48,000	.0069	.0262
Hugoton.....	4	4	8	8	21	22	36	38	9	9	36	38	66	69	226	237	446	448	16,500	.0018	.0023
Garnett.....	2	2	6	6	19	20	35	37	6	7	19	20	34	36	133	144	253	274	24,311	.0001	.0020
Belleville....	1	1	7	NA	23	NA	35	NA	7	NA	27	NA	45	NA	165	NA	285	NA	19,423	.0079	.0128
Ellinwood.....	3	3	11	11	28	28	44	45	13	13	36	37	65	67	229	235	394	406	8,000	.0000	.0012
Hillsboro.....	4	4	7	7	19	21	34	37	8	8	31	32	59	62	203	219	383	415	1,500	.0085	.0116
Eudora.....	2	2	7	8	20	25	30	41	7	8	20	25	30	41	114	165	219	320	15,686	.0123	.0171
Baldwin City..	2	NA	8	NA	23	NA	41	NA	2	NA	22	NA	41	NA	168	NA	NA	NA	18,736	NA	NA
Anthony.....	2	6	7	15	18	25	31	8	9	27	30	42	42	49	142	174	248	313	47,000	.0075	.0009
Wamego	3	3	6	7	18	21	28	35	7	8	24	28	39	46	144	181	244	317	22,000	.1010	.0158
Osage City....	2	0	6	0	20	0	34	0	8	0	27	0	47	0	170	0	320	0	0	NA	NA
Oberlin	1	0	7	7	27	31	43	51	5	6	20	24	35	43	146	188	286	371	93,899	.0112	.0099
Horton.....	4	NA	11	NA	27	NA	42	NA	11	NA	33	NA	48	NA	60	NA	75	NA	25,000	NA	.0050
Seneca.....	2	NA	5	NA	14	NA	23	NA	5	NA	19	NA	40	NA	175	NA	338	NA	34,000	.0086	.0124
Lindsborg.....	1	NA	7	NA	19	NA	34	NA	10	NA	30	NA	51	NA	196	NA	378	NA	7,500	NA	NA
Marion.....	1	1	6	7	19	25	29	41	7	8	25	31	39	51	130	190	242	363	0	.0101	.0121
Osweg	2	2	6	7	19	23	33	41	7	2	25	29	44	52	164	204	662	742	0	.0075	.0139
Minneapolis...	3	3	7	9	21	31	37	57	8	10	26	36	46	65	167	99	277	475	13,219	.0031	.0198
Hill City.....	4	NA	10	NA	25	NA	41	NA	9	NA	37	NA	62	NA	194	NA	NA	NA	40,000	NA	NA
Burlington....	4	4	6	10	18	32	7	7	21	NA	NA	NA	36	NA	146	NA	246	NA	12,818	0	0
Osborne.....	3	3	9	9	26	29	42	48	11	12	34	37	62	68	225	255	425	485	3,000	0	.0060
Ellis.....	3	4	6	7	21	26	39	49	5	6	23	28	43	53	191	241	396	426	11,959	.0026	.0107
Greensburg....	1	1	6	7	19	22	32	41	5	6	21	26	41	50	184	229	273	362	300,000	.0050	.0090
Meade.....	1	2	7	8	21	25	33	40	9	9	27	30	42	49	162	198	312	385	40,482	.0075	.0107
De Soto.....	1	1	7	7	17	22	31	40	1	1	7	7	31	40	118	164	223	315	2,750	.0120	.0175
Sterling.....	3	3	8	9	25	27	40	44	10	11	38	42	55	61	193	212	345	379	40,381	.1000	.1000
La Crosse.....	3	NA	8	NA	23	NA	40	NA	8	NA	27	NA	49	NA	181	NA	346	NA	0	.0105	.0213
Lakin.....	3	3	6	6	23	28	41	51	7	7	25	30	47	58	183	237	323	431	3,000	.0116	.0115
Washington....	3	4	6	7	18	24	33	43	7	9	28	33	51	62	175	226	329	431	8,854	.0081	.0102
St. John.....	2	2	7	7	18	21	33	39	8	8	32	35	54	60	164	195	289	351	13,946	.0065	.0142
St. Marys.....	2	2	6	6	19	22	34	41	6	7	22	25	42	49	169	206	225	299	20,400	.0036	.0074
Axtell.....	2	3	6	7	15	20	24	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,600	.0105	.0117
Mountridge....	2	2	6	7	14	20	23	34	7	8	21	26	38	48	106	159	191	298	10,000	.0093	.0139
Stafford.....	1	2	5	7	16	29	28	39	7	9	23	29	36	47	96	143	196	290	7,924	.0075	.0075
Erie.....	3	3	7	8	19	23	32	39	7	8	27	31	40	46	140	173	265	331	7,000	NA	NA
Chapman.....	1	NA	4	5	20	NA	40	NA	3	4	16	NA	32	NA	162	NA	325	NA	NA	.7500	1.130
Johnson City..	3	4	7	7	21	23	39	43	8	8	28	30	47	57	183	203	387	427	24,235	.0050	.0070
Haven.....	NA	2	NA	8	NA	24	NA	41	NA	5	NA	24	NA	41	NA	141	NA	266	39,000	NA	NA
Marketta.....	3	3	6	6	17	19	29	34	7	7	25	28	47	51	167	190	317	363	12,994	.0071	.0147
Ashland.....	2	2	7	7	20	21	34	35	10	10	20	20	32	33	125	130	250	260	NA	.0103	.0164
Troy.....	3	3	7	7	17	18	25	30	6	7	20	23	33	38	120	145	220	270	8,314	.0050	.0050
Oxford.....	1	1	5	6	14	20	24	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,500	.0120	.0150
Sharon Springs	3	NA	10	NA	32	NA	55	NA	12	NA	37	NA	63	NA	154	NA	391	NA	9,831	.0090	0
Burlingame....	2	2	8	8	18	20	31	34	8	9	22	24	37	41	157	173	307	338	8,500	NA	.0018
Jetmore.....	3	NA	8	9	24	27	39	44	10	11	27	30	45	50	166	191	NA	NA	10,000	.0020	.0140

Electric Rates Cont.

City (By Population)	DOMESTIC Minimum Basic Chrge	DOMESTIC Minimum Incl Fuel Adj.	DOMESTIC 100 KWH Basic Chrge	DOMESTIC 100 KWH Incl Fuel Adj.	DOMESTIC 500 KWH Basic Chrge	DOMESTIC 500 KWH Incl Fuel Adj.	DOMESTIC 1,000 KWH Basic Chrge	DOMESTIC 1,000 KWH Incl Fuel Adj.	COMMERCIAL 100 KWH Basic Chrge	COMMERCIAL 100 KWH Incl Fuel Adj.	COMMERCIAL 500 KWH Basic Chrge	COMMERCIAL 500 KWH Incl Fuel Adj.	COMMERCIAL 1,000 KWH Basic Chrge	COMMERCIAL 1,000 KWH Incl Fuel Adj.	COMMERCIAL 5,000 KWH Basic Chrge	COMMERCIAL 5,000 KWH Incl Fuel Adj.	COMMERCIAL 10,000 KWH Basic Chrge	COMMERCIAL 10,000 KWH Incl Fuel Adj.	Value Free Serv.	Adj Chrg Per KWH AUG.1976	Adj Chrg per KWH JAN.1977
Less than 1,000																					
Wilson.....	$8	$8	$10	$10	$27	$27	$42	$42	$11	$11	$27	$27	$43	$43	$169	$169	$327	$327	9,235	NA	NA
Altamont.....	2	0	NA	7	NA	19	NA	33	NA	9	NA	27	NA	45	NA	233	NA	368	650	NA	.0050
Alma.....	3	0	5	6	13	19	23	34	6	7	19	25	34	45	114	170	214	326	0	.1196	.1236
Enterprise....Report Not Received																					
Glasco.....	3	NA	6	6	17	19	29	34	7	7	20	22	36	40	136	160	260	310	0	.0081	.0039
Pomona.....	4	4	7	7	20	20	30	30	7	7	19	19	34	34	134	134	222	222	892	.0063	.0042
Udall.....	NA	0	NA	8	NA	30	NA	50	NA	6	NA	25	NA	45	NA	175	NA	325	100M	NA	.0140
Mount Hope....	2	2	9	9	23	23	36	36	2	2	9	9	23	23	36	36	NA	NA	5,950	NA	NA
Protection....	1	1	10	12	34	41	48	58	10	12	42	50	57	68	177	211	327	389	5,059	0	.0184
Montezuma.....	3	3	8	8	21	23	33	38	3	3	8	8	21	23	33	38	NA	NA	8,000	.0010	.0053
Cawker City...	2	2	7	7	21	24	39	44	9	10	28	31	49	54	213	237	418	466	2,000	.0010	.0048
Moran.....	NA	NA	NA	9	NA	25	NA	42	NA	9	NA	25	NA	42	NA	172	NA	322	NA	NA	NA
Lucas.....	7	NA	7	NA	24	NA	43	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	.0010	.0048
La Harpe.....	4	NA	5	NA	21	NA	39	NA	7	NA	25	NA	45	NA	205	NA	405	NA	1,650	NA	NA
Scranton.....	NA	3	NA	7	NA	23	NA	43	NA	3	NA	23	NA	43	NA	203	NA	403	8,000	NA	NA
Galva.....	1	NA	6	7	15	21	26	37	6	7	15	21	26	37	114	171	224	339	8,597	.0089	.0115
Centralia.....	3	3	7	8	19	25	34	46	11	12	23	29	38	50	158	220	308	431	1,400	.0085	.0124
Axtell.....	4	3	8	8	19	22	32	39	7	8	26	30	40	46	150	182	275	338	5,028	.0075	.0133
Toronto.....	2	2	4	5	14	15	12	13	2	2	4	5	14	15	12	13	NA	NA	1,500	.0848	.1432
Glen Elder....	Report Not Received								Report Not Received										95,319	.0010	.0048
Blue Mound....	4	NA	11	NA	24	NA	39	NA	4	NA	11	NA	23	NA	39	NA	NA	NA	1,200	NA	NA
Luray.....	3	3	8	8	25	28	40	46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,100	0	.0041
Morrill.....	3	NA	8	NA	21	NA	36	NA	8	NA	28	NA	48	NA	173	NA	323	NA	NA	NA	NA
Prescott.....	3	NA	9	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herndon	4	4	10	11	22	26	32	41	10	11	22	26	32	41	112	156	212	300	5,000	.0117	.0280
Netawaka	3	3	7	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	400	NA	.0114
Goff.....	Report Not Received								Report Not Received										105M	.0075	.0134
Vermillion....	1	1	6	8	15	19	25	32	1	1	6	8	15	19	25	32	NA	NA	0	.0086	.0124
Mahaska.....	Report Not Received								Report Not Received										980	NA	NA
Severance.....	Report Not Received								Report Not Received										0	.0097	.0134
Savonburg.....	3	3	11	11	31	31	56	56	11	11	31	31	56	56	256	256	506	506	NA	NA	NA

Gas Rates

City (By Population)	Minimum Charge	Cu.Ft.	Cubic Feet 3,000	10,000	25,000
5,000 - 11,000					
Iola	$2.90	1,000	$5.42	$14.44	$33.94
1,000 - 4,999					
Lyons	3.00	1,000	7.12	21.54	52.44
Neodesha	2.50	1,000	3.60	7.45	15.70
Garnett	1.50	0	5.49	14.80	34.75
Osage City	3.00	1,000	6.30	15.75	36.00
Humboldt	4.75	2,000	6.44	18.27	43.62
Hesston	3.00	1,000	7.80	24.60	60.60
Halstead	4.00	1,000	8.66	24.97	62.25
Moundridge	4.75	1,000	9.15	24.55	57.55
Sedgwick	4.50	2,000	6.65	21.70	53.95
Burlingame	3.00	1,000	5.60	14.70	34.20
LaCygne	3.18	1,000	6.18	16.68	39.18
999 or Less					
Howard	3.50	1,000	7.00	19.25	26.25
Altamont	3.25	1,000	6.11	16.12	37.57
Alma	3.00	1,000	6.60	19.20	46.20
Burrton	6.00	1,000	10.36	25.62	58.32
Spearville	3.00	1,000	5.90	16.05	37.80
Garden Plain	4.99	1,000	8.99	22.99	52.99
Effingham	2.50	1,000	5.80	17.35	42.10
Milford	3.65	1,000	7.05	18.95	44.45

City (By Population)	Minimum Charge	Cu.Ft.	Cubic Feet 3,000	10,000	25,000
999 or Less Cont.					
Argonia	$3.28	1,000	$5.84	$14.77	$33.93
Little River	3.00	1,000	8.00	25.50	61.00
Norwich	2.25	1,000	5.01	14.67	35.37
Pawnee Rock	3.00	1,000	6.14	17.13	40.68
Jamestown	2.50	1,000	4.00	14.50	37.00
Auburn	2.99	1,000	NA	NA	NA
Sylvia	2.66	2,000	3.99	13.30	33.25
Uniontown	3.50	1,000	7.10	19.70	43.10
Wetmore	3.00	1,000	6.92	20.64	50.04
Hamilton	2.50	1,000	5.50	16.00	38.50
Lancaster	3.00	1,000	5.00	12.00	75.00
Harveyville	2.50	1,000	7.18	22.78	60.78
Neosho Rapids	4.00	1,000	6.70	16.15	36.40
Reading	2.50	1,000	5.00	13.75	32.50
Albert	5.00	1,000	6.90	13.55	27.80
Kechi	2.50	1,000	4.80	12.85	30.10
McFarland	3.00	1,000	6.80	20.10	48.50
Walton	3.00	1,000	5.40	13.80	31.80
Palmer	2.50	1,000	5.64	16.09	38.74
Windom	4.00	1,000	7.50	19.75	46.00
Willowbrook	2.00	1,000	8.00	28.00	78.00
Agenda	2.50	1,000	5.54	16.18	31.38
Stark	4.00	1,000	6.20	13.90	30.40
Danville	2.50	1,000	5.50	16.00	38.50

Municipally Owned Gas Systems
Report for Year Ending December 31, 1976

City	1976 Population	Number of Customers	Gas Purchased M Cubic Feet	Gas Sold M Cubic Feet	Revenue: Sale of Gas	Revenue: Other Revenue	Revenue: Total Revenue	Expenditures: Purchase of Gas	Expenditures: Operation and Maintenance	Expenditures: Capital Improvements	Expenditures: Debt Payments	Expenditures: Transfer of Cash to other Funds	Expenditures: Total Expenditures	Revenue more or less than Expenditures	Account set Aside	Cash Balances: Debt Reserves	Cash Balances: Operating and Other Reserves	Cash Balances: Total Cash and Securities	Bonded Debt: Debt on Bonds	Bonded Debt: General Obligation Bonds Outstanding	Bonded Debt: Revenue Bonds Outstanding	Capital Improvements from Bonds	Valuation of Plant and System
Iola	6,968	3,021	612,143	589,100	$621,031	$18,601	$639,632	$432,822	$144,253	$19,585	0	$28,184	$624,844	$14,788	$36,000	$ 0	$156,971	$156,971	$ 0	$ 0	$ 0	$ 0	$ 430,685
Lyons	4,276	1,842	337,580	312,529	501,877	5,943	507,820	375,400	90,328	0	0	0	465,727	42,093	0	0	95,037	95,037	0	0	0	0	559,000
Neodesha	3,721	1,516	318,346	298,923	329,176	1,311	330,487	220,440	49,139	2,262	0	40,000	311,841	18,646	0	0	0	0	0	0	0	0	2,225,000
Garnett	3,029	1,678	329,278	325,657	325,864	3,290	329,154	251,778	74,933	17,937	0	20,000	364,648	35,494	0	0	171,286	171,286	0	0	0	0	1,500,000
Osage City	2,572	1,294	390,629	386,247	353,281	16,115	369,396	270,033	66,301	9,377	0	30,000	375,711	6,315-	0	0	197,547	197,547	0	0	0	0	NA
Humboldt	2,405	985	166,067	138,661	205,804	3,428	209,232	126,894	49,209	8,877	0	43,150	228,130	18,898-	5,000	0	27,126	27,126	0	0	0	0	800,000
Hesston	2,362	554	306,687	318,323	457,463	2,952	460,415	282,368	68,128	13,274	64,994	0	482,037	21,624-	64,994	66,069	22,973	89,042	74,580	0	0	622,000	1,297,000
Halstead	1,977	756	174,658	170,290	241,978	647	242,625	165,673	39,089	11,726	0	19,000	235,488	7,137	0	0	0	0	0	0	0	0	0
Moundridge	1,475	562	145,454	124,102	176,719	1,522	178,241	129,394	31,831	9,422	23,302	0	193,949	15,708-	0	0	11,164	11,164	0	0	0	0	150,000
Sedgwick	1,341	399	64,044	60,826	71,067	737	71,804	61,451	17,494	2,406	0	0	81,351	9,547-	0	0	210	210	0	265,000	0	240,000	450,000
Burlingame	1,088	559	184,633	177,837	162,029	2,344	164,373	119,242	31,215	0	17,135	0	167,592	3,218-	0	24,725	107,422	132,147	18,087	17,000	40,000	0	159,358
LaCygne	1,025	477	82,426	81,609	89,945	336	90,281	61,651	20,043	0	5,610	0	87,314	2,967	0	20,000	8,767	28,767	17,665	87,540	35,775	0	500,000
Howard	983	488	61,615	59,929	90,926	0	90,926	47,767	68,089	0	26,975	2,519	145,350	54,424	26,975	30,000	3,791	33,791	26,975	290,000	0	0	350,000
Altamont	960	453	87,102	97,885	121,393	1,219	122,612	62,524	27,709	3,000	5,565	15,451	114,249	8,363	0	31,754	36,351	68,105	5,565	0	36,000	0	175,000
Alma	933	374	106,627	99,467	131,387	28,224	159,611	94,943	41,141	0	0	0	136,084	23,527	0	0	26,008	26,008	0	0	0	0	20,000
Burrton	920	397	54,442	54,442	73,406	0	73,406	54,095	18,993	0	7,637	0	80,725	7,319-	0	18,000	0	18,000	5,000	0	58,000	13,083	200,000
Spearville	835	274	56,146	55,901	75,068	0	75,068	56,644	13,700	0	0	6,500	76,844	1,776-	0	0	51,000	51,000	15,015	26,000	0	NA	172,600
Garden Plain	715	220	33,321	33,302	54,886	1,064	55,950	28,057	7,959	0	12,226	0	48,242	7,708	0	5,344	13,148	18,492	12,226	0	6,000	0	133,550
Effingham	693	287	57,834	57,834	48,939	2,700	54,224	40,358	9,707	0	11,204	0	61,269	7,045-	0	6,000	0	17,340	11,204	31,000	9,000	0	157,000
Milford	606	257	32,380	34,538	57,560	657	58,217	29,153	17,245	0	4,000	10,000	60,398	2,181-	0	16,000	10,000	26,000	2,500	28,000	34,000	0	0
Argonia	573	310	41,820	38,810	54,647	0	54,647	27,992	9,910	0	10,297	0	48,199	6,448	0	10,400	11,142	21,542	10,298	5,000	4,000	0	NA
Little River	549	294	49,143	NA	64,689	6,991	71,680	54,276	9,374	0	4,147	0	67,790	3,890	0	0	3,890	3,890	4,147	0	1,500	0	NA
Norwich	536	285	45,644	41,475	57,520	0	57,520	29,409	24,213	471	0	5,599	59,692	2,172-	0	0	943	943	0	0	0	0	175,000
Pawnee Rock	523	176	34,180	34,180	40,576	0	40,576	31,968	4,506	0	6,750	0	43,224	2,648-	0	1,358	12,103	13,461	6,750	0	28,000	0	100,000
Jamestown	503	212	35,619	36,557	52,893	0	52,893	32,138	0	0	15,662	0	47,800	5,083	0	0	0	0	15,662	0	102,000	0	NA
Auburn	488	403	68,256	70,689	80,342	15,046	95,388	49,301	37,964	0	8,459	0	95,725	336-	0	35,407	19,924	55,331	20,491	65,000	78,000	0	NA
Sylvia	444	204	36,567	35,596	36,585	0	36,585	23,542	9,423	989	0	0	33,954	2,631	1,500	0	3,954	3,954	1,525	0	4,800	0	45,500
Uniontown	399	180	25,966	30,866	35,675	0	35,675	19,107	3,042	175	0	0	22,324	13,351	0	0	0	0	0	0	0	0	135,000
Wetmore	390	181	28,832	28,637	46,142	495	46,637	31,743	4,779	0	6,416	0	42,938	3,699	0	0	24,523	24,523	6,416	0	69,000	0	NA
Hamilton	373	160	24,725	24,972	24,421	0	24,421	14,215	10,379	0	5,507	0	30,101	5,680-	0	9,000	1,151	10,151	5,507	24,000	56,000	0	NA
Lancaster	286	112	20,708	20,708	16,308	0	16,308	16,140	0	0	0	0	16,140	168	0	1,837	0	0	0	0	0	0	37,000
Harveyville	267	132	16,821	17,037	21,597	0	21,597	14,129	246	0	8,350	0	22,725	1,128-	0	3,136	0	3,136	8,350	0	83,000	0	NA
Neosho Rapids	264	112	15,802	15,530	18,048	245	18,293	12,201	3,811	0	0	0	16,012	2,281	2,953	4,228	3,390	7,618	2,750	14,000	0	0	80,000
Reading	248	136	21,138	20,928	19,920	420	20,340	14,825	3,534	1,539	0	0	19,918	422	0	0	1,673	1,673	0	0	0	0	72,000
Albert	238	105	18,221	17,994	18,859	0	18,859	15,374	865	847	0	1,300	17,086	1,773	0	0	20,861	20,861	0	0	0	0	50,000
Kechi	230	90	16,151	15,083	14,809	785	15,594	10,435	4,793	0	2,270	0	17,498	1,903-	0	0	12,607	12,607	2,270	4,000	0	0	66,600
McFarland	228	104	13,629	12,597	21,105	0	21,105	13,236	4,066	0	0	0	17,302	3,803	0	0	0	4,162	0	0	0	0	55,000
Walton	194	96	12,807	13,919	17,514	0	17,514	8,239	3,051	0	5,798	0	17,087	426	0	0	0	0	5,798	5,500	0	0	110,000
Palmer	169	82	12,036	11,671	16,167	80	16,247	10,773	.1,161	890	4,400	0	17,224	978-	0	0	5,756	5,756	4,400	9,000	NA	0	46,700
Windom	169	75	12,318	12,091	13,695	38	13,733	9,440	3,990	0	0	0	13,430	303	0	4,690	700	5,390	0	0	0	0	35,000
Willowbrook	131	45	14,393	13,459	17,529	0	17,529	15,944	2,396	0	0	0	18,340	811-	0	0	788	788	0	0	0	0	10,000
Agenda	124	73	11,616	10,083	12,990	0	12,990	10,447	2,098	0	0	1,672	14,217	1,227-	0	3,900	18,291	22,191	8,569	0	0	0	150,000
Stark	106	71	10,134	10,208	12,318	97	12,415	7,175	2,712	0	3,475	0	13,362	947-	3,496	4,324	1,108	5,432	3,475	15,000	13,000	0	45,000
Danville	76	37	7,620	5,500	7,425	595	8,020	4,915	2,252	0	1,102	82	8,351	331-	0	10,000	2,840	12,840	1,102	1,000	0	0	19,500

MEMORANDUM

June 3, 1977

TO: Special Committee on Energy

FROM: Ramon Powers, Legislative Research Department

RE: State and Federal Energy Conservation Activities

The following is a review of federal and state activity in the area of energy conservation. It is a comprehensive but not definitive survey of legislation proposed and enacted by the federal government and the various state governments. Also included are references to orders of regulatory commissions. The review of 1977 state legislation either proposed or enacted is not complete because reports from most states on legislative activity in 1977 have not been received.

Federal Activity

The first federal legislation concerning energy conservation was the "Energy Policy and Conservation Act" of 1975 (P.L. 94-163). That act established fuel economy standards for new automobiles beginning in model year 1978, including labeling provisions and a civil penalty for any unlawful conduct under the act. One provision in the act provides that no state or political subdivision can adopt or enforce standards for automobiles covered by the federal standard. In addition, the federal government will require all passenger automobiles it acquires to meet a certain fuel economy standard.

P.L. 94-163 also provides for the testing of certain products to determine their energy usage and the labeling of those products except where it is determined that such labeling is not technologically and economically feasible and not likely to assist consumers in making purchasing decisions. The issuance of any energy efficiency standard will be accompanied by test procedures used to establish the standard.

P.L. 94-163 contains a section which proposes the "development and implementation by States of laws, policies, programs, and procedures to conserve and to improve efficiency in the use of energy (that) will have an immediate and substantial effect in reducing the rate of growth of energy demand and in minimizing the adverse social, economic, political, and environmental impacts of increasing energy consumption."

To become eligible for federal assistance in implementing a state energy conservation plan, states must have as part of their plan:

1. mandatory lighting efficiency standards for public buildings (except public buildings owned or leased by the United States);

2. programs to promote the availability and use of carpools, vanpools, and public transportation (except that no federal funds provided under this part shall be used for subsidizing fares for public transportation);

3. mandatory standards and policies relating to energy efficiency to govern the procurement practices of such state and its political subdivisions;

4. mandatory thermal efficiency standards and insulation requirements for new and renovated buildings (except buildings owned or leased by the United States); and

5. traffic law or regulation which, to the maximum extent practicable consistent with safety, permits the operator of a motor vehicle to turn such vehicle right at a red stop light after stopping.

Any state energy conservation plan <u>may</u> include the following:

1. restrictions governing the hours and conditions of operation of public buildings (except buildings owned or leased by the United States);

2. restrictions on the use of decorative or nonessential lighting;

3. transportation controls;

4. programs of public education to promote energy conservation;

5. any other appropriate methods or programs to conserve and to improve efficiency in the use of energy.

Industrial energy conservation is also targeted for energy conservation initiatives in P.L. 94-163 . Industries that consume at least one trillion BTU of energy per year and those corporations identified as the 50 most energy-consumptive corporations in such industry are to be identified for individual energy efficiency improvement. Within one year after enactment of this act, the Administrator of the Federal Energy Administration must set an industrial energy efficiency improvement target for each of the ten most energy-consumptive industries. The chief executive officer of each corporation identified must report annually on the progress which such corporation has made in improving its energy efficiency.

Other energy conservation provisions of P.L. 94-163 include mandatory standards with respect of energy conservation and energy efficiency to govern procurement policies and decisions of the federal government. The President is directed to develop a ten-year plan for energy conservation with respect to buildings owned or leased by the federal government including mandatory lighting efficiency standards and mandatory thermal efficiency standards. Public education programs will be established and van and carpooling encouraged. Government agencies are to report on programs for savings in energy consumption. Finally, the recycling of oil is to be encouraged and regulated.

In 1976, the federal government enacted the "Energy Conservation and Production Act" (P.L. 94-385). This act includes a provision for developing electric utility rate design initiatives. The administrator of the Federal Energy Administration is directed to develop proposals that are designed to encourage energy conservation, minimize the need for new electrical generating capacity, and minimize costs of electric energy to consumers. Demonstration projects are to be funded which will improve electric utility load management procedures and regulatory rate reform initiatives. Offices for consumer services in states where they have been created will be assisted in their presentations before utility regulatory commissions.

In the area of energy conservation standards for new buildings, P.L. 94-385 proposes to:

(1) redirect federal policies and practices to assure that reasonable energy conservation features will be incorporated into new commercial and residential buildings receiving federal financial assistance;

(2) provide for the development and implementation, as soon as practicable, of performance standards for new residential and commercial buildings which are designed to achieve the maximum practicable improvements in energy efficiency and increases in the use of nondepletable sources of energy; and

(3) encourage states and local governments to adopt and enforce such standards through their existing building codes and other construction control mechanisms, or to apply them through a special approval process.

The act provides for establishing a thermal performance standard for new commercial and residential buildings. After that standard has been established, no federal financial assistance will be made available or approved with respect to the construction of any new commercial or residential buildings in any area of any state unless the state has certified that the local government which has jurisdiction over that area has adopted a building code that meets or exceeds the final performance standard or the state has adopted a standard that meets of exceeds the final performance standard on a statewide basis.

One method of energy conservation in existing buildings is encouraged through weatherization assistance for low-income persons. The purpose of this part of the act is to develop and implement a supplementary weatherization program to assist in achieving a prescribed level of insulation in the dwellings of low-income persons, particularly elderly and handicapped low-income persons. Financial assistance provided under this section is for the purchase of weatherization materials with not more than 10 percent of the funds for administration of weatherization projects.

P.L. 94-385 amends the "Energy Policy and Conservation Act" by including provision for supplemental state energy conservation plans. To be eligible for federal financial assistance under this section of the act, states must:

(a) provide procedures for carrying out a continuing public education effort to increase significantly public awareness of:

(i) the energy and cost savings which are likely to result from the implementation (including implementation through group efforts) of energy conservation measures and renewable-resource energy measures; and

(ii) information and other assistance (including information as to available technical assistance) which is or may be available with respect to the planning, financing, installing, and with respect to monitoring the effectiveness of measures likely to conserve, or improve efficiency in the use of, energy, including energy conservation measures and renewable resource energy measures;

(b) procedures for insuring that effective coordination exists among various local, state and federal energy conservation programs within and affecting such state, including any energy extension service program administered by the Energy Research and Development Administration;

(c) procedures for encouraging and for carrying out energy audits with respect to buildings and industrial plants within such state; and

(d) any procedures, programs, or other actions required by the administrator.

P.L. 94-385 also amends the Housing and Urban Development Act to provide a national demonstration program designed to test the feasibility and effectiveness of various forms of financial assistance for encouraging the installation or implementation of approved energy conservation and approved renewable-resource energy measures in existing dwelling units. The program

involves financial assistance in the form of grants, low-interest-rate loans, interest subsidies, loan guarantees, and other types of assistance. The amount of any grant cannot exceed the lesser of $400 or 20 percent of the cost of installing or implementing an energy conservation measure or $2,000 or 25 percent of the cost of installing or implementing an approved renewable-resource energy measure. Finally, the Administrator of the Federal Energy Administration is to prescribe rules for energy conservation and renewable-resource obligation guarantees.

The Carter "National Energy Plan" relies heavily on "energy conservation" as a means of reducing the reliance of the United States on imports of petroleum and other fuels. The conservation elements relate to various aspects of the plan:

Transportation - President Carter proposes a graduated excise tax on new automobiles and light duty trucks whose fuel economy fails to meet set mileage standards. The tax would be coupled with rebates on cars that do better than those standards. The standard would increase from 18 miles per gallon on 1978 models to 27.5 miles per gallon on 1985 models.

Strict enforcement of the 55 mile per hour speed limit is also part of Carter's proposed plan. Withholding highway trust fund revenues from states not enforcing the limit has been suggested as a means of requiring enforcement.

A standby gasoline tax is proposed if targets for gasoline consumption are not met. The targets would allow limited increases in consumption until 1980. If consumption exceeds the target in 1978 and increases by 1 percent over the previous year thereafter, a 5 cent per gallon tax would be imposed for the following year. Funds collected from such taxes would be rebated to the public through the federal income tax system or by direct payments. To compensate for losses of revenues to states from gasoline taxes, the federal government would reimburse the states this loss through the Highway Trust Fund.

Additional incentives include removing the 10 percent excise tax on intercity buses to encourage use of that form of transportation. Fuel tax preference would be eliminated for all aviation and maritime fuels except for commercial airlines and commercial fishermen. Finally, the government would purchase cars for its fleet with average fuel economy of at least 2 miles per gallon better than the federal standard.

Buildings - To encourage energy conservation in buildings, the Carter Plan includes a tax credit of 25 percent of the first $800 and 15 percent of the next $1,400 spent by a homeowner on approved conservation measures for improvements undertaken between the time the proposal is enacted and 1985. State public utility commissions would be required to direct the utilities under their jurisdiction to offer customers a residential conservation service to be financed by loans to be repaid through monthly utility bills.

Residential energy conservation loans would be made available through the Federal Home Loan Mortgage Corporation and the Federal National Mortgage Association. Funding for the existing low-income residential conservation program (weatherization) would be increased. Recipients of funds allocated for Comprehensive Employment and Training Act (CETA) would supply labor for the residential conservation program. Rural homes would be weatherized through a cooperative program provided by the Secretary of Agriculture, rural electric cooperatives, and the Farmer's Home Administration.

Federal grants would be available to public and non-profit institutions for installation of energy conservation measures. And, state and local government would be encouraged to include in their local public works programs items which contribute to energy conservation.

As proposed, the Carter plan calls for voluntary conservation measures in the above-mentioned areas. However, if such voluntary methods are not successful, mandatory measures will be considered.

In the mandatory area, Housing and Urban Development will require compliance by 1980 with efficiency standards for new buildings under the Energy Conservation and Production Act of 1976. This is a one-year acceleration of the program. Conservation efforts, including solar installations, will be initiated in all appropriate federal buildings.

Appliances - Certain homes appliances, such as air conditioners, furnaces, water heaters and refrigerators, would have to comply with mandatory standards for efficiency. Present developments of testing procedures and labeling will be continued.

Industrial Conservation - A five-year investment tax credit of 10 percent for investment in conservation equipment, including solar, would be made available to industry.

Cogeneration of Electricity and Process Steam - Cogeneration (production of electric power and other useful forms of energy from waste heat) would be encouraged through:

(1) Exempting industrial users of cogeneration from federal and state public utility regulations.

(2) Establish procedures under the Federal Power Commission to assure fair rates for both sale of power by cogenerators and for purchase of back-up power.

(3) A tax credit of 10 percent in addition to the current 10 percent tax credit for purchase of cogeneration equipment.

District Heating - State public utility commissions would be encouraged to use district heating as a criterion in siting certification and ratemaking for new generating facilities.

Utility Rate Reform - To encourage energy conservation through utility pricing policies, the Carter plan will propose the following:

(1) Mandating State Public Utility Commission to require regulated electric utilities to phase out and eliminate promotional, declining, and other rates for electricity which discourage conservation.

(2) Encourage utilities to offer reduced rates to customers for off-peak use and to those willing to have their power interupted at times of highest demand.

(3) Mandate State Public Utilities Commission to require gas utilities to eliminate declining block rates.

(4) Extend Federal Power Commission authority to include utilities not owned under its jurisdiction to require interconnection and power pooling between utilities.

Finally, the oil and natural gas pricing and tax policy proposed by President Carter is directed at achieving substantial savings in natural gas and petroleum consumption. The oil and gas consumption taxes are directed primarily at industrial and utility use, and will encourage investments by industry to use scarce fuels more efficiently.

State Activity

The Kansas Energy Office is presently engaged in initiating the development of a state energy conservation plan with the intent of complying with federal guidelines and becoming eligible for federal assistance in implementing the plan. In October and November, 1976, public hearings were held throughout the state to secure public imput. The Energy Office contracted with the College of Engineering at Kansas State University for the formal development of a proposed State Energy Conservation Plan for Kansas. The plan is intended to analyze energy use in Kansas and to develop possible energy conservation techniques which could result in at least a 5 percent saving in energy by 1980.

Those states, like Kansas, which have decided to initiate development of a state energy conservation plan under the Energy Policy and Conservation Act of 1975, are presently involved in the process of developing such a plan. Two states,

California and Minnesota, enacted comprehensive energy conservation plans which predate the federal law. Also, most states have either enacted or considered legislation on a wide range of "energy conservation" measures that were not part of any program for compliance with the federal act. Rather many energy conservation measures were enacted in the wake of the "energy crises" of 1973. Those measures include such diverse measures as energy price labeling, appliance efficiency labeling, building efficiency standards, auto efficiency standards, appliance efficiency standards, life cycle costing, energy conservation public information programs, energy savings in transportation, encouraging the use of alternative energy sources, energy conservation in the utility sector, recycling of energy intensive materials, and a conservation severance tax on resources.

Energy Price Labeling - A 1975 Vermont law providing for the rights of service station operators also requires that the price of all grades of gasoline for sale be posted on the pumps dispensing the fuel. A 1975 Connecticut bill proposing the creation of a state department of planning and energy policy, also included a section requiring the public display of signs required by the administrator informing the public of the octane rating and price of gasoline and other fuels. Assembly Bill No. 1887, approved by the Governor of California in 1975, amended the state statute requiring the "octane number" and "anti-knock index number" be properly posted and made conforming changes in laws relating to advertisement of motor vehicle fuel.

In 1976, a bill was introduced into the New Jersey Legislature to require service stations to post gasoline octane ratings.

Appliance Efficiency Labeling - A Michigan bill (H.B. 4307) introduced in 1975 would have required the Director of the Department of Licensing and Regulation of the Michigan Public Service Commission to promulgate rules that could require appliances in wide use in residences and small commercial establishments to bear labels indicating the "cost in dollars or units of energy or both of operating the appliance as a typical purchaser might operate it for a year or other period of time." Additional information on energy use might be required by the Director including statements on efficiency of particular brands of appliances in relation to other brands.

A 1976 Florida bill would have directed the state's Division of Purchasing to consider appliance efficiency in the purchase by the state of major energy consuming appliances. Minnesota, in its comprehensive energy conservation law, has directed its Commissioner of Administration to conduct studies of the state's purchases and use of supplies, automobiles, and equipment having a significant impact on energy use in order to determine the potential for energy conservation.

Auto Efficiency Labeling - In 1975, Illinois amended its Vehicle Code to require gasoline mileage information to be posted on the price sticker of each new passenger automobile.

Building Efficiency - According to the Building Energy Authority and Regulations Survey: State Activity, as of November, 1975, eight states have adopted building energy regulations. Four other states have regulations of a limited nature, and nine states are considering regulations under present authority.

California was the first state to adopt broad energy conservation standards for building design. Its 1974 law authorized the California Commission of Housing and Community Development to approve rules for implementing the law; the rules set minimum amounts of insulation to be placed in walls, attic floors, and foundation walls of new houses, and it also established the amount of glazing surface to be allowed. Also, in 1974, the Minnesota Legislature required the promulgation of building design and construction standards "consistent with the most efficient use of energy."

Nevada Assembly Bill No. 716, enacted in 1975, requires the Public Service Commission to establish insulation standards by January 1, 1976, "for all buildings, public and private, constructed in the State of Nevada." The minimum insulation requirements would not supercede more stringent requirements imposed by building codes of any city or county. In Oregon, the Legislature enacted a bill that created an Energy Conservation Board within the Department of Commerce. The Board is directed to adopt rules providing for maximum energy conservation in design, construction, and repair of buildings. The rules are to be included in the state building code.

A Montana statute was passed in 1975 requiring a state building code to "encourage efficiencies of design and insulation which enables buildings to be heated in the winter with the least possible quantities of energy and to be kept cool in the summer without air conditioning equipment or with the least possible use of such equipment." A 1977 Georgia bill authorizes development of a statewide standards for thermal efficiency in new and renovated buildings, and lighting efficiency standards for public buildings. A 1976 amendment to the Minnesota energy conservation law requires energy conservation in state-owned buildings.

A 1975 Texas law was designed to promote efficient energy use in state buildings including buildings of state-owned institutions of higher education. The goal is to achieve the minimum lifetime cost of buildings. In Washington, S.B. 2106 was enacted in 1975 to insure energy conservation practices are employed in the design of major publically owned or leased facilities. The cost of energy consumed over the life of the facilities is to be considered in the construction of such facilities. A similar bill was considered by the North Carolina Legislature in 1975.

In Kansas, the 1975 interim Special Committee on Energy and Natural Resources recommended H.B. 2669 which would have required a minimum design criteria for new or remodeled buildings (buildings would have to be designed in such a way that they would have a certain level of resistence in walls, ceilings, and floors. That level would have been the ASHRAE 90-75 standard). Because the state does not have a statewide building code, H.B. 2669 tied building design standards to the law licensing architects and professional engineers. That bill was not enacted. The Special Committee on Federal and State Affairs of the 1976 interim recommended a bill that would have established a statewide building code. The bill contained a statement that energy usage standards be included in the code. That bill was killed by the House Federal and State Affairs Committee.

In February, 1977, the State Corporation Commission in Kansas issued a show-cause order setting a hearing on the motion that no new hook-up be allowed for new homes and commercial institutions served by utilities under the Commission's jurisdiction unless such homes are adequately insulated. The Commission is expected to issue in the near future an order establishing a maximum energy consumption standard for new construction served by utilities under its jurisdiction.

Infrared photography techniques are being used to reveal the energy efficiency of structures. The Minnesota Energy Agency, the U.S. Environmental Protection Agency (EPA), and ERDA are jointly conducting a five-month series of aircraft flights over 25 cities in Minnesota. EPA trains people to interpret the pictures to citizens of communities photographed by the infrared techniques. Some local governments, such as Omaha, Nebraska, have also conducted such programs.

In various states, bills have been proposed that would have provided an incentive for individuals to improve the energy efficiency of their homes. A 1975 New Hampshire bill proposed to exempt from reassessment for property taxes owner-occupied single residences following installation of insulation. In New York, two 1975 bills sought to exempt insulation, weather-stripping, storm windows and doors, and caulking compound from sales and use taxes. A similar bill was proposed in Iowa in 1975. A 1975 New Mexico bill would have exempted from gross income tax the receipts from sale of energy-savings materials such as insulation, weather stripping, storm windows and caulking compounds.

A 1974 New Jersey bill would have exempted sales of all materials used in conservation of heat within a building from the Sales and Use Tax Act. Another bill would have exempted energy conservation improvements from real property taxation. A bill providing for tax rebate for individuals who insulated their homes was proposed in Louisiana in 1975. An Indiana bill proposed in 1975 would have allowed an income tax deduction equal to the cost of insulation plus installation charges to an individual who insulated his or her home.

In Kansas, a bill introduced into the 1975 Session proposed ad valorem tax credits to certain homeowners whose homes met minimum insulation standards. That bill did not get out the of the House Assessment and Taxation Committee. The 1977 Legislature, however, enacted a bill which allows a state income tax deduction of 50 percent or $500, whichever is less, for the costs of labor and materials for the insulation of the taxpayer's principal dwelling.

Most states have implemented weatherization programs for the homes of the elderly and the poor. In Kansas, federally funded programs through community action agencies (there are seven in the state), area agencies on aging, and SRS Title XX funding provide funds for weatherizing homes of those eligible under each specific program.

Appliance Efficiency Standards - A recent California bill proposes that "no new residential-type gas appliance that is equipped with a pilot light shall be sold or installed in the state after an alternate means has been certified by the State Energy Resources Conservation and Development Commission." Wisconsin is considering a similar bill in 1977. A New York law was enacted in 1975 prohibiting the sale in the state of any television receiver which incorporates a design or which is arranged to maintain a continuous flow of electricity to certain components in order to provide immediate reception on being energized. The prohibition affects all sets sold after January 1, 1977.

The 1974 California comprehensive energy plan directed the State Energy Resources Conservation and Development Commission to develop regulations prescribing standards for minimum levels of operating efficiency for all appliances whose use requires a significant amount of energy on a statewide basis. Standards for numerous appliances have been promulgated.

In 1976, an Iowa bill was introduced in the Legislature proposing to require the Energy Council to promulgate energy efficiency standards for refrigerators, freezers, and air conditioners manufactured after December 31, 1976. A 1976 New York bill proposed to provide energy efficiency standards for new room air conditioners. The 1977 Wisconsin Legislature is considering a bill to establish minimum energy efficiency ratios (ERR) standards for room and central air conditioners.

Energy Conservation Public Information Programs - Various states have established programs in their energy offices to promote energy conservation. Minnesota created an energy conservation information center which "shall maintain a toll-free telephone information service and disseminate printed materials on energy conservation physical improvements, the techniques and materials used to conserve energy in buildings". The federal government is promoting the creation of State Energy Extension Service programs. The 1977 Georgia Legislature established an Energy Extension Service. The program is to provide technical and advisory assistance on conservation measures and alternative

energy systems, to conduct public education and training workshops on conservation and alternative energy, and to establish a feedback mechanism for staying aware of energy research and development needs at the local level.

Transportation Efficiency - The comprehensive Minnesota energy conservation law provides that the Commissioner of Highways begin an efficiency study of the present traffic flow system within the state as a means of increasing the efficiency of present traffic loads. The Commissioner of Administration is directed to study expanding the state telecommunication system to reduce travel between all state departments and agencies. A tax study commission is directed to study the feasibility of encouraging car pools and private busing through the use of tax incentives. The Minnesota Motor Vehicle Services Division and the Energy Office are directed to study the feasibility of modifying motor vehicle license fees to reflect energy consumption. In the area of highway, street, and parking lot lighting, authority is provided in the Minnesota law for promulgation of regulations establishing maximum energy use standards for street, highway, and parking lot lighting.

Alternative Energy Sources - Proposals to encourage the use of renewable energy resources have been considered in most states and enacted in many of them. A 1976 Hawaii bill proposed creation of a Hawaii Natural Energy Institute to study the feasibility of utilizing a wave motor device to harness ocean wave energy. Two California bills proposed in 1976 dealt with geothermal energy; one bill would have increased the maximum area for prospecting permits for geothermal resources.

A 1976 California bill, which proposed the "Alternative energy source bond law of 1976," was enacted. It authorized the issuance of bonds to develop alternative energy sources only on approval of the electorate. The proposed issuance of such bonds was turned down by the electorate in November, 1976. A 1976 Illinois bill proposed $2,000,000 in bonds for development of alternative energy resources.

The primary alternative energy resource which states have sought to support has been solar energy. The legislation adopted in other states include providing tax incentives and other inducements for adoption of solar energy.

By 1975, 12 states had taken action to reduce the tax burden associated with the high initial costs of solar energy systems. Subsequently, six states, including Kansas, passed legislation in 1976 which provide tax incentives. There are various types of tax incentives.

(a) Property Tax Incentives - Some states passed laws which exempt the entire value of the solar equipment, while others exempt a portion of the solar equipment from property taxation. A few states provide that the exemption be in

effect only for a limited number of years. Indiana, Arizona, Colorado, Illinois, Maryland, Montana, New Hampshire, North Dakota, Oregon, and South Dakota have enacted solar property tax laws. The 1977 Legislature in Kansas enacted a property tax rebate of 35 percent on buildings equipped with a solar system capable of providing 70 percent of the energy necessary to heat or cool the building.

(b) Sales Tax Incentives - State and local sales taxes on solar equipment add to an already substantial first cost of solar equipment. Texas and Michigan exempt the sale, lease, or rental of solar equipment from taxation.

(c) Income Tax Incentives - Property or sales tax incentives have a marginal effect on the marketability of solar systems, according to a recent source. New Mexico, and now Kansas and California in 1976, have passed laws to affect solar's first-cost handicap. Any taxpayer who installs a solar heating or cooling system is granted a credit against his or her income tax liability for the lesser of 25 percent of the system's cost or $1,000. These states also apply a credit to persons who install solar energy systems on their business property.

Eleven states, California, Colorado, Florida, Hawaii, Iowa, Maine, Montana, New Mexico, New York, North Carolina, and Ohio, have established and financially support an energy research and development fund for indigenous renewable energy sources. In most of these states, the fund is administered by an institute or state agency which awards grants for specific research and development projects. In Kansas, solar energy research is funded primarily by federal money through the budgets of the state universities. There is no special funding program in operation in Kansas.

Two states have amended their state building codes to accommodate uses of solar energy. Florida now requires all new single-family residential construction to be adaptable to the future addition of a solar heating device to the hot water system. Minnesota has set stringent building and design construction standards for all new buildings and for remodeling of existing buildings. Some states have legislated life-cycle cost analysis for state construction which may be an inducement to install solar energy units.

With the increased use of solar energy devices, the problem arises of assuring that solar collection devices have unobstructed access to direct sunlight. Oregon has enacted a law which permits local governments to enact zoning ordinances taking into account solar exposures, and Oregon and California

have enacted laws providing formal procedures whereby property owners negotiate solar easements for the protection of access to sunlight. Massachusetts is considering a solar rights bill that would protect "the light necessary for solar systems to work," and would authorize new state zoning regulations and modified ordinances which would be required to include zoning provisions to prevent interference of the solar systems that will be built in future years. A proposed Colorado bill provides that a homeowner could not plant a tree that would shade, immediately or in the future, a neighbor's existing solar-energy collector or reflector. Various states including Kansas have enacted laws requiring that solar easements be in writing, be properly filed and contain certain information.

Three states, Connecticut, Minnesota, and Florida have enacted statutes authorizing state agencies to set efficiency standards for solar energy systems.

Five states have legislated in this area, most with the hope of securing the site for the national solar energy research institute. Some legislation provides for creation of a state agency to also promote investment in solar energy research and applications in the state. Also, such agencies are to serve as clearing houses for general and technical information on solar energy. In 1977 the New Mexico Legislature authorized $500,000 for solar energy research at New Mexico State University.

Four states, Iowa, Colorado, Nevada, and New Mexico, have appropriated funds for the demonstration of solar heating and cooling systems on state-owned or financed buildings. In Kansas, 1977 S.C.R. 1601 directs the Secretary of Administration to consider installation of solar systems for all new state construction. Also, the Secretary is directed to provide solar demonstration projects on state buildings. A unique law passed by the Massachusetts Legislature in 1977 allows banks and lending institutions to make special loans to homeowners for the purchase of solar energy systems. Such loans could be for up to ten years and $9,500.

Energy Conservation in the Utility Sector - Proposals to conserve energy in the electric utility sector are increasing in number. Utility commissions have three ways of reducing the amount of energy required to produce electricity; regulation, encouraging voluntary conservation, and changing rate structures. Recent legislation in Pennsylvania gives the Pennsylvania Utilities Commission an in-house research and planning agency that will help it forecast state energy demand and design pricing structures to encourage conservation.

In California the Energy, Resources and Conservation Development Commission is authorized to conduct industry energy audits with the hope that voluntary measures can accomplish energy conservation.

In Kansas, 1976 H.B. 2662 was proposed which would have empowered the State Corporation Commission to require any public utility engaged in the sale or resale of natural gas in the state and any municipally owned or operated gas company to discontinue service to its customers for purposes which are found by the commission to be wasteful and not required for the convenience and necessity of the public. The bill did not pass.

Under their authority to prevent wasteful uses of gas, state regulatory commissions have begun to issue orders restricting certain end uses of gas. However, most often the commissions await legislative direction in this matter. In Minnesota, the use of decorative gas lamps is now prohibited by statute. Natural gas utilities and LP gas distributors are required to notify customers of the prohibition. The 1977 Kansas Legislature considered H.B. 2225 which proposed to require all gas utilities to disconnect all gas lines from decorative gas lamps by July 1, 1978. The bill remains in the House Committee on Energy and Natural Resources.

Land Use Planning for Energy Conservation - The Davis, California, City Council has adopted a comprehensive energy conservation plan. The city's building ordinance which was designed to reduce energy demands for heating and cooling of buildings included elements such as building orientation so as to take maximum advantage of natural heating and cooling. Also, the comprehensive plan encourages maximum use of bicycle transportation and walking. Zoning is to be changed to require that buildings optimize the effects of natural heating. Extensive planting of trees along streets and in parking lots will create a natural cooling effect in summer. The city is switching to energy-saving vehicles. Also, Davis will guarantee "sun rights" of new residential developments so that owners will not fear that their solar equipment will be shaded by a neighbor in the future.

Conservation Gas - Gas saved as a result of properly insulating homes, equipping thermostats with automatic controls, and installing furnace modifications designed to improve efficiency has been designated "conservation" gas. Cost of these alterations has been financed by including the incurred costs in rate base of the utilities in pilot projects in three states conducted by the Federal Energy Administration. In Kansas, 1977 H.C.R. 5031 directs the State Corporation Commission to study the feasibility of permitting utilities to consider "conservation" gas as a gas supply option.

Recycling of Energy Intensive Materials - On November 2, 1976, voters in Michigan and Maine approved referendums to require deposits on beverage containers. (Two other states did not approve referendums on the issue.) Oregon and Vermont presently have such laws requiring deposits on all beverage containers sold in those states. South Dakota's law is a complete ban on non-returnable containers.

Conservation Severance Tax on Resources - Certain states now impose severance taxes on minerals that are extracted from beneath the soil of that state. Montana, for example, imposes a severance tax amounting to 30 percent of the selling price on coal having a medium BTU content, and 20 percent tax on low-BTU coal. Louisiana imposes a severance tax of seven cents, per mcf, on natural gas produced in the state. New Mexico's Legislative Energy Committee is considering an "equalizing" severance tax which would equalize the sales price of gas being produced in the state. (The tax would amount to the difference between the sale price of the gas being produced and the highest price being permitted by the Federal Power Commission). The equalizing

taxes would be used to reduce the consumption of both natural gas and oil and thereby would be called "conservation" taxes. It is intended to make other fuels more competitive with natural gas and place the same economic pressures on gas users to conserve fuel as have been placed on oil users since early 1974. At present a conservation severance tax of eighteen-one-hundredths of one percent of taxable value of all oil and gas products is imposed in New Mexico.

PROPOSALS IN THE

NATIONAL ENERGY PLAN

1. Gas guzzler tax
2. Standby gasoline tax
3. Raise mileage standards for post 1985 period above 27.5 miles per gallon
4. Set standards for trucks above 6,000 pounds
5. Remove 10 percent excise tax on busses
6. Raise tax on aviation fuel from 7 to 11 cents per gallon
7. Eliminate 2 cents per gallon rebate on fuel used by motorboats
8. Set higher fuel efficiency standards for Federal fleet
9. Federal vanpooling program
10. Enforce 55 miles per hour limit through restrictions on Highway Trust Fund
11. Develop program to compensate States for loss of State gasoline tax revenues through sources such as the Highway Trust Fund
12. Residential tax credit for insulation and other conservation measures
13. Require utilities to provide insulation and other conservation measures
14. Create secondary market for home conservation loans
15. Increase funds for weatherization program for the poor (up to $200 million annually)
16. Secretary of Labor encourage CETA fund recipients provide labor for weatherization program
17. Secretary of Commerce encourage Local Public Works applicants to include energy conservation actions in their proposals
18. Rural home conservation program through loans provided by the Department of Agriculture
19. Business tax credits for insulation and other conservation measures
20. $900 million program of grants to schools and hospitals for conservation measures
21. Speed-up mandatory standards for new buildings by one year
22. Executive order to improve fuel efficiency in Federal buildings

23. Federal solar building program (up to $100 million over the next three years)

24. Mandatory appliance standards

25. Tax credit for industrial conservation measures

26. Exempt industries using cogeneration from Federal and State public utility regulation

27. Assure fair rates for power sold and bought by cogenerators

28. Tax credit for cogeneration

29. Demonstrate district heating at major ERDA facilities

30. Require electric utilities to phase out promotional, declining block, and other rates that do not reflect cost

31. Require utilities to offer off-peak rates

32. Require electric utilities to offer interruptible rates

33. Prohibit master metering

34. Prohibit gas utilities from using declining block rates

35. Establish regulatory program for gas utilities similar to the one for electric utilities

36. Expansion of interconnections and power pools

37. Increase price of newly discovered oil to 1977 world price over a three-year period

38. Tertiary recovery of oil would receive world price

39. Crude oil equalization tax

40. Provide authority to establish a lid on both producer prices and the wellhead tax if world oil prices increase faster than inflation

41. Increase price of new gas to the Btu equivalent of the refiner acquisition costs (without tax) of all domestic crude oil, approximately $1.75 per McF

42. Set a ceiling of $1.42 per McF for <u>interstate</u> natural gas made available at the expiration of existing contracts

43. Set a ceiling of $1.75 per McF for intrastate natural gas made available from expiration of existing contracts

44. Allocate high-priced gas to industry and other low priority uses

45. Extend FPC jurisdiction to synthetic natural gas facilities

46. Allow the President to set higher incentive prices for hard to get, expensive gas, such as that found in the geopressurized zone

47. Designate a coordinator to expedite movement of Alaskan oil to markets

48. Provide authority to limit Elk Hills production

49. Subject Alaskan oil to $11.28 wellhead ceiling price, exempt it from the equalization tax, and treat it like uncontrolled oil for purposes of equalization tax

50. Secretary of the Interior would review OCS leasing procedures

51. Allow shale oil the world price of oil

52. Create task force to identify areas of the country where synthetic natural gas plants can be built

53. Increase drilling for Devonian shale

54. Assess the dissolved gas potential in the geopressurized zone along the cost of the Gulf of Mexico

55. Study the national energy transporation system

56. Eliminate gasoline price controls, if feasible, with authority to reimpose controls if prices rise above a predetermined level

57. Diversify sources of imports by government to government negotiations to remove obstacles to oil development

58. Create a 1 billion barrel Strategic Petroleum Reserve

59. Put in place contingency plans

60. Taxes on industry and utility use of gas and oil

61. Revise coal conversion regulatory program

62. Endorse use of best available control technology

63. Encourage States to designate lands under significant deterioration within 3 years

64. States would be required to expedite reclassification to enable energy planning to proceed expeditiously

65. Endorses study of EPA non-attainment policy

66. Study of health effects of increased coal production

67. Conduct a $3 million study of the long-term effects on the atmosphere of carbon monoxide and hydrocarbons

68. Review of stack gas scrubbing technology

69. Expand research on fluidized-bed combustion

70. Expand research on coal cleaning

71. Initiate design of a commercial-sized solvent refined coal plant

72. Pursue an active RD&D program for high Btu coal gasification

73. Pursue an active RD&D program on producing synthetic crude oil from coal

74. Defer indefinitely commercial reprocessing

75. Cancel construction of the Clinch River Breeder Reactor Demonstration Project and all component construction, licensing and commercialization efforts

76. Reopen the order books for U.S. uranium services

77. Guarantee delivery of enrichment services to countries that share U.S. non-proliferation objectives

78. Expand U.S. enrichment capacity with a centrifuge plant

79. Reorient ERDA's Natural Uranium Resources Evaluation program and include an assessment of thorium reserves

80. Expand NRC's audit and inspection staff to increase the number of unannounced inspections and to assign one permanent inspector to each nuclear plant

81. Make mandatory the voluntary reporting of minor mishaps and component failures at operating reactors

82. Develop firm nuclear siting criteria with clear guidelines to prevent siting of future nuclear plants in densely populated locations, in valuable natural areas, or in potentially hazardous locations

83. Study the entire nuclear licensing process, establish objective criteria for licensing and drop extensive individual licensing for plants based on standard designs

84. Encourage a national industry-labor agreement dealing with construction of nuclear power plants

85. Create a task force under the Assistant to the President for energy to review the entire ERDA waste management program

86. Corps of Engineers study on the potential for additional hydropower installations at existing dam sites

87. Tax credit for residential installation of solar equipment

88. Business tax credit for investments in solar energy

89. Encourage States to amend property tax laws to exempt solar installations from assessments

90. Encourage States to enact legislation to protect access to the Sun and promote consumer education

91. Increase research on solar systems, including photovoltaic, biomass, ocean thermal, etc.

92. Allow biomass and municipal solid waste to receive same credits as coal under coal conversion program

93. Extend to geothermal drilling the tax deduction for intangible drilling costs that is now available for oil and gas drilling

94. Encourage Federal agencies to streamline procedures to remove barriers to the development of geothermal resources

95. Create a new Office of Small-Scale Technologies in ERDA

96. Increase research on geothermal energy

97. Reduce the rate of growth of energy consumption to below 2 percent

98. Reduce gasoline consumption below the 1976 level

99. Reduce oil imports to less than 6 million barrels a day

100. Establish a Strategic Petroleum Reserve of 1 billion barrels

101. Increase coal production by about two-thirds, to more than one billion tons annually

102. Insulate 90 percent of American homes and all new buildings

103. Use solar energy in more than 2½ million American homes

104. Create a Petroleum Production and Reserve Information System

105. Create a Petroleum Company Financial Data System

106. Create an Emergency Management Information System

107. Create an office under the Under Secretary for planning and evaluation to promote competition

108. Review need for further steps, including legislation, on horizonally and vertically integrated firms

109. Support "dealer day in court" legislation

110. Provide intangible drilling costs relief to independent producers comparable with the tax treatment their corporate competitors receive

111. Review of Federal programs that provide funds for planning new energy development

112. Develop a redesigned emergency assistance program to be administered by HEW

THE STATE CORPORATION COMMISSION

OF THE STATE OF KANSAS

Before Commissioners: G.T. Van Bebber, Chairman
William G. Gray
R.C. Loux

In the Matter of the Issuance of a Show Cause Order Concerning all Electric and Gas Utilities with Reference to Changes in Tariffs to Restrict Connections in New Residential Dwellings and New Commercial Buildings to Those Meeting Insulation Requirements.	)	DOCKET NO. 110,766-U

ORDER

Now, on this 13th day of May, 1977, the above-entitled matter comes on for consideration and determination by the State Corporation Commission of Kansas upon its own motion. The Commission, having examined all its files and records and being fully advised in all the premises, finds and concludes that:

I. INTRODUCTION

1. On February 25, 1977, the Commission issued an order directing jurisdictional gas and electric utilities to file tariffs by April 7, 1977, providing that no new connections or attachments to their systems would be made unless new residential dwellings and new commercial buildings had been equipped with adequate insulation. The tariffs would apply to new construction and would provide that new residential dwellings must have storm doors and windows and must be so constructed that the total heat loss does not exceed 35 BTU's per square foot per hour of heated finished living area, and installed air conditioning shall have an energy efficiency ratio of 7.5 or more BTU's of heat rejection per watt of input. New commercial buildings must be constructed to limit heat transmission loss to 35 BTU's per square foot per hour of heated area and meet the same air-conditioning energy efficiency standards. The tariffs would also provide that the utilities shall require written certification of adequate thermal treatment and air conditioner rating, and provide for inspection by the utilities before making any new connections

covered by the tariffs, which would apply to such attachments made on and after June 1, 1977. Pursuant to the order, any jurisdictional utility not filing such tariffs by 10 A.M., April 7, 1977, was required to appear before the Commission at that time and show cause why such tariffs had not been filed.

2. A hearing was held on April 7, 1977, as scheduled. At that hearing the Commission suspended indefinitely the date of June 1, 1977 as the effective date of the tariffs required by the order of February 25, 1977 (TR 44). Testimony of three witnesses was heard, and a second hearing was scheduled for 10:00 A.M., April 25, 1977. Parties who desired to testify at this hearing were directed to pre-file testimony or submit a summary of expected testimony by April 18th (TR 45); parties desiring to submit comments were asked to do so prior to April 25th (TR 9). Eight witnesses testified at the hearing on April 25th; no other witnesses desiring to be heard, the hearings in this docket were closed.

3. APPEARANCES

Appearances in this docket were entered by Floyd E. Gehrt, Topeka, Kansas, for Associated General Contractors of Kansas, Inc., Intervenor; Terry O'Keefe, Wichita, Kansas, for Home Builders Association of Kansas, Inc., and Wichita Area Builders Association, Intervenors; Gerald L. Goodell, Topeka, Kansas, for Kansas Savings & Loan League, Intervenor; Raymond S. Menendez, Topeka, Kansas, for Kir-Ron Enterprises, Intervenor; William F. Sheehan III, Topeka, Kansas, for Kansas Society of Architects, Inc., Intervenor; Terry O'Keefe, Wichita, Kansas, for Air-Conditioning & Refrigeration Institute, Comfort Supply Company, and Westinghouse Corporation; Allan J. Arlow, Chicago, Illinois, and Richard C. Byrd, Ottawa, Kansas, for Western Power Division, Central Telephone & Utilities Corporation; Larry Hall, Hastings, Nebraska, and Richard C. Byrd, Ottawa, Kansas, for Kansas-Nebraska Natural Gas Co.; Donal Guffey, Kansas City, Missouri, and Richard C. Byrd, Ottawa, Kansas, for Gas Service Company; Richard C. Byrd, Ottawa, Kansas, for Greeley Gas Company, SEKCO Gas Company, and Empire District Electric Company; Robert W. Green, Ottawa, Kansas, and David L. Smith, Kansas City, Missouri, for Kansas City Power & Light Company; Bob Storey, Topeka, Kansas, and William H. Reeder, Independence, Kansas, for Union Gas System, Inc.; Warren D. Andreas, Winfield, Kansas, for the City of Winfield; D. Douglas Stratton, Wichita, Kansas, for Kansas Gas & Electric Company; James L. Grimes, Jr., Topeka, Kansas, for Kansas Power & Light

Company, Southwestern Public Service Company, and Commercial Pipe Line Company, Inc.; Thomas E. Gleason, Ottawa, Kansas, for Central Kansas Power Company, Inc.; Robert Pennington, Chanute, Kansas, for the City of Chanute; David McClure, Wichita, Kansas, for Arkansas-Louisiana Gas Company; James Wright, Topeka, Kansas, for Carrier Air-Conditioning Company and Byrant Air-Conditioning Company; Thomas H. Sachse, Ottawa, Kansas, appearing with Robert W. Green and David L. Smith for Kansas City Power & Light Company; John Helser, Wichita, Kansas, for Kansas Gas & Electric Company; and Thomas J. Pitner, General Counsel, appearing with Richard W. Snyder, Assistant General Counsel, for the Commission's staff and public generally.

II. FINDINGS

4. The evidence of record indicates a continuing decline of petroleum and natural gas supplies in the United States and in Kansas, resulting in a need for stringent energy conservation measures now, rather than waiting for the energy crisis to worsen. This is particularly true in Kansas, which places great reliance on the use of natural gas in heating homes and commercial buildings, as well as generating electricity. Additionally, large amounts of electricity are used for space heating and air conditioning, both in homes and in commercial establishments. During the last 12 months, 66% of the electricity used in Kansas was generated by the use of natural gas and oil (Robel, TR 16). Oil reserves are declining by 3.5% a year and natural gas reserves are declining by 4.7% a year; production of these two products is declining at an even faster rate (Robel, TR 16-17). Residents of Kansas will be facing increasing energy costs, and action to reduce energy waste is essential to protect our dwindling supplies of natural gas and oil to the maximum extent possible. With few exceptions, all parties agreed with the Commission's action initiating these proceedings and felt it was essential that steps be taken to conserve energy by imposition of insulation requirements which would reduce heat loss and increase the energy efficiency ratio (EER) of air conditioning.

The only real issues were the date the Commission order should become effective, the EER of 7.5 set forth in the Commission's order initiating this proceeding and who should certify that new residential dwellings and new commercial buildings meet the standards ordered by the Commission. With regard to the effective date of our order, most of the parties who presented testimony or comments in the

hearing stated it would take about three years to redesign and produce air conditioning units with an EER of 7.5 (Hudelson, TR 71; Printy, TR 107; Cundiff, TR 139; Goode, Comments). Mr. Walter Kalman of the Air Conditioning and Refrigeration Institute, whose members manufacture more than 90% of all air conditioning and refrigeration equipment, testified that a lead time of five years should be allowed to meet the standards proposed by the Commission (TR 27). The Coleman Company and Carrier Division of the Carrier Corporation now produce air conditioning equipment which meets the EER standard of 7.5 proposed by the Commission (Hudelson, TR 55; Printy, TR 106); further, Mr. Hudelson testified that of the 6291 models with a capacity of less than 65,000 BTU's listed in the directory of the Air Conditioning and Refrigeration Institute, approximately 20%, or 1258 models, have an EER of 7.5 (TR 55). The other basic objection to an effective date of June 1, 1977 (now suspended) was that wholesalers and retailers of air conditioning equipment have large inventories of such equipment in stock which could not be disposed of in Kansas, and the resulting loss would put them out of business (Cundiff, TR 131, 137).

The Commission now believes that an effective date of June 1, 1977 would work an undue hardship on manufacturers, wholesalers and retailers of air conditioning equipment. However, we do not believe that our order should be delayed two or three years, as the need for energy conservation exists now and further delay would only worsen the existing shortage of energy supplies. We believe that November 1, 1977 is a reasonable date for implementation of our standards. Several companies already manufacture equipment which meet our proposed standards and an effective date of November 1st would allow wholesale and retail dealers an opportunity to dispose of, or substantially reduce, their existing inventories (Hudelson, TR 56). Further, as our order relates only to new residential dwellings and new commercial buildings, there would still be a market of existing structures for air conditioning equipment in stock on November 1st.

In regard to the EER of 7.5 set forth in our initial order, we have already discussed the manufacturer's views concerning this standard from the standpoint of time. Additionally, testimony and comments were presented indicating the problems that would arise from having different standards in different states

(Hudelson, TR 63; Comments, Pietsch, General Electric Co.). Another problem discussed was the additional cost of more efficient air conditioning units and the fact that it would deprive people of a choice as to what they could buy (Comments, Pietsch; Hudelson, TR 56; Cundiff, TR 137, 138). However, there was also testimony that more efficient air conditioning units, better construction and more insulation would result in a saving to the consumer which would offset the additional cost incurred initially (Sullivan, TR 97, 98; Fink, TR 124, 125). An additional benefit would be a possible reduction in generating capacity required by electric utilities to meet their peak load demands. The Commission agrees that having different standards in different states would impose an undue burden on manufacturers of air conditioning units. California is the only state requiring such standards at the present time, although other states are considering the same standards and the California standards will probably be adopted by the Federal government (Hudelson, TR 57). California requires an EER of 7.0 for air conditioning units. Manufacturers of air conditioning units are in the process of producing units which will meet that standard and additional changes in design and production would not be required to meet a standard of 7.0. Accordingly, we believe the California standards are reasonable, and by following such standards the problem of different standards in several states would be eliminated, at least as it relates to our order.

Concerning our proposed EER standard for air conditioning units, consideration must also be given to heat pumps, which provide both heating and cooling. The testimony concerning heat pumps indicated that heat pumps are less efficient on the air conditioning side due to compromises which must be effected between evaporation and condenser functions; therefore, the EER for heat pumps should be slightly less than for straight cooling equipment (Hudelson, TR 57, 58). This is a reasonable recommendation and we will adopt it.

Our initial order would require certification by the utilities that heat loss and EER standards are met before the utilities may connect service to new residential dwellings and new commercial buildings. Representatives of the Gas Service Company and Kansas City Power and Light Company testified that this requirement would impose an unreasonable, costly burden on the utilities (Sullivan, TR 88, 89; Fink, TR 118, 119). Such a requirement would entail hiring of additional

personnel to conduct inspections, and would expose the utilities to litigation and possible liability in the event of a refusal to provide service. Both utilities proposed that the customer provide the utility involved with a certificate of compliance, executed by the customer himself or his agent, such as the architect, builder or heating-cooling contractor. This would also eliminate a duplication of effort by different utilities, as most residences and commercial buildings in Kansas utilize both gas and electric service. Mr. Fink testified that The Gas Service Company serves 212 communities in Kansas and does not have sufficient qualified personnel to conduct the necessary inspections (TR 119). Two witnesses who are architects testified that it would be no problem to design structures meeting the standards proposed by the Commission (Kingdom, TR 155; Bullinger, TR 170); however, they could only certify as to the design, not that the completed structure complied with the proposed standards. After consideration of all evidence relating to this issue, the Commission has concluded that the most reasonable and practical method for certifying that new structures covered by this order meet the heat loss and cooling EER standards imposed is to require the owner to certify that the structure meets the standards established by this order. Further, the owner will attach supporting statements from the architect and the contractor, if either or both such persons are employed in the design and construction of the residential dwelling or commercial building. Additionally, the utilities will provide the owner or building contractor a set of the standards to be met at the time application is made for temporary service during construction.

One other problem area was raised by the evidence, namely, identifying what projects would come within the order; e.g., the status of construction work already in progress on the effective date of our order. Further, testimony was received that some large projects take three years planning and are still not in the construction stage (Kingdom, TR 150). Other problems might arise in meeting budgets that have already been established and loan programs set up to finance the projects (Kingdom, TR 149). We believe that the majority of such problems will be resolved by making the effective date of our order November 1, 1977. However, for clarification, our order will not apply to new construction where the foundation of the structure has been completed on November 1, 1977; our order will apply to all other new construction of residential dwellings and commercial buildings.

CONCLUSIONS

5. Based on the foregoing, it is concluded:

a. All natural gas and electric utilities subject to the jurisdiction of this Commission shall file tariffs with the Commission no later than September 1, 1977, providing that no new connections or attachments to their system will be made unless newly constructed residential dwellings and newly constructed commercial buildings are equipped with adequate insulation to meet the standards set forth hereinafter, and newly constructed residential dwellings are equipped with storm doors and windows, or other satisfactory window and door thermal treatment.

b. New residential dwellings shall be constructed so the total heat loss, based on the ASHRAE Handbook of Fundamentals, does not exceed 35 BTU 's per square foot per hour of heated floor area of finished living space, at a design temperature differential of 80 degrees Fahrenheit with a maximum of 1 1/2 air changes per hour.

c. New commercial buildings shall be constructed so heat transmission loss of heated areas, based on the ASHRAE Handbook of Fundamentals, does not exceed 35 BTU's per square foot per hour of floor area based on a design temperature differential of 80 degrees Fahrenheit.

d. The energy efficiency ratio of all air conditioners in new residential dwellings and new commercial buildings on and after November 1, 1977, shall be not less than 7.0; the energy efficiency ratio of heat pumps in such structures shall be not less than 6.7.

e. The energy efficiency ratio of all air conditioners in new residential dwellings and new commercial buildings on and after November 1, 1979 shall be not less than 8.0; the energy efficiency ratio of heat pumps in such structures shall be not less than 7.5.

f. In the case of a structure which is heated and/or cooled in only a portion of the structure, this order shall apply to the heated and/or cooled portion only.

g. Before connection or attachment of service to a new residential dwelling or new commercial building, all gas and electric utilities shall require a certificate from the owner that the structure meets the standards set forth herein. The owner will also provide supporting statements from the architect and the building contractor, if either or both such persons are employed for the design and construction of such dwellings or buildings.

6. The following definitions shall apply in implementation of this order:

a. New residential dwelling: All new hotels, motels, apartment houses, lodging houses, private homes and other residential dwellings, construction of which commences on and after the effective date of this order. The order does not apply to mobile homes, or any new residential dwelling where the foundation has been completed by November 1, 1977. This definition shall apply to buildings of mixed occupancy.

b. New commercial buildings: Any building used to provide, at wholesale or retail, storage, services, supplies, goods or products to the public, other than a building used for the purpose of manufacturing raw material into a finished product. This order does not apply to any new commercial building whose foundation has been completed by November 1, 1977.

c. Energy efficiency ratio (EER): The ratio of net cooling capacity in BTU/hr. to total electric input in watts.

d. Heated space: Space within a building which is provided with a positive heat supply having a connected output capacity in excess of ten (10) BTU/hr. per square foot.

e. "Shall" or "will": As used in this order is mandatory for performance.

7. Model tariffs for gas and electric utilities are attached as addenda to this order.

IT IS, THEREFORE, BY THE COMMISSION ORDERED that no later than September 1, 1977 all gas and electric utilities subject to the jurisdiction of this Commission shall file tariffs with the Commission in compliance with paragraph 5 of this order.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further order or orders as it may deem necessary.

Van Bebber, Chmn.; Gray, Com.; Loux, Com.

Steven D. Carter

Steven D. Carter, Secretary

RWS:gm

ORDER MAILED JUN 28 1977

ELECTRIC

Addendum to the General Rules and Regulations for Electric Service to conform with the Commission's Order in Docket No. 110,766-U.

Thermal Treatment: Standards specified hereunder shall be effective on and after November 1, 1977 for all new service provided for residential dwellings and commercial buildings for which the foundations have not been completed on November 1, 1977. Before connection or attachment of service to a new residential dwelling or new commercial building, the utility shall require a certificate from the owner that the structure meets the standards set forth herein. Further, the owner will attach supporting statements from the architect and contractor, if either or both such persons were employed in the design and construction of the new residential dwelling or commercial building. Compliance with such certification is required for permanent Utility Service.

(a) A new residential dwelling must be equipped with storm windows and storm doors or other satisfactory window and door thermal treatment. Total heat loss, based on the ASHRAE Handbook of Fundamentals, of a new residential dwelling shall not exceed 35 BTU's per square foot per hour of floor area of heated finished living space at a design temperature differential of 80 degree Fahrenheit with a maximum of 1½ air changes per hour.

(b) New commercial buildings must be constructed so heat transmission loss of heated areas, based on the ASHRAE Handbook of Fundamentals, does not exceed 35 BTU's per square foot per hour of floor area based on a design temperature differential of 80 degrees Fahrenheit.

(c) All installed air conditioning systems on and after November 1, 1977 shall have an energy efficiency ratio of 7.0 BTU's or more of cooling capacity per watt hours of input based on the current ARI Standards. All heat pump systems, on and after November 1, 1977 shall have an energy efficiency ratio of 6.7 BTU's or more of cooling capacity per watt hours of input based on current ARI Standards.

(d) All installed air conditioning systems, on and after November 1, 1979, shall have an energy efficiency ratio of 8.0 BTU's or more of cooling capacity per watt hours of input based on the current ARI Standards. All heat pump systems, on and after November 1, 1979 shall have an energy efficiency ratio of 7.5 BTU's or more of cooling capacity per watt hours of input based on current ARI Standards.

GAS

Addendum to the General Rules and Regulations for Gas Service to conform with the Commission's Order in Docket No. 110,766-U.

Thermal Treatment: Standards specified hereunder shall be effective on and after November 1, 1977 for all new service provided for residential dwellings and commercial buildings for which the foundations have not been completed on November 1, 1977. Before connection or attachment of service to a new residential dwelling or new commercial building, the utility shall require a certificate from the owner that the structure meets the standards set forth herein. Further, the owner will attach supporting statements from the architect and contractor, if either or both such persons were employed in the design and construction of the new residential dwelling or commercial building. Compliance with such certification is required for permanent Utility Service.

(a) A new residential dwelling must be equipped with storm windows and storm doors or other satisfactory window and door thermal treatment. Total heat loss, based on the ASHRAE Handbook of Fundamentals, of a new residential dwelling shall not exceed 35 BTU's per square foot per hour of floor area of heated finished living space at a design temperature differential of 80 degree Fahrenheit with a maximum of 1½ air changes per hour.

(b) New commercial buildings must be constructed so heat transmission loss of heated areas, based on the ASHRAE Handbook of Fundamentals, does not exceed 35 BTU's per square foot per hour of floor area based on a design temperature differential of 80 degrees Fahrenheit.

Issues Considered in a Full Scope Examination

Issues addressed under Elmer Fox, Westheimer & Co.'s full scope examinations are as follows:

- Rate base
  - Method selected - end of period, average of test period, future test year.
  - Valuation methods employed for rate base.
  - Proper treatment of construction work in progress.
  - Rate of returns earned on services provided by related entities.
  - Consideration as to whether all plant is either used or useful in rendering utility service.
  - Effect of adjustments to plant arising out of any FPC compliance audits.
  - Evaluation of rates of interest being capitalized in plant costs.
  - Consistency of company overheads being capitalized in plant costs.
  - Evaluation of obsolete or retired plant included in rate base.
  - Consideration of cash working capital methods employed not in compliance with standard forty-five day rule.
  - Study of cash flow characteristics of the company, cash planning methods utilized by corporate treasurers and short and long-term plans for cash needs.
  - Consideration of normal materials and supplies stock.
- Income statement
  - Representative test year selected.
  - Expense allocations from related entities.
  - Effect of union wage agreements, strikes or retroactive payments.
  - Proper matching or synchronizing of income statement with rate base.
  - Consideration of climatical conditions (degree days) on representative sales.
  - Representative mix of sales between high and low gross margin customers.
  - Representative mix of fuel supplies from various suppliers or sources.
  - Representative mix of electricity purchased versus production from own turbines.
  - Representative storm damages.

- Consideration of income tax settlements for prior years.
- Effect of merchandising operations.
- Effect of advertising programs.
- Effect on fiscal test years for company accounting adjustments not prepared except at calendar year-end.
- Proper inclusion of out-of-period adjustments on historical test year.
- Effect of changes in depreciation rates.
- Consideration of flow-through income tax accounting versus normalized income tax accounting.
- Construction income tax benefits.
- Determination that expense accrual policies are consistently applied.
- Consideration of bad debt experience ratios with recent trends.
- Consideration of fuel pass-along clauses.

– Capital structure

- Comparison of existing capital structure with historical trends.
- Consolidated capital versus parent or subsidiary separate capital structure.
- Double leverage concepts.
- Yield to common equity resulting from total rate of return earned or granted.
- Consideration of imbedded interest costs.
- Effect of recent debt or equity issues.

– Allocation methods employed

- Consideration as to consistency of methods employed between various states or jurisdictions.
- Consideration as to consistency of methods employed in prior cases.
- Consistency of methods employed in relationship to cost characteristic of plant or expenses being allocated.
- Consideration as to the proper allocation of company administrative costs to electric, gas or water for a multiutility company.

– Rate tariffs proposed

- Review of cost of service studies or method employed.
- Determination that proposed rate tariffs generate revenue required ...

- Consideration as to new tariffs added or deleted.
- Consideration as to the effect of any fuel riders added or rolled into base rate.
- Consideration of effect of any seasonal rates.
- Consideration of any rate regrouping or combining.

KANSAS GAS AND ELECTRIC COMPANY

ELEMENTS OF THE KANSAS JURISDICTIONAL RATE BASE

May 31, 1974

Line No.		A	B	C	D	E
			Applicant proposed adjustments			
		Balance per books as of May 31, 1974	Annualize depreciation expense to year-end level	Pro forma additional fuel stock	Pro forma additional material and supplies	Balance as adjusted by Applicant
1	Electric plant in service	$429,335,956	$	$	$	$429,335,956
2	Reserve for depreciation	96,201,792	1,873,300			98,075,092
3	Net electric plant in service	333,134,164	(1,873,300)	-	-	331,260,864
4	Plant held for future use	171,900				171,900
5	Construction work in progress	654,573 (1)				654,573 (1)
6		333,960,637	(1,873,300)	-	-	332,087,337
7	Working capital:					
8	Fuel stock	2,765,184 (2)		7,186,266		9,951,450
9	Plant materials and operating supplies	2,321,272 (2)			376,249	2,697,521
10	Prepayments	432,168 (2)				432,168
11	Cash	-				-
12	Total working capital	5,518,624	-	7,186,266	376,249	13,081,139
13	Total rate base	$339,479,261	$(1,873,300)	$7,186,266	$376,249	$345,168,476

14 (1) Represents a computation made by Applicant rather than a book balance as of May 31, 1974.

15 (2) Represents an average for the test period.

KANSAS GAS AND ELECTRIC COMPANY

ELEMENTS OF THE KANSAS JURISDICTIONAL RATE BASE

May 31, 1974

Line No.		F Applicant's allocation to REC and PWM	G Applicant's allocation to Kansas jurisdictional	H Staff adjustments - increase (decrease) No. 1	I Staff adjustments - increase (decrease) No. 2	J Staff adjustments - increase (decrease) No. 3
1	Electric plant in service	$24,102,291	$405,233,665	$	$	$
2	Reserve for depreciation	5,182,850	92,892,242			
3	Net electric plant in service	18,919,441	312,341,423	-	-	-
4	Plant held for future use	6,046	165,854	(165,854)		
5	Construction work in progress	3,927	650,646		(650,646)	
6		18,929,414	313,157,923	(165,854)	(650,646)	-
7	Working capital:					
8	Fuel stock	814,029	9,137,421			(6,598,429)
9	Plant materials and operating supplies	63,910	2,633,611			
10	Prepayments	24,245	407,923			
11	Cash	-	-			
12	Total working capital	902,184	12,178,955	-	-	(6,598,429)
13	Total rate base	$19,831,598	$325,336,878	$(165,854)	$(650,646)	$(6,598,429)

KANSAS GAS AND ELECTRIC COMPANY

ELEMENTS OF THE KANSAS JURISDICTIONAL RATE BASE

May 31, 1974

Line No.		K	L	M	N	O
		Staff adjustments - increase (decrease)				Staff adjusted Kansas jurisdictional rate base
		No. 4	No. 5	No. 6	No. 7	
1	Electric plant in service	$	$	$	$	$405,233,665
2	Reserve for depreciation					92,892,242
3	Net electric plant in service	-	-	-	-	312,341,423
4	Plant held for future use					-
5	Construction work in progress					-
6		-	-	-	-	312,341,423
7	Working capital:					
8	Fuel stock	625,156	(1,284,026)			1,880,122
9	Plant materials and operating supplies				(2,161,622)	471,989
10	Prepayments			(48,539)		359,384
11	Cash					-
12	Total working capital	625,156	(1,284,026)	(48,539)	(2,161,622)	2,711,495
13	Total rate base	$625,156	$(1,284,026)	$(48,539)	$(2,161,622)	$315,052,918

Docket No. 102,640-U
Schedule B-3

KANSAS GAS AND ELECTRIC COMPANY

COMPUTATION OF EXCESS CASH WORKING CAPITAL AVAILABLE

Line No.		A	B
1	Kansas pro forma operation and maintenance expense (Schedule C-1)		$43,713,972
2	Less purchased power		661,741
3	Expenses requiring cash working capital		$43,052,231
4	Forty-five days of operation and maintenance expenses exclusive of		
5	purchased power (12.5%)		$ 5,381,529
6	Deductions from the forty-five days allowable expenses:		
7	Federal income tax on income	$1,250,251	
8	State income tax on income	188,543	
9	Ad valorem taxes	5,693,686	
10	City gross receipts tax	410,671	
11	Total deductions		7,543,151
12	Excess cash working capital provided		$ 2,161,622
13	To apply cash working capital provided to other working capital elements:		
14	Plant materials and operating supplies		$ 2,161,622

KANSAS GAS AND ELECTRIC COMPANY

STATEMENT OF OPERATING INCOME UNDER PRESENT FILED RATES

For test year ended May 31, 1974

Line No.		A	B	C	D	E	F	G
		Total company operations per books	Applicant adjustments to total company operations (Schedule C-2)	Total company operations as adjusted by Applicant	Applicant allocation to REC and PWM	Applicant allocation to Kansas jurisdictional	Staff adjustments to Kansas jurisdictional (Schedule C-3)	Kansas jurisdictional as adjusted by Staff under present rates
1	Operating revenues	$83,091,173	$15,180,438	$98,271,611	$4,474,179	$93,797,432	$9,390,082	$103,187,514
2	Operating expenses:							
3	Operation and maintenance:							
4	Production	27,193,833	4,036,501	31,230,334	2,552,521	28,677,813	1,149,060	29,826,873
5	Transmission	740,415	51,260	791,675	61,988	729,687	4,743	734,430
6	Distribution	3,859,353	266,732	4,126,085	32,326	4,093,759	26,571	4,120,330
7	Customer accounts	2,075,509	144,540	2,220,049	4,745	2,215,304	14,481	2,229,785
8	Sales	962,515	144,518	1,107,033	-	1,107,033	(36,279)	1,070,754
9	Administrative and general	5,572,697	508,718	6,081,415	211,127	5,870,288	(138,488)	5,731,800
10	Total operation and maintenance	40,404,322	5,152,269	45,556,591	2,862,707	42,693,884	1,020,088	43,713,972
11	Depreciation and amortization	10,545,700	1,873,300	12,419,000	684,646	11,734,354	-	11,734,354
12	Taxes other than income taxes	7,105,376	1,451,395	8,556,771	465,357	8,091,414	(148,272)	7,943,142
13	Income taxes - current	(1,549,000)	4,509,000	2,960,000	(513,227)	3,473,227	2,499,229	5,972,456
14	Deferred income taxes:							
15	Liberalized depreciation	4,193,000	-	4,193,000	235,227	3,957,773	-	3,957,773
16	Liberalized depreciation -							
17	prior years	(31,000)	(68,000)	(99,000)	(5,554)	(93,446)	-	(93,446)
18	Investment tax credit	2,854,000	-	2,854,000	160,109	2,693,891	-	2,693,891
19	Investment tax credit amortization	(176,000)	(51,000)	(227,000)	(12,735)	(214,265)	-	(214,265)
20	Total operating expenses	63,346,398	12,866,964	76,213,362	3,876,530	72,336,832	3,371,045	75,707,877
21	Operating income	$19,744,775	$ 2,313,474	$22,058,249	$ 597,649	$21,460,600	$6,019,037	$ 27,479,637
22	Rate of return							8.72%

Schedule D-2

KANSAS GAS AND ELECTRIC COMPANY

KANSAS RATE OF RETURN FOR OTHER THAN COMMON EQUITY

May 31, 1974.

Line No.		A Capitalization May 31, 1974	B Ratio of capitalization May 31, 1974	C Customer related equity at May 31, 1974	D Total equity May 31, 1974	E Percent of total equity	F Cost of related equity	G Allowable rate of return for other than common equity
1	Debt equity:							
2	First mortgage bonds	$165,000,000		$	$165,000,000	46.89	6.37%	2.99%
3	Pollution control revenue bonds	15,000,000			15,000,000	4.26	5.83	.25
4	Notes payable and commercial paper	19,600,000			19,600,000	5.57	11.20	.62
5		199,600,000	60.34%	-	199,600,000	56.72		
6	Preferred equity:							
7	Preferred stock	33,701,100	10.19	-	33,701,100	9.58	5.78	.55
8	Customer related equity:							
9	Customer advances			469,643	469,643	.13	-	-
10	Customer deposits			737,633	737,633	.21	4.00	.01
11	Accrued interest on customer							
12	deposits			182,611	182,611	.05	-	-
13	Reserve for injuries and damages			113,900	113,900	.03	-	-
14	Deferred income taxes on liberalized							
15	depreciation			12,716,000	12,716,000	3.62	1.50	.05
16	Deferred investment tax credit			2,006,244	2,006,244	.57	1.50	.01
17		-		16,226,031	16,226,031	4.61		
18	Common equity:							
19	Common stock	31,770,078			31,770,078	9.03	?	-
20	Premium on capital stock	291,595			291,595	.08	?	-
21	Retained earnings	65,407,868			65,407,868	18.59	?	-
22	Job development investment credit	-		4,900,000	4,900,000	1.39	?	-
23		97,469,541	29.47	4,900,000	102,369,541	29.09		
24		$330,770,641	100.00%	$21,126,031	$351,896,672	100.00%		4.48%

Docket No. 102,640-U
Schedule C-5

KANSAS GAS AND ELECTRIC COMPANY

COMPUTATION OF KANSAS JURISDICTIONAL TAXABLE INCOME

For test year ended May 31, 1974

Line No.		A	B Total Company	C	D	E Kansas
		Before Staff adjustments	Staff adjustments	Staff adjusted amounts	Allocation ratio	jurisdictional amounts
1	Operating income from Schedule C-1	$	$	$		$27,479,637
2	Add:					
3	Income taxes - current					5,972,456
4	Deferred income taxes:					
5	Liberalized depreciation - net					3,864,327
6	Investment tax credit - net					2,479,626
7						39,796,046
8	Add items deducted for book purposes that					
9	are not deductible for tax purposes:					
10	Compensation reserve	12,500		12,500	96.50%	12,063
11	Adjustment of bond premium and expense	4,517		4,517	94.39	4,264
12		$ 17,017	$ -	$ 17,017		16,327
13	Less items deductible for tax purposes but					
14	not deducted for book purposes:					
15	Payroll taxes capitalized	$ 267,106	$ (27,860)	$ 239,246	96.50	230,872
16	Ad valorem taxes capitalized	317,893	135,433	453,326	94.39	427,894
17	Pension costs capitalized	481,721	4,913	486,634	96.50	469,602
18	Excess of tax rates straight-line depreciation					
19	over book rates straight-line depreciation	1,521,467	-	1,521,467	94.49	1,437,634
20	Credit for dividend paid on certain preferred stock	107,648	-	107,648	94.39	101,609
21	Interest expense	12,199,002	1,339,141	13,538,143	94.39	12,778,653
22	Amortization of debt discount, expense and premium	28,584	-	28,584	94.39	26,980
23	Taxable income	$14,923,421	$1,451,627	$16,375,048		15,473,244
24						$24,339,129

Statement of Income for the years ended December 31

	1975
Operating Revenues	$126,165,853
Operating Expenses:	
Fuel	39,272,773
Deferred fuel (Note 2)	2,427,162*
Purchased power	2,824,219
Other operation	16,505,540
Maintenance	7,345,051
Depreciation	13,092,000
Taxes—other than income taxes	8,910,639
Income taxes (Note 6)	13,031,000
Total operating expenses	98,554,060
Operating Income	27,611,793
Other Income and Deductions:	
Allowance for funds used during construction	5,090,448
Income taxes—net (Note 6)	1,899,000
Miscellaneous—net	76,230*
Total other income and deductions	6,913,218
Income Before Interest Charges	34,525,011
Interest Charges:	
Interest on long-term debt	13,324,066
Other interest	2,715,436
Amortization of debt premium, discount and expense—net	39,345
Total interest charges	16,078,847
Net Income	18,446,164
Preferred Stock Dividends	3,571,753
Earnings Applicable to Common Stock	$ 14,874,411
Average Shares of Common Stock Outstanding	5,116,775
Earnings Per Average Share of Common Stock	$2.91

* Denotes red figure.

See notes to financial statements.

Market Prices and Dividend Rates of Stocks Listed on National Exchanges

Type and Exchange	1976				1975			
	4th Qtr.	3rd Qtr.	2nd Qtr.	1st Qtr.	4th Qtr.	3rd Qtr.	2nd Qtr.	1st Qtr.
Stock Market Statistics								
Common Stock-NYSE								
Market Price - High	$21-3/4	$20-5/8	$19-1/8	$19-3/4	$19-1/4	$17-7/8	$18-3/8	$16-3/8
- Low	19	18-1/2	18-1/8	18-1/8	16-5/8	15-7/8	15-1/8	11-3/4
Dividend Rate - Per Share	.44	.42	.42	.42	.42	.40	.40	.39
4-1/2% Preferred-ASE								
Market Price - High	53	51-1/2	51	54-1/2	47-1/2	49	51	51
- Low	48-1/2	47-1/4	45-1/4	45	44	43	46-1/2	42
Dividend Rate - Per Share	1.125	1.125	1.125	1.125	1.125	1.125	1.125	1.125

KANSAS GAS AND ELECTRIC COMPANY
ELECTRIC PLANT IN SERVICE
DECEMBER 31, 1971, 1972, 1973
MAY 31, 1973 AND 1974

Account No.	Description	December 31			May 31	
		1971	1972	1973	1973	1974
	(1)	(2)	(3)	(4)	(5)	(6)
	Intangible plant					
301	Organization	$ 7,284	$ 7,284	$ 45,131	$ -	$ 45,131
	Total	7,284	7,284	45,131	-	45,131
	Production plant					
310	Land and land rights	477,458	477,458	2,220,519	477,458	2,220,519
311	Structures and improvements	13,612,718	13,413,734	24,019,206	13,414,361	24,008,871
312	Boiler plant equipment	43,343,093	43,282,769	103,265,459	43,289,075	105,012,109
314	Turbogenerator units	40,268,023	40,531,956	54,671,698	40,527,425	54,670,433
315	Accessory electric equipment	8,380,532	8,447,793	14,808,133	8,455,158	14,805,705
316	Miscellaneous power plant equipment	906,595	923,170	1,867,200	923,965	1,877,859
	Total	106,988,419	107,076,880	200,852,215	107,087,442	202,595,496
	Transmission plant					
350	Land and land rights	4,287,848	4,808,689	5,213,200	4,809,462	5,256,842
352	Structures and improvements	973,373	1,257,262	1,336,402	1,228,561	1,339,238
353	Station equipment	23,821,001	28,015,822	30,548,128	28,066,640	31,371,984
354	Towers and fixtures	3,015,251	3,627,059	4,322,127	3,627,059	4,317,919
355	Poles and fixtures	13,326,449	15,578,370	17,967,021	15,576,310	18,272,423
356	Overhead conductors and devices	17,125,123	19,585,355	21,729,801	19,586,856	21,940,044
357	Underground conduit	284,043	301,249	319,676	301,180	319,676
358	Underground conductors and devices	186,179	233,431	264,450	233,431	264,917
359	Roads and trails	19,910	19,910	20,326	19,910	19,909
	Total	63,039,177	73,427,147	81,721,131	73,449,409	83,102,952

KANSAS GAS AND ELECTRIC COMPANY
ELECTRIC PLANT IN SERVICE
DECEMBER 31, 1971, 1972, 1973
MAY 31, 1973 AND 1974

Line No.	Account No.	Description (1)	December 31 1971 (2)	December 31 1972 (3)	December 31 1973 (4)	May 31 1973 (5)	May 31 1974 (6)
		Distribution plant					
20	360	Land and land rights	$ 655,154	$ 688,281	$ 719,177	$ 690,918	$ 719,810
21	361	Structures and improvements	801,973	848,856	984,460	847,387	997,689
22	362	Station equipment	14,801,802	15,394,539	16,408,256	15,348,737	16,553,419
23	364	Poles, towers and fixtures	18,715,719	19,692,765	20,709,496	19,716,726	21,059,048
24	365	Overhead conductors and devices	16,890,122	17,751,844	18,704,995	17,751,278	18,911,977
25	366	Underground conduit	2,603,710	2,965,612	3,288,450	2,960,860	3,304,109
26	367	Underground conductors and devices	3,376,717	3,831,425	4,132,186	3,898,984	4,204,409
27	368	Line transformers	29,266,428	30,812,506	33,340,281	31,460,479	35,161,795
28	369	Services	7,896,508	8,415,593	9,125,977	8,596,786	9,423,703
29	370	Meters	8,094,608	8,442,020	8,865,634	8,558,178	9,038,959
30	371	Installations on customers' premises	6,036	6,036	3,496	6,036	3,496
31	372	Leased property on customers' premises	32,974	32,974	32,974	32,974	32,974
32	373	Street lighting and signal systems	5,390,074	5,760,377	6,028,123	5,705,938	6,044,812
33		Total	108,531,825	114,642,828	122,343,505	115,575,281	125,456,200
		General plant					
34	389	Land and land rights	780,668	781,164	798,127	791,726	798,168
35	390	Structures and improvements	8,686,970	8,653,741	8,927,322	8,652,378	8,929,100
36	391	Office furniture and equipment	914,397	956,395	970,445	955,598	1,003,059

KANSAS GAS AND ELECTRIC COMPANY
ELECTRIC PLANT IN SERVICE
DECEMBER 31, 1971, 1972, 1973
MAY 31, 1973 AND 1974

Line No.	Account No.	Description	December 31			May 31	
			1971	1972	1973	1973	1974
		(1)	(2)	(3)	(4)	(5)	(6)
37	392	Transportation equipment	$ 2,308,114	$ 2,416,879	$ 2,702,131	$ 2,337,726	$ 2,674,529
38	393	Stores equipment	142,279	143,211	144,440	144,065	147,737
39	394	Tools, shop and garage equipment	268,967	282,740	306,337	292,641	317,458
40	395	Laboratory equipment	274,000	282,172	294,126	285,688	302,346
41	396	Power operated equipment	416,383	453,378	475,114	453,171	474,123
42	397	Communication equipment	2,018,890	2,836,206	3,240,454	2,809,356	3,349,005
43	398	Miscellaneous equipment	123,825	140,612	140,292	138,794	140,652
44		Total	15,934,493	16,946,498	17,998,788	16,861,143	18,136,177
45		Total electric plant in service	$294,501,198	$312,100,637	$422,960,770	$312,973,275	$429,335,956
		Reference					Sec D Sch 1

KANSAS GAS AND ELECTRIC COMPANY
REVENUES
YEARS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Sales of electricity				
1	440	Residential	$24,208,290	$25,614,990	$27,675,375	$28,419,036
2	442.1	Commercial	18,643,811	19,948,700	21,403,394	21,936,806
3	442.2	Industrial	18,660,254	19,574,365	21,612,134	23,343,753
4	444	Public street and highway lighting	828,989	905,120	977,590	1,022,992
5	447	Sales for resale	8,260,246	7,331,058	7,376,071	7,675,022
6		Total	70,601,590	73,374,233	79,044,564	82,397,609
		Other operating revenues				
7	450	Forfeited discounts	369,427	362,112	399,594	411,680
8	451	Miscellaneous service revenues	55,669	52,414	63,301	73,475
9	454	Rent from electric property	113,562	157,239	185,128	192,917
10	456	Other electric revenues	10,047	9,067	11,883	15,492
11		Total	548,705	580,832	659,906	693,564
12		Total	$71,150,295	$73,955,065	$79,704,470	$83,091,173

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Power production expenses				
		Operation				
1	500	Supervision and engineering	$ 191,858	$ 194,832	$ 234,849	$ 266,948
2	501	Fuel	13,952,248	14,197,788	16,624,014	18,862,763
3	502	Steam expenses	509,136	465,719	799,985	992,169
4	505	Electric expenses	622,540	646,277	744,678	820,481
5	506	Miscellaneous steam power expenses	264,638	262,973	407,519	612,864
6	507	Rents	-	-	14,000	24,000
7		Total	15,540,420	15,767,589	18,825,045	21,579,225
		Maintenance				
8	510	Supervision and engineering	176,579	189,877	211,016	230,612
9	511	Structures	191,008	157,090	154,626	185,940
10	512	Boiler plant	417,559	477,537	1,301,763	1,795,451
11	513	Electric plant	360,236	511,148	685,764	988,369
12	514	Miscellaneous steam plant	31,827	32,680	42,862	61,190
13		Total	1,177,209	1,368,332	2,396,031	3,261,562
		Other power supply expenses				
14	555	Purchased power	1,377,880	2,719,977	2,137,902	1,761,611
15	556	Steam control and load dispatching	404,212	429,473	543,608	566,973
16	557	Other expenses	41,244	16,240	24,934	24,462
17		Total	1,823,336	3,165,690	2,706,444	2,353,046
18		Total power production expenses	18,540,965	20,301,611	23,927,520	27,193,833
--	--					
31		Total	318,965	339,362	460,420	441,038
32		Total transmission expenses	619,846	651,299	754,639	740,415
		Distribution expenses				

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Transmission expenses				
		Operation				
19	560	Supervision and engineering	$ 51,601	$ 47,869	$ 34,445	$ 35,145
20	562	Station expenses	219,679	230,596	216,370	221,284
21	563	Overhead line expenses	8,099	6,197	13,628	13,774
22	566	Miscellaneous transmission expenses	21,215	26,928	29,407	28,955
23	567	Rents	287	347	369	369
24		Total	300,881	311,937	294,219	299,377
		Maintenance				
25	568	Supervision and engineering	27,822	29,174	26,658	27,336
26	569	Structures	2,308	4,302	4,270	2,968
27	570	Station equipment	138,743	150,455	182,266	188,496
28	571	Mainenance of overhead lines	122,178	121,925	202,847	171,684
29	572	Underground lines	-	-	204	108
30	573	Miscellaneous transmission plant	27,914	33,506	44,175	50,446
31		Total	318,965	339,362	460,420	441,038
32		Total transmission expenses	619,846	651,299	754,639	740,415
		Distribution expenses				
		Operation				
33	580	Supervision and engineering	233,141	216,038	199,678	208,852
34	582	Station expenses	215,712	228,238	227,744	231,133
35	583	Overhead line expenses	261,068	249,223	296,393	303,848

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
36	584	Underground line expenses	$ 11,235	$ 14,757	$ 17,077	$ 20,001
37	585	Street lighting and signal system expenses	174,557	189,426	189,195	187,868
38	586	Meter expenses	320,804	334,736	359,468	374,986
39	587	Customer installation expenses	95,454	97,326	147,776	150,387
40	588	Miscellaneous distribution expenses	201,569	206,663	221,490	230,646
41	589	Rents	24,343	24,584	23,893	23,289
42		Total	1,537,883	1,560,991	1,682,714	1,731,010
		Maintenance				
43	590	Supervision and engineering	117,963	118,010	149,866	156,405
44	591	Structures	7,348	5,879	4,803	4,310
45	592	Station equipment	123,763	166,497	146,782	155,629
46	593	Maintenance of overhead lines	1,114,836	1,169,559	1,289,299	1,305,921
47	594	Underground lines	13,128	25,262	30,112	34,574
48	595	Line transformers	145,315	127,351	134,456	146,484
49	596	Street lighting and signal systems	104,904	104,630	104,161	119,741
50	597	Meters	88,653	89,232	93,247	92,763
51	598	Miscellaneous distribution plant	79,591	88,581	114,939	112,516
52		Total	1,795,501	1,895,001	2,067,665	2,128,343
53		Total distribution expense	3,333,384	3,455,992	3,750,379	3,859,353

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Customer accounts expense				
54	901	Supervision	$ 12,346	$ -	$ 102,222	$ 104,922
55	902	Meter reading expenses	335,318	356,922	382,450	405,617
56	903	Customer records and collection expenses	1,289,126	1,311,705	1,450,671	1,485,640
57	904	Uncollectible accounts	66,350	60,450	38,400	52,250
58	905	Miscellaneous customer accounts expenses	22,513	23,697	27,229	27,080
59		Total customer accounts expenses	1,725,653	1,752,774	2,000,972	2,075,509
		Sales expenses				
60	911	Supervision	99,576	92,893	79,666	73,514
61	912	Demonstrating and selling expenses	945,072	1,095,579	633,173	617,232
62	913	Advertising expenses	282,363	281,212	222,666	173,098
63	914	Revenues from merchandise	176,153*	179,016*	-	-
64	915	Cost of merchandise	174,568	176,467	-	-
65	916	Miscellaneous sales expense	87,005	91,006	96,132	98,671
66		Total sales expense	1,412,431	1,558,141	1,031,637	962,515
		Administrative and general expenses				
		Operation				
67	920	Administrative and general salaries	1,934,219	2,001,242	2,044,725	2,131,584
68	921	Office supplies and expenses	551,174	630,662	787,285	817,465
69	922	Administrative expenses transferred	288,390*	317,795*	384,625*	385,331*
70	923	Outside services employed	81,811	91,233	162,273	164,351
7	924	Property insurance	204,195	204,951	223,467	250,505

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
72	925	Injuries and damages	$ 117,770	$ 117,193	$ 127,801	$ 134,553
73	926	Employee pensions and benefits	1,196,729	1,396,923	1,476,500	1,666,354
74	928	Regulatory Commission	-	-	71,263	65,697
75	930	Miscellaneous general expenses	367,345	341,716	571,409	591,270
76	931	Rents	19,217	19,353	19,727	18,410
77		Total	4,184,070	4,485,478	5,099,825	5,454,858
		Maintenance				
78	932	Maintenance of general plant	56,897	120,242	140,010	117,839
79		Total	56,897	120,242	140,010	117,839
80		Total administrative and general expenses	4,240,967	4,605,720	5,239,835	5,572,697
81		Total operation	26,524,674	28,602,600	31,640,856	34,455,540
82		Total maintenance	3,348,572	3,722,937	5,064,126	5,948,782
83		Total operating expenses	$29,873,246	$32,325,537	$36,704,982	$40,404,322

*Denotes red figure

ESTIMATED CONSTRUCTION SPENDING

YEAR	AMOUNT	TOTAL
1975	6	6
1976	48	54
1977	54	108
1978	92	200
1979	172	372
1980	99	371
1981	9	380

Assumptions:

AFUDC RATE 8%

CONSTRUCTION PAYMENTS MADE EVENLY THROUGHOUT YEAR.

DEPRECIABLE LIFE 30yrs STRAIGHT LINE DEPRECIATION

ALLOWABLE RETURN OF 9% ON RATE BASE

TAX RATE 51.5%

PREPARED BY DATE

CALCULATION OF RATE BASE CAPITALIZING AFUDC

		1 EXCLUSIVE OF AFUDC BEG BALANCE	2 END BALANCE	3 AVERAGE BALANCE	4 AFUDC @ 8%	5 CUMULATIVE AFUDC @ 8%	6 TOTAL ENDING BALANCE	7	8	9	10	11	
1	1975		6	3	.240	.240	6.240						1
2	1976	6	54	30	2.400	2.640	56.640						2
3	1977	54	108	81	6.480	9.120	117.120						3
4	1978	108	200	154	12.320	21.440	221.440						4
5	1979	200	377	261	20.880	42.320	364.320						5
6	1980	377	371	346.5	27.720	70.040	441.040						6
7	1981	371	380	375.5	30.040	100.08	480.080						7
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PREPARED BY DATE

CALCULATION OF TOTAL REVENUE REQUIREMENTS WITH AFUDC

		1 BEG BALANCE	2 DEPRECIATION	3 ENDING BALANCE	4 AVERAGE INVESTMENT		5 RETURN ON RATE BASE AT 9%	6 GROSS REVENUE REQUIRED	7	8	9	10	11	
1	1975	—		—		1								1
2	1976	—		—		2								2
3	1977	—		—		3								3
4	1978	—		—		4								4
5	1979	—		—		5								5
6	1980	—		—		6								6
7	1981	—		—		7								7
8	1982	430,030	16,003	460,077	470079	8	42307	87249						8
9	1983	460077		448,074	454075	9	40867	84,279						9
10	1984	448,074		432,071	440073	10	39,607	81,681						10
11	1985	432,071		416,068	424070	11	38,167	78,711						11
12	1986	416,069		400,065	408067	12	36726	75739						12
13	1987	400 065		384,062	392064	13	35,286	72770						13
14	1988	384 062		368,059	376,661	14	33845	69,798						14
15	1989	369059		352,056	360058	15	32405	66829						15
16	1990	352056		336053	344055	16	30965	63859						16
17	1991	336 053		320050	328052	17	29525	60889						17
18	1992	320 050		304047	312049	18	28084	57917						18
19	1993	304 047		288044	296046	19	26644	54947						19
20	1994	288 044		272041	280043	20	25204	51978						20
21	1995	272 041		256038	264040	21	23764	49008						21
22	1996	256 039		240035	248037	22	22323	46036						22
23	1997	240035		224032	232034	23	20907	43116						23
24	1998	224032		208029	216031	24	19443	40097						24
25	1999	208,029		192,026	200,029	25	18003	37127						25
26	2000	192026		176023	184030	26	16563	34158						26
27	2001	176,023		160,020	168,077	27	15122	31186						27
28	2002	160,020		144017	152019	28	13682	29216						28
29	2003	144017		128014	136016	29	12241	25244						29
30	2004	128014		112011	120013	30	10801	22275						30
31	2005	112,011		96008	104,019	31	9361	19305						31
32	2006	96009		80005	88007	32	7921	16335						32
33	2007	80,005		64002	72004	33	6490	13364						33
34	2008	64,002		47999	56001	34	5040	10394						34
35	2009	47999		31996	39998	35	3600	7424						35
36	2010	31996		15993	23994	36	2160	4455						36
37	2011	15993		—	7997	37	720	1485						37
38	2012					38		$1335870						38
39						39								39
40						40								40

PREPARED BY DATE

CALCULATION OF TOTAL REVENUE REQUIREMENTS CWIP IN RB:

		1 BEG BALANCE	2 CAPITAL ADDITIONS	3 DEPREC	4 ENDING BALANCE		5 AVERAGE BALANCE	6 RETURN ON RATE BASE @ 9%	7 GROSS REVENUE REQUIRED	8	9	10	
	1975	—	6	—	6	1	3	270	557				
	1976	6	48	—	54	2	30	2,700	5,569				
	1977	54	54	—	108	3	81	7,290	15,037				
	1978	108	92	—	200	4	154	13,860	28,589				
	1979	200	122	—	322	5	261	23,490	48,453				
	1980	322	49	—	371	6	346.5	31,185	64,325				
	1981	371	9	—	380	7	375.5	33,795	69,709				
	1982	380	—	12,667	367,333	8	373,67	33,630	69,369				
	1983	367,333	-	12,667	354,666	9	361	32,490	67,017				
	1984	354,666	-	12,667	341,999	10	348,333	31,350	64,666				
	1985	341,999	-	12,667	329,332	11	335,666	30,210	62,314				
	1986	329,332	-	12,667	316,665	12	322,999	29,070	59,962				
	1987	316,665	-	12,667	303,998	13	310,332	27,930	57,611				
	1988	303,998	-	12,667	291,331	14	297,665	26,790	55,260				
	1989	291,331	-	12,667	278,664	15	284,998	25,650	52,908				
	1990	278,664	-	12,667	265,997	16	272,331	24,510	50,557				
	1991	265,997	-	12,667	253,330	17	259,664	23,370	48,205				
	1992	253,330	-	12,667	240,663	18	246,997	22,230	45,854				
	1993	240,663	-	12,667	227,996	19	234,330	21,090	43,502				
	1994	227,996	-	12,667	215,329	20	221,663	19,950	41,151				
	1995	215,329	-	12,667	202,662	21	208,996	18,810	38,800				
	1996	202,662	-	12,667	189,995	22	196,329	17,670	36,448				
	1997	189,995	-	12,667	177,328	23	183,662	16,530	34,097				
	1998	177,328	-	12,667	164,661	24	170,995	15,390	31,745				
	1999	164,661	-	12,667	151,994	25	158,328	14,250	29,394				
	2000	151,994	-	12,667	139,327	26	145,661	13,109	27,040				
	2001	139,327	-	12,667	126,660	27	132,994	11,969	24,689				
	2002	126,660	-	12,667	113,993	28	120,327	10,829	22,337				
	2003	113,993	-	12,667	101,326	29	107,660	9,689	19,986				
	2004	101,326	-	12,667	88,659	30	94,993	8,549	17,634				
	2005	88,659	-	12,667	75,992	31	82,326	7,409	15,283				
	2006	75,992	-	12,667	63,325	32	69,659	6,269	12,931				
	2007	63,325	-	12,667	50,658	33	56,992	5,129	10,580				
	2008	50,658	-	12,667	37,991	34	44,325	3,989	8,228				
	2009	37,991	-	12,667	25,324	35	31,658	2,849	5,876				
	2010	25,324	-	12,667	12,657	36	18,991	1,709	3,525				
	2011	12,657	-	12,657	—	37	6,329	570	1,176				
	2012					38			$1290,384				
						39							
						40							
						41							

PREPARED BY DATE

CALCULATION OF PRESENT VALUE OF DIFFERENCE

	CAP AFUDC GROSS REVENUE REQUIRED	CWIP IN RB GROSS REVENUE REQUIRED	DIFFERENCE	P.V.@ 5%			P.V.@ 4%		
1		.557	(.557)	.952380 95	1	(.530)	.961538 46	(.536)	1
2		5.569	(5.569)	.907029 48	2	(5.051)	.924556 21	(5.149)	2
3		15.037	(15.037)	.863837 60	3	(12.990)	.888996 36	(13.368)	3
4		28.589	(28.589)	.822702 47	4	(23.520)	.854804 19	(24.438)	4
5		48.453	(48.453)	.783526 17	5	(37.964)	.821927 11	(39.825)	5
6		64.325	(64.325)	.746215 40	6	(48.000)	.790314 53	(50.837)	6
7		69.709	(69.709)	.710681 33	7	(49.541)	.759917 91	(52.993)	7
8	87249	69.369	17880	.676839 36	8	12.102	.730690 21	13.065	8
9	84279	67.017	17.262	.644608 92	9	11.127	.702556 74	12.128	9
10	81681	64.666	17.015	.613913 25	10	10.446	.675564 17	11.495	10
11	78711	62.314	16.397	.584679 29	11	9.587	.649580 93	10.651	11
12	75139	59.962	15.777	.556837 42	12	8.785	.624597 05	9.854	12
13	72770	57.611	15.159	.530321 36	13	8.039	.600574 09	9.104	13
14	69795	55.260	14.538	.505096 795	14	7.342	.577475 08	8.395	14
15	66829	52.908	13.920	.481011 70	15	6.696	.555264 50	7.729	15
16	63859	50.557	13.302	.458111 62	16	6.094	.533908 18	7.107	16
17	60889	48.205	12.684	.436296 69	17	5.534	.513373 25	6.512	17
18	57917	45.854	12.063	.415520 65	18	5.012	.493628 12	5.955	18
19	54947	43.502	11.445	.395733 96	19	4.529	.474642 42	5.432	19
20	51978	41.151	10.827	.376889 48	20	4.081	.456386 75	4.941	20
21	49008	38.800	10.208	.358942 36	21	3.664	.438833 60	4.480	21
22	46036	36.448	9.588	.341849 87	22	3.278	.421955 39	4.046	22
23	43116	34.097	9.019	.325571 31	23	2.936	.405726 33	3.659	23
24	40097	31.745	8.352	.310067 91	24	2.590	.390121 47	3.258	24
25	37127	29.394	7.733	.295302 77	25	2.284	.375116 80	2.901	25
26	34158	27.046	7.118	.281240 73	26	2.002	.360689 23	2.567	26
27	31136	24.689	6.497	.267848 32	27	1.746	.346816 57	2.253	27
28	29216	22.337	5.879	.255093 64	28	1.500	.333477 47	1.961	28
29	25244	19.986	5.258	.242946 32	29	1.277	.320651 41	1.686	29
30	22275	17.634	4.641	.231377 45	30	1.074	.305318 67	1.431	30
31	19305	15.283	4.022	.220359 47	31	.886	.296946 76	1.192	31
32	16335	12.931	3.404	.209866 17	32	.714	.285057 91	.970	32
33	13364	10.580	2.784	.199872 54	33	.556	.274094 17	.763	33
34	10394	8.228	2.166	.190354 80	34	.412	.263552 09	.571	34
35	7424	5.876	1.548	.181279 29	35	.281	.253415 47	.392	35
36	4455	3.525	.930	.172657 41	36	.161	.243668 72	.227	36
37	1485	1.176	.309	.164435 63	37	.051	.234296 85	.072	37
38	1335870	1290.384	45.486		38	(52.816)		(42.334)	38
39					39				39
40					40				40

[As Amended by Senate Committee of the Whole]

As Amended by Senate Committee

[As Amended by House Committee of the Whole]

Session of 1977

House Concurrent Resolution No. 5031

By Representatives Miller and Mainey

3-15

A CONCURRENT RESOLUTION directing the state corporation commission to study the feasibility of permitting gas utilities under its jurisdiction to consider "conservation gas" as an additional natural gas supply option, *directing said commission to study the feasibility of permitting jurisdictional electric utilities to finance the installation of energy conservation improvements and directing said commission to ~~investigate~~ [study] certain alternatives to existing rate structures of jurisdictional electric utilities.*

WHEREAS, The state and the nation are experiencing natural gas shortages which will grow increasingly more severe; and

WHEREAS, Natural gas is a premium fuel which the state and the nation can no longer afford to waste; and

WHEREAS, Energy conservation is a fundamental goal of state and national energy policies; and

WHEREAS, Capital requirements for improving efficiency in natural gas use are often less than the capital requirements for securing additional natural gas supplies; ~~Now, therefore,~~ *and*

WHEREAS, Almost all Kansas electric utilities report that they believe that shortages of electricity are probable in the near future; and

WHEREAS, Questions have been raised by some as to whether the rate structures of many electric utilities, as presently constituted, encourage increased consumption of electricity in that they average past costs of plant together with current costs, which are usually much higher, to produce prices which are less than current costs, and in that the decrease the cost of successive increments of electricity consumed (decreasing block pricing) so that the more electricity consumed the lower the per unit price, which may result in increased consumption; and

WHEREAS, Many alternative rate structures have been suggested which would tend to discourage, rather than encourage, increased consumption of electricity; and

WHEREAS, Such alternative rate structures, which would result in pricing electricity more closely to its real economic and social cost, would not only have the short-range effect of decreasing consumer demand for electricity and thus conserving scarce natural resources, but would have the long-range effects of encouraging ~~manufactures~~ [manufacturers] of electrical appliances to develop appliances which more efficiently utilize electricity, of encouraging architects to design buildings with more efficient insulation and more efficient heating, cooling and lighting systems, and of encouraging ~~in~~ general technological improvements in the use of electricity: Now, therefore,

Be it resolved by the House of Representatives of the State of Kansas, the Senate concurring therein: That the state corporation commission be directed to study the feasibility of permitting gas utilities under its jurisdiction to consider "conservation gas" as an additional natural gas supply option. Specifically, the state corporation commission is directed to consider regulatory changes which would allow gas utilities under the commission's jurisdiction to finance, and cause to be installed, energy conservation improvements in residential structures and in structures owned and operated by non-profit corporations where the cost of effecting energy savings is less per thousand cubic feet than the cost of adding new supplies to the system's natural gas reserves. ~~Such improvements would be made at no charge to the individual customers, but would be financed by including the incurred costs in the rate bases of the utilities~~ *~~Such~~ [The state corporation commission in making such study shall consider whether such] improvements would be made at no charge to the individual customers, but would be financed by including the incurred costs in the rate bases of the utilities.* [Consideration shall also be given by the commission to procedures by which the costs of such improvements, including interest, may be recovered by such utilities from the benefitting customers thereof]; and

Be it further resolved: That the scope of the feasibility study shall include, but not necessarily be limited to, the following:

(1) Natural gas savings which would accrue if residential

structures served by gas utilities under the commission's jurisdiction were insulated to meet or exceed existing federal standards for new construction, were equipped with automatic thermostat controls and were treated with furnace modifications designed to improve efficiency;

(2) Estimated costs of making the improvements identified in paragraph (1), as well as any others deemed by the commission to be effective conservation improvements;

(3) Cost effectiveness of the identified gas saving improvements, when compared to the costs of securing comparable quantities of additional gas supplies;

(4) Evaluation of legal and regulatory questions posed by granting such authority to the utilities, including allowable rate of return on conservation gas investments;

(5) Evaluation of the effect of implementing a conservation gas program on the natural gas supplies available to Kansas consumers; and

Be it further resolved: That the state corporation commission is directed to study the feasibility of permitting electric utilities under its jurisdiction, pursuant to regulatory changes, to finance, and cause to be installed, energy conservation improvements in residential structures and in structures owned and operated by nonprofit corporations ~~where the cost of effecting energy savings through such improvements is less than the production of additional electric power~~ [when the cost of such improvements is economical in terms of life cycle cost analysis when compared to the cost of not making such improvements]. Consideration shall also be given by the commission to procedures by which the costs of such improvements including interest may be recovered by the utilities; and

Be it further resolved: That the state corporation commission is directed to make a ~~thorough investigation of such proposed~~ [study of] alternatives [to] and of what changes, if any, should be made in the rate structures [of electric utilities] as presently constituted, including, but not limited to, the following:

(1) Discount prices for consumers who achieve a decrease in their consumption of electricity ~~compared to a like period in the~~

~~preceding year.~~

(2) Placing all future rate increases on the tail blocks of the existing decreasing block pricing structure so that in time an increasing block pricing structure will be achieved.

(3) Inverting the rate structure to achieve immediately an increasing block pricing structure.

(4) Requiring new metering which would enable higher prices for consumption of electricity at the demand peaks each day.

(5) Seasonal peak pricing, which would not require new metering, but which would price electricity used during the seasonal peaks higher than that used at other times.

(6) Marginal cost pricing, that is, pricing of all electricity at the cost of producing the last unit of electricity at the most recent plant, rather than average cost pricing which is currently used; and

Be it further resolved: That the state corporation commission ~~shall assess the cost of the feasibility study studies and the investigation against the appropriate jurisdictional utilities, and~~ shall report its findings and recommendations to the president of the state senate and the speaker of the state house of representatives no later than the commencement of the 1978 session of the Kansas legislature; and

Be it further resolved: That the secretary of state is hereby directed to transmit an enrolled copy of this resolution to the chairperson of the state corporation commission.

Session of 1977

HOUSE BILL No. 2070

By Representative Luzzati

1-6

AN ACT relating to the state corporation commission; concerning valuation of certain property of public utilities and common carriers; amending K.S.A. 66-128, and repealing the existing section.

Be it enacted by the Legislature of the State of Kansas:

Section 1. K.S.A. 66-128 is hereby amended to read as follows: 66-128. Said commission shall have the power and it shall be its duty to ascertain the reasonable value of all property of any common carrier or public utility governed by the provisons of this act used or required to be used in its services to the public within the state of Kansas, whenever it deems the ascertainment of such value necessary in order to enable the commission to fix fair and reasonable rates, joint rates, tolls and charges, and in making such valuations they may avail themselves of any reports, records or other things available to them in the office of any national, state or municipal officer or board. *For the purposes of this act, property of any public utility which has not been completed and dedicated to commercial service shall not be deemed to be used or required to be used in said public utility's service to the public.*

Sec. 2. K.S.A. 66-128 is hereby repealed.

Sec. 3. This act shall take effect and be in force from and after its publication in the official state paper.

HOW TO DO IT

The diagrams show how the meter looks and tell you step by step how to read what is on the dials and turn the readings into the numbers you see on your bill. One thing that is important to remember: you get the total consumption for the month by subtracting the previous month's reading from the new reading.

These diagrams apply to both electric and gas meters. For illustration, we have used a 3-dial meter for gas and a 4-dial meter for electricity. However, you might find gas meters with four dials and electric meters with five. But whatever the number of dials, the principle is the same: read the numbers from left to right, and subtract the previous total from the present reading to find out how much gas or electricy you have used.

One further note about electric meters: some of them don't give a direct reading, but require you to multiply the reading by some number to get an actual reading. In such a case, the number used in multiplying is stated right on the meter. Even for those meters, though, the rest of the procedure is the same. And remember: if there is no notice on the meter itself to multiply the reading, you just use the numbers themselves.

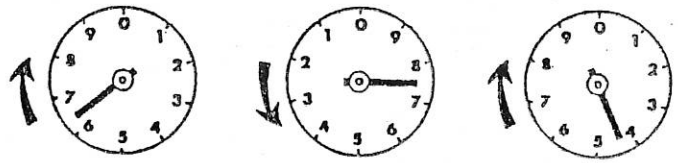
The units for measuring are kilowatt hours (kwh) for electricity, and thousands of cubic feet (MCF) for gas.

A kilowatt hour is 1,000 watts usage in an hour: For example - using a 100-watt bulb for 10 hours is a kilowatt hour (100 watts x 10 hours = 1,000 watts).

A thousand cubic feet of gas is not so easy to explain or visualize; however, on a usage basis, 1,000 cubic feet is the average amount used in an average month by an average range.

Your meter reading is made up of one number from each dial. When the pointer stops between two numbers, you take the smaller number the pointer has passed. The pointers do not all turn in the same direction, but they always turn from the smaller to the larger number. Arrows appear on the gas meter to indicate more clearly the direction in which pointers turn.

STEP-BY-STEP READING A 3-DIAL METER



To get the meter reading, you ...

A. Take the number **6** the first pointer has passed ...

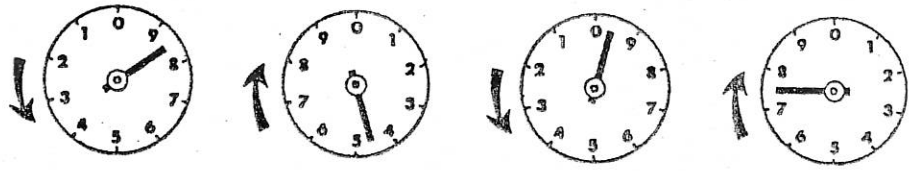
B. And then take the number **7** the second pointer has passed ...

C. And finally take the number **4** the last pointer has passed ...

D. Put together **674** to get the number of units recorded. On an electric 3-dial meter, you might have to multiply this by 10 to get the total. A note on the meter will tell you if that's the case.

...AND A 4-DIAL METER

Here's how a 4-dial meter looks. Again, we've put in the arrows to illustrate how the pointers turn, even though an electric meter doesn't have the arrows.



To get the meter reading, you ...

A. Take the number **8** the first pointer has passed ...

B. And then take the number **4** the second pointer has passed ...

C. And then take the number **9** the third pointer has passed ...

D. And finally the number **7** the fourth pointer has passed ...

E. Put them together as **8497** to get the number of units recorded.

To find out how many units you've used during a month, you read the meter the same way a month later, then subtract the reading for the earlier month from the reading for the later month.

ASSURING ACCURACY

An electric or gas meter can be used in Kansas only if it is a type approved by the State Corporation Commission.

To assure that only accurate meters are used in the State, the Commission:

Oversees meter-testing laboratories and all utility meter shops.

Requires the company to verify the accuracy of utility meter-testing devices to standards certified by the National Bureau of Standards.

Requires the company to test samples of meters before they are installed, then test other samples after they are taken out of service to see how well they have performed.

Requires the company to check the accuracy of a meter at the request of a consumer and make a billing adjustment at such time as a meter is found to be more than plus or minus 2% inaccurate in accordance with the company's filed rules & regulations.

ABOUT ESTIMATES

Reading your own meter can show how closely the utility was able to estimate your gas or electric usage when it couldn't get access to read your meter. Normally, the estimate won't match your usage precisely, but it ought to come close. If the estimate is lower than your actual usage and the company had to use estimates for a number of months, you may be unpleasantly surprised by a bill that looks bigger than it ought to be.

The Commission is trying to meet that problem by encouraging actual meter reading. Rules require the company to make a special effort to get an accurate reading after three months of estimated bills.

The effort includes: having you mark a card to show the reading and mail it in; letting you phone in the reading; or making an appointment for the meter reader to call on you.

But you might find it valuable to get your own accurate reading without letting three months slip by.

STATE OF KANSAS
KANSAS CORPORATION COMMISSION
State Office Building
Topeka, Kansas 66612
(913) 296-3355

GUIDE TO METER READING

It isn't hard to read an electric meter - or a gas meter - once you know how. And it might be worth knowing how, so you can make sure that the meter reader did his job correctly, or so you can check to see how close to actual usage the utility was able to estimate your electricity or gas consumption when the meter reader couldn't get in to read your meter.

INTRODUCTION:

Because public utilities are given the exclusive right to provide service in the territory for which they are certificated, and are not subject to the pricing constraints which are brought about by competition, the law provides that their rates shall be regulated. In Kansas, the agency given the responsibility of regulating public utility rates is the Kansas State Corporation Commission. The Commission consists of three members appointed by the Governor, with the advice and consent of the State Senate, who each serve for a 4-year term. No more than two members of the Commission can be of the same political party.

Kansas statutes, and the Constitutions, both State and Federal, as interpreted by the courts, require that the Commission must not be arbitrary in fixing utility rates. The Commission is required to grant to the utility company such rates as will enable it to recover its legitimate expenses and to earn a reasonable return on the investment it has made to provide service to the public. The purpose of Commission rate hearings is to place evidence before the Commission so that it can determine what the reasonable expenses of the company are, what the company has properly invested in facilities to provide service to the public, and what rate of return on the investment is proper.

The utility companies are never guaranteed a return by the Commission. They are simply given an opportunity to earn a certain level of profit through the schedule of rates charged to the consumer. That proper level of return has been construed by the courts to be what is earned by other businesses having comparable risks, and sufficient to permit the utility company to attract investment in the company.

THE HEARING:

In any rate case the hearing will usually be conducted by all three Commissioners. Hearings are always open to the public. The role of the Commissioners is roughly comparable to that of judges in a court case. The Commission must conduct its hearings in an orderly fashion, make rulings on various motions and objections to evidence, and most importantly, must weigh and decide each of the dozens of issues that make up a proceeding before the Commission. Every issue must be decided on the basis of the evidence that is presented to the Commission at the hearing. Since Commission decisions are always subject to review by the courts, it is important that a complete and careful record be made of all of the proceedings before the Commission.

At one of the tables in the hearing room is a member of the Commission legal staff, who represents the public in the rate case. The legal staff will take the name and address of members of the public so that those who wish to testify can be called in order. Staff will also render assistance to anyone who wishes to give testimony to the Commission.

Commission rules provide that anyone who has an interest as a consumer of the utility may appear and represent himself or herself. However, organizations or corporations must be represented by an attorney. The Commission legal staff also conducts the cross-examination of the company's witnesses, and presents the testimony on behalf of the Commission staff which is introduced on behalf of the public.

In the hearing room there is also a table or space reserved for the attorneys for the company, and if there is enough space, tables are reserved for the representatives of other parties to the case who plan to cross-examine witnesses or submit evidence. Those parties are usually referred to as "intervenors."

As stated in the introduction, the rates charged by a utility company are subject to Commission approval before they can be put into effect. The company's application and tariff sheets containing the rate schedules and the company's rules and regulations for service are on file in the Commission offices in Topeka and are open to public inspection.

In addition to the requirements as to the rates which must be granted to the utility by the Commission under the law and Constitution, the over-all regulatory objective of the State Corporation Commission is to make sure that the public interest is served by the rendering of efficient, sufficient, and non-discriminatory utility service at rates that are fair, equitable, and reasonable to the consumer, yet sufficient to insure that the utility can continue to render efficient and sufficient service.

THE STAFF:

The Commission Staff is a party to the case, as a representative of the consumers, just as it is in all proceedings before the Commission.

Staff consists of a group of experts in law, finance, accounting, engineering, and related fields. A member of the legal staff represents the Staff and public generally, as its lawyer.

The Staff has general instructions from the Commission to present a strongly consumer-oriented case in every proceeding before the Commission, and to examine the rate request carefully and to take issue with the company where appropriate. Beyond this, the Staff is not subjected to direction or interference by the Commission as the case progresses.

In each case, Staff questions, and to the extent justified, opposes the contention of the Company. And, again to the extent justified, the Staff presents its own testimony and exhibits to demonstrate how it would adjust the financial data in the case to favor consumers.

Some false ideas have arisen as to the way cases are conducted: for instance, that the Staff "recommends" a lump sum amount of a rate increase to the Commission, and that the Commission "ignores" the "recommendation" of its professional staff. The facts are different: The Commission Staff actually presents evidence to support a number of specific financial or economic adjustments, and it is the net sum of these proposals which determines the amount of additional rates, if any, that the Staff might propose to the Commission. Since the Staff is presenting a strongly pro-consumer point of view, it often makes proposals which are at the opposite extreme from the position of the company. Consequently, some proposals of the Staff may be denied by the Commission, but even when its proposals are denied, the Staff is not "ignored."

HE COMMISSION:

The Commission, sitting at the bench, has a role in the rate case much like judges would have in court cases. The Commissioners may frequently be lawyers by profession, or have degrees in accounting or business. What they have in common is professional training and wide experience.

As the hearings proceed, the Commission is responsible for giving the Company, the Commission Staff, and the Intervenors ample opportunity to introduce relevant evidence concerning each of the issues involved. The Commissioners themselves may ask questions of the witnesses in order to develop any information they deem necessary. The Chairman of the Commission presides over the hearing and makes the rulings concerning objections which may be made to evidence, and generally announces the decision of the Commission on procedural matters as the hearing takes place.

When the hearings end, the Commission will close the record insofar as the taking of any further testimony is concerned, and may ask the parties to submit written briefs or statements of their various positions. The Commission will then review the evidence received and resolve each of the issues presented, and report in its decision how each issue has been resolved. On the basis of its decision as to those issues, the Commission will decide whether or not an increase in rates should be granted, and if so, how much.

THE PROCEDURE:

The hearing you are attending is set aside especially to receive statements or testimony from you and your fellow consumers. Other stages of the hearings go into the technical matters. In the first stage, every witness presented by the Company will be subject to cross-examination by the Staff and other Intervenors. After time for preparation and filing of testimony, Staff and the Intervenors likewise will be subject to cross-examination. Some time usually is set aside for rebuttal testimony by the Company or other parties.

To save hearing time, usually the direct testimony and exhibits are filed in advance of hearings. The prefiling saves the time of reading the testimony in detail into the record, and it also shortens the time needed to prepare for cross-examination.

After the formal hearings are concluded, the Staff Counsel, the applicant, and intervenors are usually given a short time to file legal briefs with the Commission. After the briefs have been filed, the three Commissioners then will sit as a group and decide each issue raised during the course of the hearings. Then the Commisison will issue an order which explains its decision on each issue and if an increase should be granted. Also decided is what the Commission believes to be a proper rate structure for the particular company.

In a major rate case, the entire process of field investigation, preparation of cross-examination, technical hearing, public hearings, and final decision by the Commission usually takes six to seven months.

Of course, all hearings are open to the public.

GUIDE TO RATE HEARINGS

State Corporation Commission
430 State Office Building
Topeka, Kansas 66612

SUMMARY OF KCC: ORGANIZATION, OBJECTIVES AND EFFECT ON ECONOMIC DEVELOPMENT

The State Corporation Commission of Kansas has jurisdiction over all public utilities; gas, electricity, water, telephone and telegraph. It also has jurisdiction over all common and motor carriers, including railroads. In addition, the commission regulates oil and gas conservation and speculative securities. It is responsible for inspecting gas pipelines and gas facilities for safety, and in cooperation with the Highway Commission, designates dangerous railroad crossings. The KCC Chairman is Chairman of the Mined-Land Conservation and Reclamation Board, and a member of the Kansas Safety Council.

The major regulatory divisions of the commission are Utilities, Transportation (which includes Motor Carrier and Rate Department), Oil and Gas Conservation (which includes the recently transferred Mined-Land Conservation and Reclamation Board), and Securities. The Legal Division participates in cases before Kansas District Courts, the Kansas Supreme Court and Federal Power Commission and other federal agencies.

Each of the regulatory divisions investigates, licenses, assesses fees, takes court action and holds hearings.

UTILITIES - Supervises and controls all public utilities that own, control, operate or manage any equipment, plant or generating machinery... for the transmission of telephone messages... telegraph messages... or the conveyance of oil and gas through pipe lines...and all companies for the production, transmission, delivery or furnishing of heat, light, water or power... municipally owned or operated electric or gas utility located outside of and more than three (3) miles from the corporate limits of such municipality. All public utilities are required to furnish reasonably efficient and sufficient service at just, reasonable and nondiscriminatory rates.

The commission has authority to prescribe rules and regulations for gas distribution systems in cities of 500 or more population with regard to fixing standards of pressure for efficient service and to compute amounts to be paid by domestice consumers when the pressure is insufficient. These rules apply to extensions of electric distribution lines in areas of

dual or overlapping certificates. The KCC has been designated to particularly make recommendations with respect to transportation of byproducts or nuclear materials by common carriers not in interstate commerce and other participation by public utilities subject to its jurisdiction in projects looking to the development of facilities for industrial or commercial use.

It is mandatory for any electric utility, before beginning site preparation for construction of or additions to an electric generating facility, or before exercising eminent domain to acquire land in connection with site preparation, to first acquire a permit from the Corporation Commission.

TRANSPORTATION - Regulates every public motor carrier of property or persons in the State; to fix and approve maximum or minimum rates, fares, charges, classifications, and prescribe rules and regulations relating to this regulation; to supervise Motor Carrier accounts, schedules; service and method of operation; to prescribe uniform systems and classifications of accounts; and to require filing of annual reports and other data.

Rate Activity - Common Carrier Rate activity has responsibility for seeing that proper rates, charges, etc. are charged by common carriers (motor, railroad, and oil pipelines). With respect to railroads, applications for station closings, dualizations, mobile agencies and train abandonments are made with this section. Applications for certificates and extensions of intrastate oil pipelines and the level or rates to be charged for transporting crude oil and oil products and all motor carrier rate matters are handled by this activity.

The commission has authority to inspect the condition of the equipment and the conduct and management of their business with relation to public safety and convenience and to compel rate changes or improvements in service in order to promote security, convenience and accommodation of the public.

SECURITIES - The Securities Commissioner is responsible for the administration of the Securities Act and the Uniform Land Sales Practices Act. The commissioner may require the filing of any literature intended for distribution to prospective investors, examine the records of every broker-dealer, and file a semiannual report containing such reasonable

information as deemed necessary to determine the financial condition of that person or security.

Kansas Uniform Land Sales Practices Act: Empowers the securities commissioner to prescribe reasonable rules relating to advertising practices escrow or trust agreements, and other matters which will assure that purchasers will receive that for which they contracted. The land, books and records of everyone offering subdivided land for sale are subject to the commissioner's examination.

Securities enforcement has a definite deterrent effect, however its benefits are numerous and include: 1.) preserving and protecting the valuable reputations of brokerage firms of integrity; 2.) enhancing the legitimate capital formation processes vital to the economic growth and well being of Kansas; 3.) improving investor confidence and protection while enhancing investor good will toward state government; 4.) creating a favorable climate for the conduct of legitimate business financial dealings.

CONSERVATION - This division is divided into four sections: Administrative; Gas Conservation; Oil Proration and Secondary Recovery, Pollution Control and Plugging sections.

Administrative - The Administrator of the Conservation Division recommends to the Commission at its market demand and crude oil hearings the amounts of oil and gas that can be produced without waste.

Gas Conservation - The commission has jurisdiction with respect to unitization of oil and gas pools, and prohibits the production of natural gas in the State of Kansas in such a manner and under such conditions as to constitute waste, whether it be economic, underground or surface waste.

The commission shall regulate the production of gas and develop a formula for setting allowables. It provides for well spacing and the orderly development of a common source of supply and sets out the conditions under which the public interest and welfare warrant underground storage of natural gas. The commission must investigate the suitability of the underground stratum for such purposes, determine the amount of recoverable oil and native gas therein, and hold a public hearing, before it issues a certificate.

introduced thereat and the administrator's recommendation, the commission determines the oil allowable for the ensuing month. This allowable is the amount of oil the commission determines can be produced without waste, which amount is then allocated to pools and between wells within the pools in such a way that each pool and well is given its fair and equitable share of the state allowable without unreasonable discrimination.

All purchasers of oil or waste oil are required to file verified statements of all oil purchased or taken from any well, lease or pool in the State of Kansas before the 15th of each month succeeding the month of purchase. Reports are issued monthly, setting forth the allowable to each field or well.

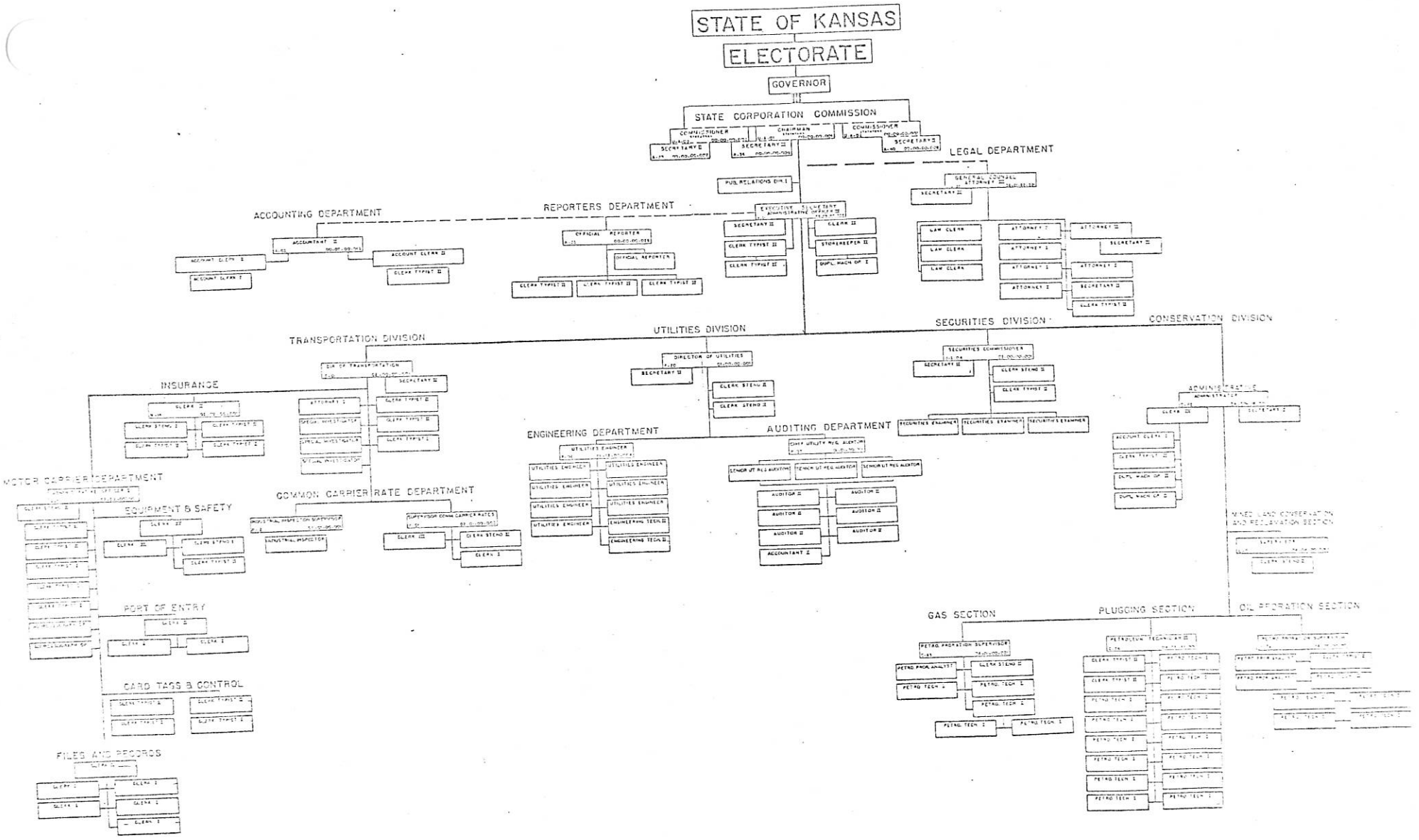
It is prohibited to produce crude oil in such a manner as to constitute waste. Waste, in addition to the ordinary meaning, being defined as "including economic, underground and surface waste, waste of reservoir energy and production in excess of transportation or marketing facilities or reasonable market demands". The commission has authority to make rules and regulations for the prevention of waste and for the protection of all fresh water strata and oil and gas bearing strata encountered in drilling and producing oil. It is also prohibited to buy or sell illegally produced oil.

Secondary Recovery, Pollution Control and Plugging - The Plugging section relates to drilling and abandonment of certain wells, repressuring and waterflooding, and plugging of abandoned wells. The exploration, discovery or production of oil or gas or other minerals including coal, requires notice to the commission of intent to drill. The commission must then determine the amount of pipe necessary to protect usable water before such drilling may commence. The commission has authority to adopt rules and regulations in cooperation with the secretary of health and environment, state geological survey and state water resources board and provides for penalties in case of violation.

Whenever the commission shall determine that inadequate field prices of crude oil are making it economically unfeasible to continue production of oil from wells which would otherwise be actively producing, thereby resulting in economic and physical waste, it is authorized to fix the minimum price of crude oil at a level sufficient to conserve such oil resources. The commission may determine whether or not such operation will cause damage to oil, gas or fresh-water resources.

It is anticipated that secondary recovery operations will be on the increase in Kansas, since the increase in price of crude oil will make such operations more economically feasible.

Complaints relating to investigations and plugging of abandoned wells of unknown ownership may be made either to the corporation commission or the secretary of health and environment, when there is reason to believe that a well not plugged, improperly plugged or plugging is no longer effective by reason of deterioration of the pipe or other cause, is polluting or likely to pollute any fresh water strata or supply.


STATE OF KANSAS
ELECTORATE
GOVERNOR
STATE CORPORATION COMMISSION
LEGAL DEPARTMENT
ACCOUNTING DEPARTMENT
REPORTERS DEPARTMENT
TRANSPORTATION DIVISION
UTILITIES DIVISION
SECURITIES DIVISION
CONSERVATION DIVISION
INSURANCE
MOTOR CARRIER DEPARTMENT
EQUIPMENT & SAFETY
PORT OF ENTRY
CARD TAGS & CONTROL
FILES AND RECORDS
COMMON CARRIER RATE DEPARTMENT
ENGINEERING DEPARTMENT
AUDITING DEPARTMENT
GAS SECTION
PLUGGING SECTION
OIL PRORATION SECTION

REVIEW OF RATE MAKING PRINCIPLES

OUTLINE

June 10, 1977

I. Characteristics of a utility

- A. Natural monopoly (largely free from competition).
- B. Required to charge only reasonable rates that are not unjustly discriminatory.
- C. Allowed to earn but not guaranteed a reasonable profit.
- D. Obligated to provide adequate service on demand.
- E. Closely associated with process of transportation and distribution.
- F. Government regulation substitutes for competition.

II. Regulation of Utilities

- A. Purpose
- B. Federal, State and Local regulatory agencies
- C. Monthly, quarterly and annual reporting
- D. Justification for rate levels

III. Generally accepted rate making principles

- A. Distinction between rate making principles, accounting principles and tax accounting
    1. Matter of objectives
- B. Objectives of rate making
- C. Examples
    1. Test year
    2. Normalization of operations
    3. Normalization of income taxes

IV. Definition of key terms and phrases

A. Investor-owned utility

B. Capital intensive industry

C. Rate base

1. Average
2. End-of-period

D. Income statement

E. Synchronization

F. Capitalization

G. Test year

H. Pro forma

I. Revenue requirement $RR=e+d+T+r(V-D)$

J. Revenue deficiency

K. Annualization

L. Normalization

M. Used and required to be used

N. Below the line

O. AFUDC or AFDC

V. Correlation between rate base, operations and capitalization in the overall determination of revenue requirement

VI. Rate Base

A. Definition and purpose

B. Components of rate base

1. Gross plant in service

2. Accumulated depreciation

3. Working capital

a. Purpose
b. Components

C. Valuation of rate base

1. Original cost less depreciation

VI. Rate Base (continued)

2. Prudent investment less depreciation

3. Replacement cost, new less depreciation

4. Fair value

D. Methods of computing rate base

1. Average

2. End-of-period

E. Construction work in progress (CWIP)

F. AFUDC (Allowance for funds used during construction) in the rate base

1. Purpose and definition

2. Method of computation

G. Rate making principles to be considered

1. Valuation method employed

2. Treatment of CWIP

VII. Operations

A. Definition and purpose

B. Calculation of net operating income

1. Operating revenues

2. Operation and maintenance expenses

3. Depreciation

4. Taxes other than income taxes

5. Income taxes

C. Pro forma adjustments

1. Annualization

2. Normalization

D. Synchronization to rate base and capital structure

E. Income taxes

1. Flowthrough

VII. Operations (continued)

2. Normalization

VIII. Capitalization

A. Definition and purpose

B. Components

1. Debt

2. Preferred

3. Customer related

4. Common

IX. Conclusion

Issues Considered in a Full Scope Examination

Issues addressed under Elmer Fox, Westheimer & Co.'s full scope examinations are as follows:

- Rate base
  - Method selected - end of period, average of test period, future test year.
  - Valuation methods employed for rate base.
  - Proper treatment of construction work in progress.
  - Rate of returns earned on services provided by related entities.
  - Consideration as to whether all plant is either used or useful in rendering utility service.
  - Effect of adjustments to plant arising out of any FPC compliance audits.
  - Evaluation of rates of interest being capitalized in plant costs.
  - Consistency of company overheads being capitalized in plant costs.
-
  - Evaluation of obsolete or retired plant included in rate base.
  - Consideration of cash working capital methods employed not in compliance with standard forty-five day rule.
  - Study of cash flow characteristics of the company, cash planning methods utilized by corporate treasurers and short and long-term plans for cash needs.
  - Consideration of normal materials and supplies stock.
- Income statement
  - Representative test year selected.
  - Expense allocations from related entities.
  - Effect of union wage agreements, strikes or retroactive payments.
  - Proper matching or synchronizing of income statement with rate base.
  - Consideration of climatical conditions (degree days) on representative sales.
  - Representative mix of sales between high and low gross margin customers.
  - Representative mix of fuel supplies from various suppliers or sources.
  - Representative mix of electricity purchased versus production from own turbines.
  - Representative storm damages.

- Consideration of income tax settlements for prior years.
- Effect of merchandising operations.
- Effect of advertising programs.
- Effect on fiscal test years for company accounting adjustments not prepared except at calendar year-end.
- Proper inclusion of out-of-period adjustments on historical test year.
- Effect of changes in depreciation rates.
- Consideration of flow-through income tax accounting versus normalized income tax accounting.
- Construction income tax benefits.
- Determination that expense accrual policies are consistently applied.
- Consideration of bad debt experience ratios with recent trends.
- Consideration of fuel pass-along clauses.

– Capital structure

- Comparison of existing capital structure with historical trends.
- Consolidated capital versus parent or subsidiary separate capital structure.
- Double leverage concepts.
- Yield to common equity resulting from total rate of return earned or granted.
- Consideration of imbedded interest costs.
- Effect of recent debt or equity issues.

– Allocation methods employed

- Consideration as to consistency of methods employed between various states or jurisdictions.
- Consideration as to consistency of methods employed in prior cases.
- Consistency of methods employed in relationship to cost characteristic of plant or expenses being allocated.
- Consideration as to the proper allocation of company administrative costs to electric, gas or water for a multiutility company.

– Rate tariffs proposed

- Review of cost of service studies or method employed.
- Determination that proposed rate tariffs generate revenue required ...

- Consideration as to new tariffs added or deleted.
- Consideration as to the effect of any fuel riders added or rolled into base rate.
- Consideration of effect of any seasonal rates.
- Consideration of any rate regrouping or combining.

KANSAS GAS AND ELECTRIC COMPANY

ELEMENTS OF THE KANSAS JURISDICTIONAL RATE BASE

May 31, 1974

Line No.		A	B	C	D	E
			Applicant proposed adjustments			
		Balance per books as of May 31, 1974	Annualize depreciation expense to year-end level	Pro forma additional fuel stock	Pro forma additional material and supplies	Balance as adjusted by Applicant
1	Electric plant in service	$429,335,956	$	$	$	$429,335,956
2	Reserve for depreciation	96,201,792	1,873,300			98,075,092
3	Net electric plant in service	333,134,164	(1,873,300)	-	-	331,260,864
4	Plant held for future use	171,900				171,900
5	Construction work in progress	654,573 (1)				654,573 (1)
6		333,960,637	(1,873,300)	-	-	332,087,337
7	Working capital:					
8	Fuel stock	2,765,184 (2)		7,186,266		9,951,450
9	Plant materials and operating supplies	2,321,272 (2)			376,249	2,697,521
10	Prepayments	432,168 (2)				432,168
11	Cash	-				-
12	Total working capital	5,518,624	-	7,186,266	376,249	13,081,139
13	Total rate base	$339,479,261	$(1,873,300)	$7,186,266	$376,249	$345,168,476

14 (1) Represents a computation made by Applicant rather than a book balance as of May 31, 1974.

15 (2) Represents an average for the test period.

KANSAS GAS AND ELECTRIC COMPANY

ELEMENTS OF THE KANSAS JURISDICTIONAL RATE BASE

May 31, 1974

Line No.		F Applicant's allocation to REC and PWM	G Applicant's allocation to Kansas jurisdictional	H Staff adjustments - increase (decrease) No. 1	I Staff adjustments - increase (decrease) No. 2	J Staff adjustments - increase (decrease) No. 3
1	Electric plant in service	$24,102,291	$405,233,665	$	$	$
2	Reserve for depreciation	5,182,850	92,892,242			
3	Net electric plant in service	18,919,441	312,341,423	-	-	-
4	Plant held for future use	6,046	165,854	(165,854)		
5	Construction work in progress	3,927	650,646		(650,646)	
6		18,929,414	313,157,923	(165,854)	(650,646)	-
7	Working capital:					
8	Fuel stock	814,029	9,137,421			(6,598,429)
9	Plant materials and operating supplies	63,910	2,633,611			
10	Prepayments	24,245	407,923			
11	Cash	-	-			
12	Total working capital	902,184	12,178,955	-	-	(6,598,429)
13	Total rate base	$19,831,598	$325,336,878	$(165,854)	$(650,646)	$(6,598,429)

KANSAS GAS AND ELECTRIC COMPANY

ELEMENTS OF THE KANSAS JURISDICTIONAL RATE BASE

May 31, 1974

Line No.		K	L	M	N	O
		Staff adjustments - increase (decrease)				Staff adjusted Kansas jurisdictional rate base
		No. 4	No. 5	No. 6	No. 7	
1	Electric plant in service	$	$	$	$	$405,233,665
2	Reserve for depreciation					92,892,242
3	Net electric plant in service	-	-	-	-	312,341,423
4	Plant held for future use					-
5	Construction work in progress					-
6		-	-	-	-	312,341,423
7	Working capital:					
8	Fuel stock	625,156	(1,284,026)			1,880,122
9	Plant materials and operating supplies				(2,161,622)	471,989
10	Prepayments			(48,539)		359,384
11	Cash					-
12	Total working capital	625,156	(1,284,026)	(48,539)	(2,161,622)	2,711,495
13	Total rate base	$625,156	$(1,284,026)	$(48,539)	$(2,161,622)	$315,052,918

Docket No. 102,640-U
Schedule B-3

KANSAS GAS AND ELECTRIC COMPANY

COMPUTATION OF EXCESS CASH WORKING CAPITAL AVAILABLE

Line No.		A	B
1	Kansas pro forma operation and maintenance expense (Schedule C-1)		$43,713,972
2	Less purchased power		661,741
3	Expenses requiring cash working capital		$43,052,231
4	Forty-five days of operation and maintenance expenses exclusive of		
5	purchased power (12.5%)		$ 5,381,529
6	Deductions from the forty-five days allowable expenses:		
7	Federal income tax on income	$1,250,251	
8	State income tax on income	188,543	
9	Ad valorem taxes	5,693,686	
10	City gross receipts tax	410,671	
11	Total deductions		7,543,151
12	Excess cash working capital provided		$ 2,161,622
13	To apply cash working capital provided to other working capital elements:		
14	Plant materials and operating supplies		$ 2,161,622

KANSAS GAS AND ELECTRIC COMPANY

STATEMENT OF OPERATING INCOME UNDER PRESENT FILED RATES

For test year ended May 31, 1974

Line No.		A Total company operations per books	B Applicant adjustments to total company operations (Schedule C-2)	C Total company operations as adjusted by Applicant	D Applicant allocation to REC and PWM	E Applicant allocation to Kansas jurisdictional	F Staff adjustments to Kansas jurisdictional (Schedule C-3)	G Kansas jurisdictional as adjusted by Staff under present rates
1	Operating revenues	$83,091,173	$15,180,438	$98,271,611	$4,474,179	$93,797,432	$9,390,082	$103,187,514
2	Operating expenses:							
3	Operation and maintenance:							
4	Production	27,193,833	4,036,501	31,230,334	2,552,521	28,677,813	1,149,060	29,826,873
5	Transmission	740,415	51,260	791,675	61,988	729,687	4,743	734,430
6	Distribution	3,859,353	266,732	4,126,085	32,326	4,093,759	26,571	4,120,330
7	Customer accounts	2,075,509	144,540	2,220,049	4,745	2,215,304	14,481	2,229,785
8	Sales	962,515	144,518	1,107,033	-	1,107,033	(36,279)	1,070,754
9	Administrative and general	5,572,697	508,718	6,081,415	211,127	5,870,288	(138,488)	5,731,800
10	Total operation and maintenance	40,404,322	5,152,269	45,556,591	2,862,707	42,693,884	1,020,088	43,713,972
11	Depreciation and amortization	10,545,700	1,873,300	12,419,000	684,646	11,734,354	-	11,734,354
12	Taxes other than income taxes	7,105,376	1,451,395	8,556,771	465,357	8,091,414	(148,272)	7,943,142
13	Income taxes - current	(1,549,000)	4,509,000	2,960,000	(513,227)	3,473,227	2,499,229	5,972,456
14	Deferred income taxes:							
15	Liberalized depreciation	4,193,000	-	4,193,000	235,227	3,957,773	-	3,957,773
16	Liberalized depreciation -							
17	prior years	(31,000)	(68,000)	(99,000)	(5,554)	(93,446)	-	(93,446)
18	Investment tax credit	2,854,000	-	2,854,000	160,109	2,693,891	-	2,693,891
19	Investment tax credit amortization	(176,000)	(51,000)	(227,000)	(12,735)	(214,265)	-	(214,265)
20	Total operating expenses	63,346,398	12,866,964	76,213,362	3,876,530	72,336,832	3,371,045	75,707,877
21	Operating income	$19,744,775	$ 2,313,474	$22,058,249	$ 597,649	$21,460,600	$6,019,037	$ 27,479,637
22	Rate of return							8.72%

Schedule D-2

KANSAS GAS AND ELECTRIC COMPANY

KANSAS RATE OF RETURN FOR OTHER THAN COMMON EQUITY

May 31, 1974

Line No.		A Capitalization May 31, 1974	B Ratio of capitalization May 31, 1974	C Customer related equity at May 31, 1974	D Total equity May 31, 1974	E Percent of total equity	F Cost of related equity	G Allowable rate of return for other than common equity
1	Debt equity:							
2	First mortgage bonds	$165,000,000		$	$165,000,000	46.89	6.37%	2.99%
3	Pollution control revenue bonds	15,000,000			15,000,000	4.26	5.83	.25
4	Notes payable and commercial paper	19,600,000			19,600,000	5.57	11.20	.62
5		199,600,000	60.34%	-	199,600,000	56.72		
6	Preferred equity:							
7	Preferred stock	33,701,100	10.19	-	33,701,100	9.58	5.78	.55
8	Customer related equity:							
9	Customer advances			469,643	469,643	.13	-	-
10	Customer deposits			737,633	737,633	.21	4.00	.01
11	Accrued interest on customer							
12	deposits			182,611	182,611	.05	-	-
13	Reserve for injuries and damages			113,900	113,900	.03	-	-
14	Deferred income taxes on liberalized							
15	depreciation			12,716,000	12,716,000	3.62	1.50	.05
16	Deferred investment tax credit			2,006,244	2,006,244	.57	1.50	.01
17		-		16,226,031	16,226,031	4.61		
18	Common equity:							
19	Common stock	31,770,078			31,770,078	9.03	?	-
20	Premium on capital stock	291,595			291,595	.08	?	-
21	Retained earnings	65,407,868			65,407,868	18.59	?	-
22	Job development investment credit	-		4,900,000	4,900,000	1.39	?	-
23		97,469,541	29.47	4,900,000	102,369,541	29.09		
24		$330,770,641	100.00%	$21,126,031	$351,896,672	100.00%		4.48%

Docket No. 102,640-U
Schedule C-5

KANSAS GAS AND ELECTRIC COMPANY

COMPUTATION OF KANSAS JURISDICTIONAL TAXABLE INCOME

For test year ended May 31, 1974

Line No.		A	B Total Company	C	D	E Kansas
		Before Staff adjustments	Staff adjustments	Staff adjusted amounts	Allocation ratio	jurisdictional amounts
1	Operating income from Schedule C-1	$	$	$		$27,479,637
2	Add:					
3	Income taxes - current					5,972,456
4	Deferred income taxes:					
5	Liberalized depreciation - net					3,864,327
6	Investment tax credit - net					2,479,626
7						39,796,046
8	Add items deducted for book purposes that					
9	are not deductible for tax purposes:					
10	Compensation reserve	12,500		12,500	96.50%	12,063
11	Adjustment of bond premium and expense	4,517		4,517	94.39	4,264
12		$ 17,017	$ -	$ 17,017		16,327
13	Less items deductible for tax purposes but					
14	not deducted for book purposes:					
15	Payroll taxes capitalized	$ 267,106	$ (27,860)	$ 239,246	96.50	230,872
16	Ad valorem taxes capitalized	317,893	135,433	453,326	94.39	427,894
17	Pension costs capitalized	481,721	4,913	486,634	96.50	469,602
18	Excess of tax rates straight-line depreciation					
19	over book rates straight-line depreciation	1,521,467	-	1,521,467	94.49	1,437,634
20	Credit for dividend paid on certain preferred stock	107,648	-	107,648	94.39	101,609
21	Interest expense	12,199,002	1,339,141	13,538,143	94.39	12,778,653
22	Amortization of debt discount, expense and premium	28,584	-	28,584	94.39	26,980
23	Taxable income	$14,923,421	$1,451,627	$16,375,048		15,473,244
24						$24,339,129

Statement of Income for the years ended December 31

	1975
Operating Revenues	$126,165,853
Operating Expenses:	
Fuel	39,272,773
Deferred fuel (Note 2)	2,427,162*
Purchased power	2,824,219
Other operation	16,505,540
Maintenance	7,345,051
Depreciation	13,092,000
Taxes—other than income taxes	8,910,639
Income taxes (Note 6)	13,031,000
Total operating expenses	98,554,060
Operating Income	27,611,793
Other Income and Deductions:	
Allowance for funds used during construction	5,090,448
Income taxes—net (Note 6)	1,899,000
Miscellaneous—net	76,230*
Total other income and deductions	6,913,218
Income Before Interest Charges	34,525,011
Interest Charges:	
Interest on long-term debt	13,324,066
Other interest	2,715,436
Amortization of debt premium, discount and expense—net	39,345
Total interest charges	16,078,847
Net Income	18,446,164
Preferred Stock Dividends	3,571,753
Earnings Applicable to Common Stock	$ 14,874,411
Average Shares of Common Stock Outstanding	5,116,775
Earnings Per Average Share of Common Stock	$2.91

* Denotes red figure.

See notes to financial statements.

Market Prices and Dividend Rates of Stocks Listed on National Exchanges

Type and Exchange	1976				1975			
	4th Qtr.	3rd Qtr.	2nd Qtr.	1st Qtr.	4th Qtr.	3rd Qtr.	2nd Qtr.	1st Qtr.
Stock Market Statistics								
Common Stock-NYSE								
Market Price - High	$21-3/4	$20-5/8	$19-1/8	$19-3/4	$19-1/4	$17-7/8	$18-3/8	$16-3/8
- Low	19	18-1/2	18-1/8	18-1/8	16-5/8	15-7/8	15-1/8	11-3/4
Dividend Rate - Per Share	.44	.42	.42	.42	.42	.40	.40	.39
4-1/2% Preferred-ASE								
Market Price - High	53	51-1/2	51	54-1/2	47-1/2	49	51	51
- Low	48-1/2	47-1/4	45-1/4	45	44	43	46-1/2	42
Dividend Rate - Per Share	1.125	1.125	1.125	1.125	1.125	1.125	1.125	1.125

KANSAS GAS AND ELECTRIC COMPANY
ELECTRIC PLANT IN SERVICE
DECEMBER 31, 1971, 1972, 1973
MAY 31, 1973 AND 1974

Account No.	Description	December 31			May 31	
		1971	1972	1973	1973	1974
	(1)	(2)	(3)	(4)	(5)	(6)
	Intangible plant					
301	Organization	$ 7,284	$ 7,284	$ 45,131	$ -	$ 45,131
	Total	7,284	7,284	45,131	-	45,131
	Production plant					
310	Land and land rights	477,458	477,458	2,220,519	477,458	2,220,519
311	Structures and improvements	13,612,718	13,413,734	24,019,206	13,414,361	24,008,871
312	Boiler plant equipment	43,343,093	43,282,769	103,265,459	43,289,075	105,012,109
314	Turbogenerator units	40,268,023	40,531,956	54,671,698	40,527,425	54,670,433
315	Accessory electric equipment	8,380,532	8,447,793	14,808,133	8,455,158	14,805,705
316	Miscellaneous power plant equipment	906,595	923,170	1,867,200	923,965	1,877,859
	Total	106,988,419	107,076,880	200,852,215	107,087,442	202,595,496
	Transmission plant					
350	Land and land rights	4,287,848	4,808,689	5,213,200	4,809,462	5,256,842
352	Structures and improvements	973,373	1,257,262	1,336,402	1,228,561	1,339,238
353	Station equipment	23,821,001	28,015,822	30,548,128	28,066,640	31,371,984
354	Towers and fixtures	3,015,251	3,627,059	4,322,127	3,627,059	4,317,919
355	Poles and fixtures	13,326,449	15,578,370	17,967,021	15,576,310	18,272,423
356	Overhead conductors and devices	17,125,123	19,585,355	21,729,801	19,586,856	21,940,044
357	Underground conduit	284,043	301,249	319,676	301,180	319,676
358	Underground conductors and devices	186,179	233,431	264,450	233,431	264,917
359	Roads and trails	19,910	19,910	20,326	19,910	19,909
	Total	63,039,177	73,427,147	81,721,131	73,449,409	83,102,952

KANSAS GAS AND ELECTRIC COMPANY
ELECTRIC PLANT IN SERVICE
DECEMBER 31, 1971, 1972, 1973
MAY 31, 1973 AND 1974

Line No.	Account No.	Description	December 31			May 31	
			1971	1972	1973	1973	1974
		(1)	(2)	(3)	(4)	(5)	(6)
		Distribution plant					
20	360	Land and land rights	$ 655,154	$ 688,281	$ 719,177	$ 690,918	$ 719,810
21	361	Structures and improvements	801,973	848,856	984,460	847,387	997,689
22	362	Station equipment	14,801,802	15,394,539	16,408,256	15,348,737	16,553,419
23	364	Poles, towers and fixtures	18,715,719	19,692,765	20,709,496	19,716,726	21,059,048
24	365	Overhead conductors and devices	16,890,122	17,751,844	18,704,995	17,751,278	18,911,977
25	366	Underground conduit	2,603,710	2,965,612	3,288,450	2,960,860	3,304,109
26	367	Underground conductors and devices	3,376,717	3,831,425	4,132,186	3,898,984	4,204,409
27	368	Line transformers	29,266,428	30,812,506	33,340,281	31,460,479	35,161,795
28	369	Services	7,896,508	8,415,593	9,125,977	8,596,786	9,423,703
29	370	Meters	8,094,608	8,442,020	8,865,634	8,558,178	9,038,959
30	371	Installations on customers' premises	6,036	6,036	3,496	6,036	3,496
31	372	Leased property on customers' premises	32,974	32,974	32,974	32,974	32,974
32	373	Street lighting and signal systems	5,390,074	5,760,377	6,028,123	5,705,938	6,044,812
33		Total	108,531,825	114,642,828	122,343,505	115,575,281	125,456,200
		General plant					
34	389	Land and land rights	780,668	781,164	798,127	791,726	798,168
35	390	Structures and improvements	8,686,970	8,653,741	8,927,322	8,652,378	8,929,100
36	391	Office furniture and equipment	914,397	956,395	970,445	955,598	1,003,059

KANSAS GAS AND ELECTRIC COMPANY
ELECTRIC PLANT IN SERVICE
DECEMBER 31, 1971, 1972, 1973
MAY 31, 1973 AND 1974

Line No.	Account No.	Description	December 31			May 31	
			1971	1972	1973	1973	1974
		(1)	(2)	(3)	(4)	(5)	(6)
37	392	Transportation equipment	$ 2,308,114	$ 2,416,879	$ 2,702,131	$ 2,337,726	$ 2,674,529
38	393	Stores equipment	142,279	143,211	144,440	144,065	147,737
39	394	Tools, shop and garage equipment	268,967	282,740	306,337	292,641	317,458
40	395	Laboratory equipment	274,000	282,172	294,126	285,688	302,346
41	396	Power operated equipment	416,383	453,378	475,114	453,171	474,123
42	397	Communication equipment	2,018,890	2,836,206	3,240,454	2,809,356	3,349,005
43	398	Miscellaneous equipment	123,825	140,612	140,292	138,794	140,652
44		Total	15,934,493	16,946,498	17,998,788	16,861,143	18,136,177
45		Total electric plant in service	$294,501,198	$312,100,637	$422,960,770	$312,973,275	$429,335,956
		Reference					Sec D Sch 1

KANSAS GAS AND ELECTRIC COMPANY
REVENUES
YEARS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Sales of electricity				
1	440	Residential	$24,208,290	$25,614,990	$27,675,375	$28,419,036
2	442.1	Commercial	18,643,811	19,948,700	21,403,394	21,936,806
3	442.2	Industrial	18,660,254	19,574,365	21,612,134	23,343,753
4	444	Public street and highway lighting	828,989	905,120	977,590	1,022,992
5	447	Sales for resale	8,260,246	7,331,058	7,376,071	7,675,022
6		Total	70,601,590	73,374,233	79,044,564	82,397,609
		Other operating revenues				
7	450	Forfeited discounts	369,427	362,112	399,594	411,680
8	451	Miscellaneous service revenues	55,669	52,414	63,301	73,475
9	454	Rent from electric property	113,562	157,239	185,128	192,917
10	456	Other electric revenues	10,047	9,067	11,883	15,492
11		Total	548,705	580,832	659,906	693,564
12		Total	$71,150,295	$73,955,065	$79,704,470	$83,091,173

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Power production expenses				
		Operation				
1	500	Supervision and engineering	$ 191,858	$ 194,832	$ 234,849	$ 266,948
2	501	Fuel	13,952,248	14,197,788	16,624,014	18,862,763
3	502	Steam expenses	509,136	465,719	799,985	992,169
4	505	Electric expenses	622,540	646,277	744,678	820,481
5	506	Miscellaneous steam power expenses	264,638	262,973	407,519	612,864
6	507	Rents	-	-	14,000	24,000
7		Total	15,540,420	15,767,589	18,825,045	21,579,225
		Maintenance				
8	510	Supervision and engineering	176,579	189,877	211,016	230,612
9	511	Structures	191,008	157,090	154,626	185,940
10	512	Boiler plant	417,559	477,537	1,301,763	1,795,451
11	513	Electric plant	360,236	511,148	685,764	988,369
12	514	Miscellaneous steam plant	31,827	32,680	42,862	61,190
13		Total	1,177,209	1,368,332	2,396,031	3,261,562
		Other power supply expenses				
14	555	Purchased power	1,377,880	2,719,977	2,137,902	1,761,611
15	556	Steam control and load dispatching	404,212	429,473	543,608	566,973
16	557	Other expenses	41,244	16,240	24,934	24,462
17		Total	1,823,336	3,165,690	2,706,444	2,353,046
18		Total power production expenses	18,540,965	20,301,611	23,927,520	27,193,833
--						
31		Total	318,965	339,362	460,420	441,038
32		Total transmission expenses	619,846	651,299	754,639	740,415
		Distribution expenses				
		Operation				

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Transmission expenses				
		Operation				
19	560	Supervision and engineering	$ 51,601	$ 47,869	$ 34,445	$ 35,145
20	562	Station expenses	219,679	230,596	216,370	221,284
21	563	Overhead line expenses	8,099	6,197	13,628	13,724
22	566	Miscellaneous transmission expenses	21,215	26,928	29,407	28,855
23	567	Rents	287	347	369	369
24		Total	300,881	311,937	294,219	299,377
		Maintenance				
25	568	Supervision and engineering	27,822	29,174	26,658	27,336
26	569	Structures	2,308	4,302	4,270	2,968
27	570	Station equipment	138,743	150,455	182,266	188,496
28	571	Mainenance of overhead lines	122,178	121,925	202,847	171,684
29	572	Underground lines	-	-	204	108
30	573	Miscellaneous transmission plant	27,914	33,506	44,175	50,446
31		Total	318,965	339,362	460,420	441,038
32		Total transmission expenses	619,846	651,299	754,639	740,415
		Distribution expenses				
		Operation				
33	580	Supervision and engineering	233,141	216,038	199,678	208,852
34	582	Station expenses	215,712	228,238	227,744	231,133
35	583	Overhead line expenses	261,068	249,223	296,393	303,848

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
36	584	Underground line expenses	$ 11,235	$ 14,757	$ 17,077	$ 20,001
37	585	Street lighting and signal system expenses	174,557	189,426	189,195	187,868
38	586	Meter expenses	320,804	334,736	359,468	374,986
39	587	Customer installation expenses	95,454	97,326	147,776	150,387
40	588	Miscellaneous distribution expenses	201,569	206,663	221,490	230,646
41	589	Rents	24,343	24,584	23,893	23,289
42		Total	1,537,883	1,560,991	1,682,714	1,731,010
		Maintenance				
43	590	Supervision and engineering	117,963	118,010	149,866	156,405
44	591	Structures	7,348	5,879	4,803	4,310
45	592	Station equipment	123,763	166,497	146,782	155,629
46	593	Maintenance of overhead lines	1,114,836	1,169,559	1,289,299	1,305,921
47	594	Underground lines	13,128	25,262	30,112	34,574
48	595	Line transformers	145,315	127,351	134,456	146,484
49	596	Street lighting and signal systems	104,904	104,630	104,161	119,741
50	597	Meters	88,653	89,232	93,247	92,763
51	598	Miscellaneous distribution plant	79,591	88,581	114,939	112,516
52		Total	1,795,501	1,895,001	2,067,665	2,128,343
53		Total distribution expense	3,333,384	3,455,992	3,750,379	3,859,353

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
		Customer accounts expense				
54	901	Supervision	$ 12,346	$ -	$ 102,222	$ 104,922
55	902	Meter reading expenses	335,318	356,922	382,450	405,617
56	903	Customer records and collection expenses	1,289,126	1,311,705	1,450,671	1,485,640
57	904	Uncollectible accounts	66,350	60,450	38,400	52,250
58	905	Miscellaneous customer accounts expenses	22,513	23,697	27,229	27,080
59		Total customer accounts expenses	1,725,653	1,752,774	2,000,972	2,075,509
		Sales expenses				
60	911	Supervision	99,576	92,893	79,666	73,514
61	912	Demonstrating and selling expenses	945,072	1,095,579	633,173	617,232
62	913	Advertising expenses	282,363	281,212	222,666	173,098
63	914	Revenues from merchandise	176,153*	179,016*	-	-
64	915	Cost of merchandise	174,568	176,467	-	-
65	916	Miscellaneous sales expense	87,005	91,006	96,132	98,671
66		Total sales expense	1,412,431	1,558,141	1,031,637	962,515
		Administrative and general expenses				
		Operation				
67	920	Administrative and general salaries	1,934,219	2,001,242	2,044,725	2,131,584
68	921	Office supplies and expenses	551,174	630,662	787,285	817,465
69	922	Administrative expenses transferred	288,390*	317,795*	384,625*	385,331*
70	923	Outside services employed	81,811	91,233	162,273	164,351
71	924	Property insurance	204,195	204,951	223,467	250,505

KANSAS GAS AND ELECTRIC COMPANY
OPERATING EXPENSES
TWELVE MONTHS ENDED DECEMBER 31, 1971, 1972, 1973 AND
MAY 31, 1974

Line No.	Account Number	Description	Twelve Months Ended 12/31/71	12/31/72	12/31/73	5/31/74
		(1)	(2)	(3)	(4)	(5)
72	925	Injuries and damages	$ 117,770	$ 117,193	$ 127,801	$ 134,553
73	926	Employee pensions and benefits	1,196,729	1,396,923	1,476,500	1,666,354
74	928	Regulatory Commission	-	-	71,263	65,697
75	930	Miscellaneous general expenses	367,345	341,716	571,409	591,270
76	931	Rents	19,217	19,353	19,727	18,410
77		Total	4,184,070	4,485,478	5,099,825	5,454,858
		Maintenance				
78	932	Maintenance of general plant	56,897	120,242	140,010	117,839
79		Total	56,897	120,242	140,010	117,839
80		Total administrative and general expenses	4,240,967	4,605,720	5,239,835	5,572,697
81		Total operation	26,524,674	28,602,600	31,640,856	34,455,540
82		Total maintenance	3,348,572	3,722,937	5,064,126	5,948,782
83		Total operating expenses	$29,873,246	$32,325,537	$36,704,982	$40,404,322

*Denotes red figure

ESTIMATED CONSTRUCTION SPENDING

YEAR	AMOUNT	TOTAL
1975	6	6
1976	48	54
1977	54	108
1978	92	200
1979	172	372
1980	49	371
1981	9	380

Assumptions:

AFUDC RATE 8%

CONSTRUCTION PAYMENTS MADE EVENLY THROUGHOUT YEAR.

DEPRECIABLE LIFE 30yrs STRAIGHT LINE DEPRECIATION

ACCOWABLE RETURN OF 9% ON RATE BASE

TAX RATE 51.51%

PREPARED BY DATE

CALCULATION OF RATE BASE CAPITALIZING AFUDC

		1 EXCLUSIVE OF AFUDC			4	5	6	7	8	9	10	11	
		BEG BALANCE	END BALANCE	AVERAGE BALANCE	AFUDC @ 8%	CUMULATIVE AFUDC @ 9%	TOTAL ENDING BALANCE						
1	1975		6	3	240	240	6,240						1
2	1976	6	54	30	2400	2,640	54,640						2
3	1977	54	108	81	6480	9,120	117,120						3
4	1978	108	200	154	12320	21,440	221,440						4
5	1979	200	377	261	20880	42,320	364,320						5
6	1980	377	371	346.5	27720	70,040	441,040						6
7	1981	371	380	375.5	30040	100,08	480,080						7
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PREPARED BY DATE

CALCULATION OF TOTAL REVENUE REQUIREMENTS WITH AFUDC

		1	2	3	4		5	6	7	8	9	10	11	
		BEG BALANCE	DEPRECIATION	ENDING BALANCE	AVERAGE INVESTMENT		RETURN ON RATE BASE AT 9%	GROSS REVENUE REQUIRED						
	1975	—		—		1								1
	1976	—		—		2								2
	1977	—		—		3								3
	1978	—		—		4								4
	1979	—		—		5								5
	1980	—		—		6								6
	1981	—		—		7								7
	1982	430,080	16,003	460,077	470079	8	42,307	87249						8
	1983	460077		448,074	454075	9	40,867	84279						9
	1984	448074		432,071	440073	10	39,607	81681						10
	1985	432071		416068	424070	11	38,167	78711						11
	1986	416,068		400,065	408067	12	36726	75739						12
	1987	400,065		384,062	392064	13	35,286	72770						13
	1988	384062		368,059	376,061	14	33845	69798						14
	1989	368,059		352,056	360058	15	32405	66829						15
	1990	352,056		336,053	344055	16	30965	63859						16
	1991	336053		320,050	328,052	17	29525	60889						17
	1992	320,050		304,047	=12049	18	28,084	57917						18
	1993	304,047		288,044	296,041	19	26644	54947						19
	1994	288,044		272,041	280043	20	25204	51978						20
	1995	272,041		256,038	264,040	21	23764	49008						21
	1996	256,038		240,035	248,037	22	22323	46,036						22
	1997	240,035		224,032	232,034	23	20,907	43116						23
	1998	224,032		208,029	216,031	24	19443	40097						24
	1999	208,029		192,026	200,029	25	18003	37127						25
	2000	192036		176,023	184,030	26	16563	34158						26
	2001	176,023		160,020	168,022	27	15122	31186						27
	2002	160,020		144,017	152,019	28	13682	29216						28
	2003	144,017		128,014	136,016	29	12241	25244						29
	2004	128014		112,011	120,013	30	10801	22275						30
	2005	112,011		96,008	104,010	31	9361	19305						31
	2006	96008		80,005	88,007	32	7921	16335						32
	2007	80,005		64,002	72004	33	6480	13364						33
	2008	64,002		47,999	56,001	34	5040	10394						34
	2009	47,999		31,996	39,998	35	3600	7424						35
	2010	31,996		15993	23,995	36	2160	4455						36
	2011	15993		—	7997	37	720	1485						37
	2012					38		$1335870						38
						39								39
						40								40
						41								41

PREPARED BY DATE

CALCULATION OF TOTAL REVENUE REQUIREMENTS CWIP IN RB

		1 BEG BALANCE	2 CAPITAL ADDITIONS	3 DEPREC	4 ENDING BALANCE		5 AVERAGE BALANCE	6 RETURN ON RATE BASE @ 9%	7 GROSS REVENUE REQUIRED	8	9	10	11	
1	1975	—	6	—	6	1	3	270	557					1
2	1976	6	48	—	54	2	30	2,700	5,569					2
3	1977	54	54	—	108	3	81	7,290	15,037					3
4	1978	108	92	—	200	4	154	13,860	28,589					4
5	1979	200	122	—	322	5	261	23,490	48,453					5
6	1980	322	49	—	371	6	346.5	31,185	64,325					6
7	1981	371	9	—	380	7	375.5	33,795	69,709					7
8	1982	380	—	12,667	367,333	8	373.67	33,630	69,369					8
9	1983	367,333	-	12,667	354,666	9	361	32,490	67,017					9
10	1984	354,666	-	12,667	341,999	10	348,333	31,350	64,666					10
11	1985	341,999	-	12,667	329,332	11	335,666	30,210	62,314					11
12	1986	329,332	-	12,667	316,665	12	322,999	29,070	59,962					12
13	1987	316,665	-	12,667	303,998	13	310,332	27,930	57,611					13
14	1988	303,998	-	12,667	291,331	14	297,665	26,790	55,260					14
15	1989	291,331	-	12,667	278,664	15	284,998	25,650	52,908					15
16	1990	278,664	-	12,667	265,997	16	272,331	24,510	50,557					16
17	1991	265,997	-	12,667	253,330	17	259,664	23,370	48,205					17
18	1992	253,330	-	12,667	240,663	18	246,997	22,230	45,854					18
19	1993	240,663	-	12,667	227,996	19	234,330	21,090	43,502					19
20	1994	227,996	-	12,667	215,329	20	221,663	19,950	41,151					20
21	1995	215,329	-	12,667	202,662	21	208,996	18,810	38,800					21
22	1996	202,662	-	12,667	189,995	22	196,329	17,670	36,448					22
23	1997	189,995	-	12,667	177,328	23	183,662	16,530	34,097					23
24	1998	177,328	-	12,667	164,661	24	170,995	15,390	31,745					24
25	1999	164,661	-	12,667	151,994	25	158,328	14,250	27,394					25
26	2000	151,994	-	12,667	139,327	26	145,661	13,109	27,046					26
27	2001	139,327	-	12,667	126,660	27	132,994	11,969	24,689					27
28	2002	126,660	-	12,667	113,993	28	120,327	10,829	22,337					28
29	2003	113,993	-	12,667	101,326	29	107,660	9,689	19,986					29
30	2004	101,326	-	12,667	88,659	30	94,993	8,549	17,634					30
31	2005	88,659	-	12,667	75,992	31	82,326	7,409	15,283					31
32	2006	75,992	-	12,667	63,325	32	69,659	4,269	12,931					32
33	2007	63,325	-	12,667	50,658	33	56,992	5,129	10,580					33
34	2008	50,658	-	12,667	37,991	34	44,325	3,989	8,228					34
35	2009	37,991	-	12,667	25,324	35	31,658	2,849	5,876					35
36	2010	25,324	-	12,667	12,657	36	18,991	1,709	3,525					36
37	2011	12,657	-	12,657	-	37	6,329	570	1,176					37
38	2012					38			$1,290,384					38
39						39								39
40						40								40

PREPARED BY DATE

CALCULATION OF PRESENT VALUE OF DIFFERENCE

		CAP AFUDC GROSS REVENUE REQUIRED	CWIP IN RB GROSS REVENUE REQUIRED	DIFFERENCE	P.V.@ 5%			P.V.@ 4%					
			557	(557)	.952380 95	1	(530)	.961538 46	(536)				1
			5,569	(5,569)	.907029 48	2	(5,051)	.924556 21	(5,149)				2
			15,037	(15,037)	.863837 60	3	(12,990)	.888996 36	(13,368)				3
			28,589	(23,589)	.822702 47	4	(23,520)	.854804 19	(24,438)				4
			48,453	(48,453)	.783526 17	5	(37,964)	.821927 11	(39,823)				5
			64,325	(64,325)	.746215 40	6	(48,000)	.790314 53	(50,837)				6
			69,709	(69,709)	.710681 33	7	(49,541)	.759917 81	(52,973)				7
		87249	69,369	17,880	.676839 36	8	12,102	.730690 21	13,065				8
		84279	67,017	17,262	.644608 92	9	11,127	.702553 74	12,128				9
		81681	64,666	17,015	.613913 25	10	10446	.675564 17	11,495				10
		78711	62,314	16,397	.584679 29	11	9,587	.649580 93	10,651				11
		75139	59,962	15,777	.556837 42	12	8,785	.624597 05	9,854				12
		72770	57,611	15,159	.530321 35	13	8039	.600574 09	9,104				13
		69798	55,260	14,538	.505006 795	14	7,342	.577475 08	8,395				14
		66828	52908	13,920	.481017 10	15	6,696	.555264 50	7,729				15
		63859	50,557	13,302	.458111 52	16	6094	.533908 18	7,102				16
		60889	48,205	12,684	.436279 69	17	5534	.513373 25	6,512				17
		57917	45,854	12,063	.415520 65	18	5,012	.493628 12	5,965				18
		54947	43502	11,445	.395733 96	19	4529	.474642 42	5,432				19
		51978	41,151	10827	.376889 48	20	4,081	.456386 75	4941				20
		49008	38,800	10,208	.358942 36	21	3664	.438383 60	4,480				21
		46036	36448	9588	.341849 87	22	3278	.421955 39	4046				22
		43116	34097	9019	.325571 31	23	2936	.405726 33	3659				23
		40097	31745	8352	.310067 91	24	2590	.390121 47	3258				24
		37127	29394	7733	.295302 77	25	2284	.375116 80	2901				25
		34158	27040	7118	.281240 73	26	2002	.360699 23	2567				26
		31186	24689	6497	.267848 32	27	1746	.346816 57	2253				27
		29216	22337	5879	.255093 64	28	1500	.333477 47	1961				28
		25244	19986	5258	.242946 32	29	1277	.320651 41	1696				29
		22275	17634	4641	.231377 45	30	1074	.308318 67	1431				30
		19305	15283	4022	.220359 47	31	.886	.296460 26	1172				31
		16335	12931	3404	.209866 17	32	.714	.285057 91	.970				32
		13364	10586	2784	.199872 54	33	.556	.274094 17	.763				33
		10394	8228	2166	.190354 80	34	.412	.263552 09	.571				34
		7424	5876	1548	.181290 29	35	.281	.253415 47	.392				35
		4455	3525	930	.172657 41	36	.161	.243668 72	.227				36
		1485	1176	309	.164435 63	37	.051	.234296 85	.072				37
		1335870	1290384	45486		38	(52816)		(42334)				38
						39							39
						40							40