(Decision No. C78-1018)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * *

IN THE MATTER OF PROPOSED INCREASED RATES AND CHARGES CONTAINED IN TARIFF REVISIONS FILED BY PUBLIC SERVICE COMPANY OF COLORADO UNDER ADVICE LETTER NO. 715 - ELECTRIC, ADVICE LETTER NO. 716 - ELECTRIC, ADVICE LETTER NO. 249 - GAS, AND ADVICE LETTER NO. 250 - GAS.	)	INVESTIGATION AND SUSPENSION DOCKET NO. 1200 DECISION AND ORDER OF THE COMMISSION

- - - - - - - - - -

August 1, 1978

- - - - - - - - - -

PRECIS

PUBLIC SERVICE COMPANY OF COLORADO AUTHORIZED TO INCREASE ITS ELECTRIC AND GAS RATES SO AS TO PROVIDE, ON A TEST YEAR BASIS, ADDITIONAL REVENUE OF $29,233,959; RATE OF RETURN ON RATE BASE OF 9.14% AND 14.2% RATE OF RETURN ON EQUITY AUTHORIZED.

APPEARANCES

Kelly, Stansfield and O'Donnell by Bryant O'Donnell, Esq. and James R. McCotter, Esq., Denver, Colorado, for Public Service Company of Colorado;

Gorsuch, Kirgis, Campbell, Walker & Grover by Leonard M. Campbell, Esq., William Hamilton McEwan, Esq., and C. Paul Swift, Esq., Denver, Colorado, for AMAX Inc., and Colorado Municipal League;

John L. Mathews, Esq., San Francisco, California, Western Area Chief Counsel for Regulatory Law, for General Services Administration for the Executive Agencies of the United States;

D. Bruce Coles, Esq., Denver, Colorado, for Mountain Plains Congress of Senior Organizations;

Rothgerber, Appel & Powers by Frederick Coldwell, Esq., Denver, Colorado, for Home Builders Association of Metropolitan Denver;

Welborn, Dufford, Cook & Brown by Richard L. Fanyo, Esq. and David W. Furgason, Esq., Denver, Colorado, for CF&I Steel Corporation;

Edward T. Buckingham, Esq., Denver, Colorado, for Ann Caldwell and the Legal Aid Society of Metropolitan Denver;

William Schroer, pro se, Denver, Colorado, for Colorado Utilities Taskforce;

Robert J. Moir, Esq., Denver, Colorado, for Ideal Basic Industries, Inc.;

Kevin L. Markey, pro se, Denver, Colorado, for Friends of the Earth, Inc.;

Elbridge Burnham, pro se, Denver, Colorado;

Tucker K. Trautman, Esq., Assistant Attorney General,
William Finger, Esq., Assistant Attorney General, and
John E. Archibold, Esq., Assistant Solicitor General, Denver, Colorado, for the Commission.

INDEX

BY THE COMMISSION:

I

HISTORY OF PROCEEDINGS

On April 3, 1978, Public Service Company of Colorado ("Public Service" or "Company" or "Respondent") filed with the Commission four advice letters, two of which pertain to electric rates and two of which pertain to gas rates. The four advice letters are as follows:

> 1. Advice Letter No. 249 - Gas, which is accompanied by two tariff sheets pertaining to Colorado PUC No. 4 - Gas;
>
> 2. Advice Letter No. 250 - Gas, which is accompanied by 70 tariff sheets pertaining to Colorado PUC No. 4 - Gas;
>
> 3. Advice Letter No. 715 - Electric, which is accompanied by two tariff sheets pertaining to Colorado PUC No. 5 - Electric; and
>
> 4. Advice Letter No. 716 - Electric, which is accompanied by 96 tariff sheets pertaining to Colorado PUC No. 5 - Electric.

In essence, Public Service, in Advice Letter No. 249 - Gas and Advice Letter No. 715 - Electric, states that the respective filings therein are to allow the Company the opportunity to earn a rate of return on test year conditions to which the Company is lawfully entitled in accordance with Commission Decision No. 91581 in Investigation and Suspension Docket No. 1116 entered on November 1, 1977. Accordingly, Advice Letter No. 249 - Gas filing seeks an increase in gas revenoes in the amount of $6,330,000 which Public Service states is an increase of 3.95% in gas base rate revenues (excluding Gas Cost Adjustment (GCA) revenues) and an increase of 2.47% in total base rate revenues and GCA revenues at GCA levels in effect on April 3, 1978. Advice Letter No. 715 - Electric seeks an increase in electric revenues in the amount of $15,568,000 which is an increase of 4.66% in electric base rate revenues (excluding Fuel Cost Adjustment (FCA) revenues) and an increase of 4.58% in total base rate and FCA revenues in effect on April 3, 1978.

The Advice Letter No. 250 - Gas filing seeks an increase in gas revenues in the amount of $11,768,000 which amount includes and is not in addition to the increase in the amount of $6,330,000 sought by the Advice Letter No. 249 - Gas filing. The $11,768,000 increase sought by Advice Letter No. 250 - Gas is an increase of 7.35% in gas base rate revenue and an increase of 4.59% in total base rate and GCA revenues at GCA levels in effect on April 3, 1978.

The Advice Letter No. 716 - Electric filing seeks an increase in electric revenues in the amount of $35,296,000 which amount includes and is not in addition to the increase in the amount of $15,568,000 sought by the Advice Letter No. 715 - Electric filing. The $35,296,000 increase sought by Advice Letter No. 716 - Electric is an increase of 10.57% in the electric base rate revenue and 10.38% in total base rate and FCA.

As a result of the four filings referred to above, Public Service seeks additional revenues of $47,064,000 which consists of $35,296,00 in electric revenues and $11,768,000 in gas revenues.

Although Public Service in its Advice Letter No. 249 - Gas and Advice Letter No. 715 - Electric, requested that the Commission permit those filings to become effective upon thirty (30) days' notice or on May 3, 1978, without suspension, the Commission on April 11, 1978, in Decision No. C78-463, on its own motion, pursuant to CRS 1973, 40-6-111: (1) set the electric and gas tariffs proposed by Public Service -- pursuant to its four respective advice letters -- for hearing, and (2) suspended the effective date of the tariff sheets filed by Public Service under its respective electric and gas advice letters until November 29, 1978, or until further order of the Commission.

Proper notice in accordance with the provisions of the Commission's Rules of Practice and Procedure was given by Public Service to its customers.

Decision No. C78-463 provided that any person, firm or corporation desiring to intervene as a party in the within proceeding shall file an appropriate pleading therefor with the Commission on or before May 15, 1978.

Formal pleadings to become parties in this proceeding were filed as follows:

(1) AMAX INC. - April 17, 1978

(2) Mountain Plains Congress of Senior Organizations - April 20, 1978

(3) CF&I Steel Corporation - April 28, 1978

(4) Ann Caldwell - April 28, 1978

(5) Home Builders Association of Metropolitan Denver - May 11, 1978

(6) Colorado Municipal League - May 12, 1978

(7) Ideal Basic Industries, Inc. - May 12, 1978

(8) General Services Administration for Federal Executive Agencies of the United States - May 15, 1978

(9) Colorado Utilities Taskforce - May 15, 1978

(10) Friends of the Earth, Inc. - May 15, 1978

(11) Elbridge Burnham, pro se - May 15, 1978.

Pursuant to the above pleadings, all of the above-named persons and entities were granted leave to intervene.

In the recent past the Commission has divided the hearing process with respect to proposed rate increases filed by Public Service into two phases. The first phase was devoted to the determination of the Revenue Requirements, and the second phase focused on the rate design or what is sometimes referred to as "Spread of the Rates." However, in this 1978 docket, inasmuch as the Commission set for hearing all of Public Service's rate filings of April 3, 1978, the Commission decided that the hearing process should be commenced and concluded as quickly as was reasonably possible. Therefore, hearings with respect to both Revenue Requirements and Spread of the Rates were conducted in one phase only. The Commission, in Decision No. C78-463, dated April 11, 1978, required the prefiling of written direct testimony and exhibits by Public Service and the prefiling of a summary of direct testimony and exhibits by all other parties.*

On May 1, 1978, Public Service filed the written direct testimony of six witnesses, namely, Richard F. Walker, D. D. Hock, Eugene W. Meyer, J. N. Bumpus, J. H. Ranniger, and D. D. Heckendorn. Cross-examination of these witnesses was held on May 31, 1978, June 1 and June 2, 1978.

On June 16, 1978, summaries of written direct testimony of the following witnesses were filed: Robert Spertus, on behalf of the Mountain Plains Congress of Senior Organizations and Ann Caldwell; Matityaku Marcus, on behalf of AMAX Inc.; John W. Rettenmayer, on behalf of the General Services Administration for Federal Executive Agenices of the United States; George J. Parkins, James A. Richards, Anthony F. Karahalios, Peter A. Letcurneau, and W. Craig Merrell of the Staff of the Commission.

Cross-examination of the foregoing witnesses was held on June 28 and 29, 1978, and July 6, 1978.

On July 6, 1978, without objection of the parties, CF&I was permitted to call Lance Russell and Gary S. Saleba as witnesses. The direct, cross- and redirect examination of these witnesses was conducted orally on that date.

All prefiled written direct testimony was marked as exhibits using letters of the alphabet. All exhibits filed with and in support of written direct testimony, or summaries of direct testimony, prefiled or filed during cross-examination were marked using Arabic numerals. A list of exhibits is appended to the Decision as Appendix A.

---

* The prefiling requirement was thus slightly modified from past practice where all parties were required to prefile complete written direct testimony and exhibits.

In addition to the above-noted evidentiary hearings, the Commission held daytime and nighttime hearings at various locations in Colorado (Denver, Pueblo, Fort Collins, and Grand Junction) for the purpose of taking public testimony.

On June 29, 1978, the Commission announced that the parties could file statements of position, on an optional basis, on or before July 17, 1978. Statements of position were filed as follows:

General Services Administration for Federal Executive Agencies of the United States	July 14, 1978
Public Service Company of Colorado	July 14, 1978
CF&I Steel Corporation	July 17, 1978
AMAX Inc.	July 17, 1978
Ann Caldwell	July 17, 1978
Mountain Plains Congress of Senior Organizations	July 17, 1978*

Submission.

The herein instant matter has been submitted to the Commission for decision. Pursuant to the provisions of the Colorado Sunshine Act of 1972, CRS 1973, 24-6-401, et seq., and Rule 32 of the Commission's Rules of Practice and Procedure, the subject matter of this proceeding has been placed on the agenda for the open public meeting of the Commission. At an open public meeting the herein Decision was entered by the Commission.

II

DESCRIPTION OF THE COMPANY

Public Service is the largest public utility operating within the State of Colorado which is engaged in the generation, transmission, distribution and sale of electricity and the purchase, distribution and sale of natural gas to various areas of the State of Colorado. Public Service is the result of the merger and acquisition of many gas and electric

*On July 26, 1978, Mountain Plains Congress of Senior Organizations filed a "Motion for Reimbursement" for attorney's fees.

companies dating back to the organization of the Denver Gas Company in 1869. The present entity was incorporated under Colorado law on September 3, 1924. In addition to its gas and electric service, Public Service also renders steam heat service in the downtown business district of Denver and operates a domestic water system in the general area of Evergreen. No change in the rates for steam or water service has been requested in this proceeding, but an increase in rates for these two commodities has been requested in other proceedings.

Electric or natural gas service, or both, are rendered at retail in 105 incorporated cities and towns and in various other communities and rural areas throughout Colorado. The Company also sells electric power and energy at wholesale for resale to five municipal electric utilities, one distribution REA cooperative, Home Light and Power Company, Colorado-Ute Electric Association, Inc., and Southern Colorado Power Division of Central Telephone and Utilities Inc. Wholesale electric rates and service are under the jurisdiction of the Federal Energy Regulatory Commission (successor to the Federal Power Commission).

The Company owns all of the common stock of two subsidiary operating utility companies, namely, Cheyenne Light, Fuel and Power Company which supplies electric, natural gas, and steam services in Cheyenne, Wyoming, and its environs, and Western Slope Gas Company, which is a natural gas transmission company transporting natural gas for service in several geographic areas in Colorado.

In addition, the Company owns approximately 99.5 percent of the common stock of Home Light and Power Company, which renders electric utility service in the City of Greeley and a large portion of Weld County, Colorado, serving 31,000 customers.

The Company also owns all of the common stock of 1480 Welton, Inc., basically a real estate company which owns its central office building, and of Fuel Resources Development Company (Fuelco), a subsidiary primarily engaged in exploration, development, and production of natural gas and oil. The Company also owns stock in various ditch and irrigation companies in connection with its use of water for generating plants.

Public Service, as of December 31, 1977, had 676,419 electric customers and 587,850 gas customers. Generally, these customers are broadly classified as residential, commercial, and industrial. As of December 31, 1977, the Company had 47,871 shareholders holding common stock in the Company (22,067 of whom own 100 shares or less) and 6,880 shareholders owning preferred stock in the Company. Common shareholders who live in the State of Colorado comprise 17,307 of the total number thereof.*

Public Service has been and is involved in an extensive construction program in order to expand its electrical, generating, transmitting, transforming and distribution facilities. This construction program has been undertaken in order to provide the facilities to meet expected demands for service and to provide adequate reserve capacity. Actual capital expenditures for the years 1973-1977 range from a low of $119,000,000 in 1975 to a high of $147,000,000 in 1973, with an average of $131,000,000. Public Service expects that its estimated expenditures for the next five years will be $1.267 billion or an average of $253,000,000 per year, which is almost double the previous five-year

---

* Information as to the number of electric and gas customers and shareholders was informally supplied to the Commission by counsel for Public Service.

average. Gas and other non-electric categories represent approximately 10% of the total construction budget basically related to customer additions. The electric department represents 90% of the Company's total five-year construction budget and is broken down into production facilities, transmission facilities, substation facilities and distribution facilities as follows:

	Percent of Total	Amount
Production	64.7	$ 737,541,000
Transmission	17.0	193,715,000
Substations	3.7	41,530,000
Distribution	14.5	165,686,000
Other	0.1	700,000
TOTAL FIVE-YEAR ELECTRIC CONSTRUCTION PROGRAM		$1,139,172,000

(Exhibit A, page 42)

Public Service has been involved in a number of conservation programs, which will be discussed in more detail later in this Decision.

III

GENERAL

There have been a number of rate proceedings involving Public Service in the past several years. During these years there has been an increased awareness and interest in the ratemaking functions of this Commission. Utility rates with respect to gas and electric service affect virtually all segments of the public. In view of inflationary and other economic pressures, general rate cases have become more frequent despite the fact that GCA or purchased gas adjustment (PGA) and FCA clauses will, generally speaking, tend to slow down the frequency of general rate cases.* Public participation in the ratemaking process before the Commission also has increased in the past several years.

---

*The Commission in 1977 investigated GCA and the Public Service FCA in Cases No. 5721 and No. 5700, respectively. On April 5, 1978, the Commission, in Decision No. C78-414, entered a decision which, in essence, continues the use of GCA or PGA Adjustment Clauses (with a procedural modification for an annual hearing) so as to reflect the delivered price of pipeline and wellhead gas, including charges for gathering, compression, and transportation. The Commission also required annual GCA or PGA reports to be filed by the utilities, followed by an investigative hearing to encompass present and projected market requirements for gas service, present and projected supplies of gas available to meet those requirements, any current or projected curtailment of service as a result of inadequate supplies, the gas purchase practices of the utilities as they affect the success of the utilities in obtaining adequate supplies of gas at reasonable prices, and any other subject that the Commission may wish to investigate. Certain technical modifications to Decision No. C78-414 were made pursuant to an errata notice dated April 7, 1978, Decision No. C78-583, dated May 2, 1978, an errata notice dated May 4, 1978, and Decision No. C78-741, dated May 30, 1978.

On September 13, 1977, the Commission entered its Decision No. 91290 in Case No. 5700 dealing with the FCA tariff of Public Service. The Commission authorized the continued use of an FCA clause subject to certain modifications such as the exclusion of transportation costs, and costs associated with unloading, handling of stockpiles, fuel treatment and ash disposal. The Commission also requires quarterly audits and hearings with respect to the implementation of the FCA clause. The Commission also ordered Public Service to credit against the FCA certain amounts as a result of moneys paid by Public Service to Fuel Development Resources Company during the period October 1, 1973, to November 1, 1977. Certain modifications to Decision No. 91220 were made subsequently by Decision No. 91519, dated October 20, 1977, Decision No. 91577, dated October 31, 1977, Decision No. 91868, dated December 22, 1977, Decision No. 91904, dated January 4, 1978, Decision No. C78-158, dated February 7, 1978, and Decision No. C78-280, dated March 7, 1978. Decision No. R78-746, dated June 1, 1978 (the Decision of the Commission on June 21, 1978) approved the first quarterly report filed by Public Service with regard to its FCA tariff.

It should be noted that the operation of the GCA (or PGA) and FCA clauses is <u>not</u> automatic and requires prior review by and approval of the Commission.

The power of the Public Utilities Commission to regulate non-municipal utilities in the State of Colorado is grounded in Article XXV of the Constitution of the State of Colorado which was adopted by the general electorate in 1954. The Public Utilities Law, which currently is contained in Article 40 of the Colorado Revised Statutes (1973, as amended), implements Article XXV of the Colorado Constitution. More specifically, CRS 1973, 40-3-102, vests in this Commission the power and authority to govern and regulate all rates, charges and tariffs of every public utility.

It first must be emphasized that ratemaking is a legislative function. The City and County of Denver vs. People ex rel Public Utilities Commission, 129 Colo. 41, 266 P.2d 1105 (1954); Public Utilities Commission vs. Northwest Water Corporation, 168 Colo. 154, 551 P.2d 266 (1963). It should also be emphasized that ratemaking is not an exact science, Northwest Water, supra, at 173. In the landmark case of Federal Power Commission vs. Hope Natural Gas Company, 320 U.S. 591, 602-603 (1944), Justice Douglas, speaking for the United States Supreme Court, stated that the "ratemaking process under (The Natural Gas) Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the investor and consumer interests." The Hope case further sets forth the proposition that under "the statutory standard of 'just and reasonable,' it is the result reached, not the method employed, which is controlling."

The process by which public utility rates are established should be explained. Under current law, when a public utility desires to change its rate or rates, it files its new rates with this Commission, and they are open for public inspection. Unless the Commission otherwise orders, no increase in any rate or rates may go into effect except after thirty (30) days' notice to the Commission and to the customers of the utility involved.

If the thirty (30) day period after filing goes by without the Commission having taken any action to set the proposed new rate or rates for hearing, the new rate or rates automatically become effective by operation of law.* However, the Commission has the power and authority to set the proposed new rate or rates for hearing, which, if done, automatically suspends the effective date of the proposed new rate or rates for a period of 120 days.** The Commission has the further option of continuing the suspension of the proposed new rate or rates for an additional period of up to ninety (90) days for a total maximum of 210 days or approximately seven months. Thus, if the Commission has not, by order, permitted the proposed new rate or rates to become effective, or established new rates, after hearing, prior to the expiration of the maximum 210-day period, the proposed new rate or rates go into effect by operation of law and remain effective until such time thereafter as the Commission establishes the new rates in the docket.

As indicated above, in "History of Proceedings," the Decision No. C78-463, entered on April 11, 1978, set for hearing the proposed electric and gas tariffs filed by Public Service, and suspended their effective date until November 29, 1978, or until further order of the Commission. The Decision herein is the Order which effectively establishes electric and gas rates for Public Service.

---

* Under CRS 1973, 40-3-104, most fixed utilities file rates on thirty (30) day notice; however, thirty (30) days is a minimum notice period, unless otherwise ordered by the Commission. A utility may select a longer notice period. In any event, if the Commission elects to set the proposed rate or rates for hearing, it must do so before the proposed effective date.

**

In the simplest terms, the Commission must determine and establish just and reasonable rates. In order to make this determination, the Commission must answer two questions; first, what are the reasonable revenue requirements of the utility involved that will enable it to render its service, and, second, how are the reasonable revenues to be raised from its ratepayers. In other words, the Commission must determine the "revenue requirement" and the "spread of the rates" to meet the revenue requirement. To accomplish its task, in these regards, it must exercise a considerable degree of judgment and, to the best of its ability, be as fair as possible to the different parties and positions that inevitably present themselves in any major rate case. The ratemaking function involves, in other words, the making of "pragmatic adjustments" (the Hope case, supra, at page 602). It is not an easy task, but, on the other hand, neither is it a task impossible of attainment.

IV

TEST PERIOD

In each rate proceeding it is necessary to select a test period. The operating results of the test period are then adjusted for known changes in revenue and expense levels so that the adjusted operating results of the test period will be representative of the future, and thereby afford a reasonable basis upon which to predicate rates which will be effective during a future period.

In this case the Commission finds that the 12-month period commencing January 1, 1977, and ending December 31, 1977, is the appropriate 12-month period which constitutes a representative year and is the test period for purposes of setting rates herein. In-period and out-of-period revenue and expense adjustments are discussed hereinafter.

V

RATE BASE

Year-End Rate Base.

The Commission, in Investigation and Suspension Docket No. 935, authorized Public Service to utilize a year-end rate base for its Electric Department inasmuch as Public Service had been adding significant amounts of non-revenue producing pollution control equipment to its plant. In Decision No. 91581, dated November 1, 1977, in Investigation and Suspension Docket No. 1116, the authorization for year-end rate base was extended to the Gas Department as well. The Commission found that adoption of year-end rate base is a methodology by which earnings attrition which is beyond the Company's control should be recognized. Accordingly, the Commission will continue the year-end rate base methodology to offset, in part, the effects of attrition beyond the control of Public Service.

Customer Advances.

The Commission finds that Customer Advances for construction in the amount of $6,760,202 for Public Service's Electric Department and $4,025,211 for Public Service's Gas Department for a total of $10,785,413, should be removed from the rate base in determining the revenue requirement for Public Service.

Customer Advances represent those funds provided by customers for the extension of services. Under Public Service's tariffs, those moneys either are refunded to the customer as hookups of service occur or transferred as a credit to the plant account. Traditionally, the amounts in the Customer Advances account are deducted from rate base as was done in this case. Public Service has utilized the method, approved by the Commission in the past, of determining such Customer Advances on the basis of the lowest average year during the past five years.

It is quite clear that since 1971 the balances in the Customer Advances account have increased considerably (Exhibit No. 25). It is true the Customer Advances account, by its very nature, displays substantial fluctuation and volatility from year to year. However, at this point in time, it appears that the upward trend is a continuing one and that, accordingly, the methodology of utilizing the lowest average for the past five years is not reflective of the present. The Commission, in Investigation and Suspension Docket No. 1116 (Decision No. 98581), indicated that it might consider a change of methodology if the upward trend in Customer Advances continued. In the present proceeding, Staff Witness Letourneau proposed using the respective amounts of Customer Advances reflected at the end of the test year. We believe it appropriate to measure Customer Advances by using the average of the last five years rather than the lowest average for the past five years. Accordingly, we measure Customer Advances in that manner.

Construction Work in Progress.

Consistent with past decisions, we have included Construction Work in Progress (CWIP) in Public Service's rate base.

In determining how to treat CWIP, the Commission must balance the interests of the ratepayers and the investors who have supplied the funds for such construction. On the one hand, the investors are entitled to a return on the funds which they have supplied. However, the ratepayers do not receive the benefit of such construction until the property is placed in service. Therefore, the argument is made that the ratepayer should not be required to compensate for funds invested in construction work until such time as the property is placed in service directly benefiting the ratepayer.

In an attempt to balance these conflicting interests, the Commission utilizes the following approach. The costs of construction work, including the interest costs associated therewith, are set forth in CWIP and are included in rate base under that title, thereby allowing the utility to earn a return thereon. At the same time, in the income statement, an amount is credited to Allowance for Funds Used During Construction (AFUDC), which amount is similar to the amount of earnings on rate base attributable to CWIP. The net effect of these entries, while property is under construction, is, to a substantial degree, the receipt of no benefit by the utility and the incurrence of no increased rates by the ratepayer. It should be noted, however, that to the extent the utility's rate of return is greater than the rate at which interest is charged to construction, to that extent capitalization of interest ceases on plant that is near completion and interest is not capitalized on interest, there is an imbalance or "slippage," thereby requiring current ratepayers to shoulder some of the costs of future plants. The fact that some portion of the needed construction expenditures are being paid for by current customers (that portion being measured by "slippage") means that the cash flow position and resulting financial strength of the utility will be enhanced.

When a particular piece of property is transferred from CWIP to Utility Plant in Service, the entire cost of such property, including interest costs associated therewith, is transferred and the entire amount is capitalized over the life of the property. No further amounts are credited to AFUDC with regard to that piece of property. At the end of the year, the amount included in AFUDC is transferred to the profit and loss statement so that, at the beginning of the new year, AFUDC has a zero balance. Thus, at the time a particular piece of property is placed in service, the utility begins to recover the entire cost and will continue to do so over the life of the property. Since the interest associated therewith is included, the utility, and, in turn, the investor, is compensated for the use of the funds and for the delay occurring prior to the property being placed in service. This compensation to the utility, and, in turn, the investor, is borne by future and not present ratepayers, except with respect to the slippage as discussed above.

At the present time with regard to Public Service, there is $12,495,814 in "slippage" or imbalance between AFUDC and the return on CWIP.* The reasons for the increase in this slippage were fully explored by the Commission in Investigation and Suspension Docket No. 1116. In Decision No. 91581 it was noted that while existing customers pay a portion of construction expenditures currently as a result of this slippage, allowing the slippage is justified to the extent that increased usage of existing customers partially results in the need for new plant and also tends to minimize the magnitude of the increase in revenue requirements once the plant goes into service. We adhere to that treatment of the slippage as well as the above-stated justifications therefor. It should be noted, however, that in Decision No. 91581, the Commission ordered Public Service to begin capitalizing interest at its authorized rate of return (or the maximum rate allowable by the Federal Energy Regulatory Commission (FERC), whichever is less) which will considerably lessen this slippage over time.

---

* See Appendix B.

Since the current slippage is directly related to the need for new plant, some recognition should be given to the relative responsibility of the various classes of customers for this new plant. Staff Witness Parkins' testimony demonstrated that the contribution to system peak of industrial and commercial classes of customers had grown relatively faster than that of the residential class over the recent past. The Commission concludes that the historical trend is indicative of the prospective growth in customer demand. This conclusion is corroborated by the fact that both CF&I and AMAX, the two largest industrial customers of Public Service, anticipate substantial increases of their firm demand in the near future. CF&I Witness Russell questioned the adequacy of the data relied on by Dr. Parkins to establish a trend. However, the Commission gives little weight to Mr.Russell's opinion in light of the fact that the statistical phenomenon of "auto correlation" observed by Mr. Russell in the data utilized would indicate an even greater growth in contribution by the industrial class in the future than the historical trend. CF&I Witness Saleba attempted to project the relative class contribution to peak over the next several years and concluded that the relative contributions would stay the same. However, the Commission rejects that conclusion on the basis that the methodology used by Mr. Saleba involved a questionable assumption which predetermined the conclusion reached. Instead, the Commission finds that Dr. Parkins has presented an adequate and valid measure of customer class causation of the need for new plant.

The Commission has consistently adhered to an historical cost of service analysis to determine how to spread the revenue requirements of the utility. It is contended that the particular method of cost allocation utilized, the average and excess method, generally results in the growth customers paying their share of the demand costs. In any event, any cost of service allocation, based on historical costs, is static in nature and does not take into account the dynamics of growth in demand that occurs subsequent to the historical test period. Since the current $12,495,814 in slippage is directly related to growth in demand, most of which occurs subsequent to the test period, we find that its allocation to customer classes should be handled separately from the historical cost of service allocation. Accordingly, Public Service should assign the revenue requirements attributable to slippage on the basis of the relative responsibility of each class for the growth in peak demand, utilizing the data analyzed by Dr. Parkins. In our judgment, that data would indicate the following allocation: residential - 16.2%, commercial - 52.0%, industrial - 28.0%, and public authority - 3.8%. The balance of the revenue requirement should be allocated pursuant to the average and excess historical cost allocation methodology. This special allocation procedure will not only more reasonably apportion the unavoidable slippage to those classes of customers causing the growth in firm demand, it also will act to compensate the Company for attrition attributable to growth in plant.

Summary of Year-End Rate Base.

Premises considered, we find that the year-end rate base for Public Service's Electric Department totals $1,043,923,382 and is comprised of the following items and amounts:

Utility Plant in Service	$1,133,858,926
Utility Plant Held for Future Use	1,164,628
Construction Work in Progress	215,878,454
Common Utility Plant in Service Allocated	31,707,312
Prepayments	2,129,113
Utility Materials and Supplies	52,052,054
Customer Advances for Construction	(6,760,202)
Year-End Gross Original Cost Rate Base	$1,430,030,285
Reserve for Depreciation and Amortization	(303,097,441)
Rate Base Allocated to FERC Jurisdictional Sales	(83,009,462)
Year-End Net Original Cost Rate Base	$1,043,923,382

We find that the year-end rate base for Public Service's Gas Department totals \$193,772,197, and is comprised of the following items and amounts:

Utility Plant in Service	\$252,779,689
Utility Plant Held for Future Use	160,718
Construction Work in Progress	2,353,934
Common Utility Plant in Service Allocated	21,825,208
Prepayments	427,833
Utility Materials and Supplies	3,719,882
Cash Working Capital Requirements	4,877,766
Customer Advances for Construction	(4,025,211)
Year-End Gross Original Cost Rate Base	\$282,119,819
Reserve for Depreciation and Amortization	(88,347,622)
Year-End Net Original Cost Rate Base	\$193,772,197

We find that the combined year-end rate base of the Electric and Gas Departments for the test period ended December 31, 1977, is as follows:

Utility Plant in Service	\$1,386,638,615
Utility Plant Held for Future Use	1,325,346
Construction Work in Progress	218,232,388
Common Utility Plant in Service Allocated	53,532,520
Prepayments	2,556,946
Utility Materials and Supplies	55,771,936
Cash Working Capital Requirements	4,877,766
Customer Advances for Construction	(10,785,413)
Year-End Gross Original Cost Rate Base	\$1,712,150,104
Reserve for Depreciation and Amortization	(391,445,063)
Rate Base Allocated to FERC Jurisdictional Sales	(83,009,462)
Year-End Net Original Cost Rate Base	\$1,237,695,579

VI

RATE OF RETURN

Capital Structure.

There was no disagreement among the parties with respect to the appropriate capital structure of Public Service. For purposes of this docket we find and adopt the following capital structure of Public Service as of December 31, 1977:

Long-term Debt	$ 608,929,924	48.76%
Preferred Stock	204,400,000	16.37%
Common Equity	421,160,781	33.73%
Reserves and Deferred Taxes	14,185,438	1.14%
TOTAL	$1,248,676,143	100.00%

Cost of Debt and Preferred Stock.

We find that the reasonable cost to be assigned to Long-term Debt is 6.64%, which is the embedded cost of debt as of the end of the test period. Public Service developed a projected cost of debt of 6.83% resulting from the omission of $10,000,000 of First Mortgage Bonds which will be retired October 1, 1978. These Bonds have a Cost of Money and Yield to Maturity of 3.09%. In substitution the Company proposes the use of $50,000,000 of First Mortgage Bonds with a Cost of Money and Yield to Maturity of 8.77% and $30,000,000 of Pollution Control Bonds with a Cost of Money and Yield to Maturity of 6.21%. Inasmuch as Public Service's proposed adjustments in this regard were outside of the test year (in that the contractual debt rate was not determined), we believe that we are obliged to follow the language of the Colorado Supreme Court in the recently decided case of Mountain States Telephone and Telegraph Company v. Public Utilities Commission, 7 Colo. Lawyer 876 (March 20, 1978), wherein the Court stated that "only out-of-period adjustments, which are contracted for during the test period but do not take effect until after the conclusion of the test period, should be considered."

With respect to the Cost of Preferred Stock, there is no substantial dispute as to the proper amount thereof and the Commission finds and adopts the Cost of Preferred Stock of 6.78%.

Rate of Return on Equity.

As expected, a major area of disagreement among the parties is the proper cost to be assigned to equity. The range of recommendation with regard to return on equity was from 12.87% on the low side to 14.8% (15%, if an attrition factor is included) on the high side.

The problem of determining the cost of a utility's capital represented by common stock is a difficult and complex task, since the utility has no fixed contractual obligation to pay dividends to its common shareholders. To be sure, equity capital has a market cost in the sense that there is always a going rate of compensation which investors expect to receive for providing equity capital, but it is not a cost that is directly observable from the market or accounting data. Whereas a purchaser of senior securities acquires a right to a contractual return, a purchaser of common stock simply acquires a claim on the Company's future residual revenue after over-all costs, including the carrying cost of debt and preferred stock, have been met. This essentially venturesome claim is capitalized in the market price of the stock. Conceptually, then, the true cost of common stock is the discount rate equating the market price of the stock with a typical investor's estimate of the income stream, including a possible capital gain or loss, he might reasonably expect to receive as a shareholder.

A determination of a reasonable discount rate, adjusted as necessary for market pressure on new stock issues and underwriting costs, is implicit in every regulatory decision in which an allowance for a cost of equity capital is included as a component of the approved rate of return on a utility's rate base. Although theoretically, it might be said that there is no cost for utility capital raised by common stock since there is no contractual right of a common shareholder to receive any dividend return, it is patently obvious that no reasonable investor will entrust his capital funds to a utility, by purchasing common stock, unless he can expect to obtain a reasonable return on his investment.

On the basis of the record made in this proceeding, we find that a rate of return on Public Service's rate base of 9.14% and a rate of return of 14.2% to common equity is fair and reasonable, sufficient to attract equity capital in today's market, and commensurate with rates of return on investments and other enterprises having corresponding risks.

As in the past, the Commission has concluded that the "Discounted Cash Flow" (DCF) methodology is the most acceptable one for determining a fair rate of return on common equity. The DCF methodology basically states that the capitalization rate for a particular stock is equal to the dividend yield thereon plus the expected growth in the price of the stock.

The range of return on equity advocated by the various witnesses in this proceeding was not large, and, in fact, was one of the smallest in years. The range was as follows:

Witness	Return on Equity	Overall Return
Bumpus (Public Service)	15.0%	9.50%
Merrell (Commission Staff)	13.9 - 14.8%	9.04 - 9.34%
Rettenmayer (General Services Administration)	12.87 - 13.43%	8.78 - 9.00%
Marcus (AMAX)	13%	8.73%

The foregoing figures, of course, represent the final recommended return on equity as distinguished from the bare cost of equity.

We find that the bare cost of equity, as developed by Staff Witness Merrell, is in the range of 11.6% to 11.8%. While the "bare bones" cost of equity arrived at by Mr. Merrell was not questioned by any of the intervenors, his adjustment, the effect of which was to increase the "bare bones" cost of equity by 20% to 25% was criticized by some intervenors. The approach of Drs. Marcus and Rettenmayer, with respect to adjusting the "bare bones" cost of equity, although having the appearance of greater theoretical precision than the adjustment sponsored by Mr. Merrell, fails adequately to take into account all aspects of the present economic situation. It should be noted that in the last rate case, Staff Witness Grundy also advocated the 20% to 25% adjustment to the bare cost of equity and his adjustment was accepted by the Commission. Nonetheless, seven months after Public Service Company's last rate increase its common stock was selling at a market-to-book ratio of .92, making it inconceivable that new common stock could be issued at book value or above. Given existing economic conditions and the attrition to which the Company has been subject, the adequacy of the adjustment to bare cost of equity advocated by other intervening witnesses is belied by experience. Premises considered, the 20% to 25% adjustment is accepted as an approximation to bring the authorized return on equity into line with current economic realities.

In Investigation and Suspension Docket No. 1116, which was decided in November of 1977, the Commission found that the money market and business conditions that existed generally in late 1974 and to a lesser extent in 1975 no longer existed and that the rate of return of

15% that had been authorized in Decision No. 85724 on September 24, 1974, had become too high by virtue of changes affecting opportunity for investment. Accordingly, the Commission lowered the authorized rate of return on equity to 13.9%.

Since late 1977, interest rates on public utility bonds have edged upward and electric utility stocks generally, including Public Service stock, have been selling at a market price below book value. Furthermore, Public Service has experienced attrition of between 5 and 6 percentage points from its allowed rate of return and this attrition must be recognized in setting rates of return on common equity. Thus we recognize the classic statement made by Mr. Justice Butler in the 1923 landmark decision of Bluefield Water Works and Improvement Company v. Public Service Commission of West Virginia, 262 U.S. 679, 693 (1923): "A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally." We believe at the present time that a rate of return on equity of 14.2% is fair and reasonable as indicated above.

VII

REVENUE REQUIREMENT

In order to determine the revenue requirement, it is necessary to determine the required net operating earnings based upon Public Service's rate base. We have found above that Public Service's rate base is $1,237,695,579. We have also found that the proper rate of return on rate base is 9.14% and the proper return on equity is 14.2%. This means that the required total authorized net operating earnings for Public Service are $113,125,376 ($1,237,695,579 x 9.14% = $113,125,376).

It is necessary to subtract the net operating earnings of Public Service for the test year from the required net operating earnings in order to determine the indicated earnings deficiency. In order to determine the net operating earnings of Public Service for the test year, certain adjustments must be considered with respect to the expenses which Public Service has used in calculating its net operating earnings. These adjustments are discussed below.

In the case of Mountain States Telephone and Telegraph Company v. Public Utilities Commission, 182 Colo. 269, 513 P.2d 721 (1973), the Colorado Supreme Court made the following statement with respect to out-of-period adjustments.

> "The relationship between costs, investment, and revenue in the historic test year is generally a constant and reliable factor upon which a regulatory agency can make calculations which formulate the basis for fair and reasonable rates to be charged. These calculations obviously must take into consideration in-period adjustments which involve known changes occurring during the test period which affect the relationship factor. Out-of-period adjustments must be also utilized for the same purpose. An out-of-period adjustment involves a change which has occurred or will occur, or is expected to occur after the close of the test year. An increase in the public utility

> taxes effective after the test year is a good example of such an adjustment. Wages and salary increases which have been contracted for and which will take effect after the test year must also be analyzed in the process of calculations. Such wage and salary increases may not exceed to any large extent the usual consequent increase in the productivity of the employees. If they do, which is generally the case in periods of uncontrolled inflation, then such out-of-period adjustment must be reckoned with in the rate fixing procedure. These are matters which must of necessity be of substantial concern to a rate fixing regulatory agency of the government when it considers all the evidence and all the factors available to it in a rate case."

Thus, we are obliged to consider increases, if any, in productivity, vis-a-vis out-of-period wage and salary increases.

Productivity Offset.

Staff Witness Karahalios proposed a $2,437,164 productivity offset against the $3,688,816 out-of-period increase in compensation attributable to the Electric Department. Basically, his methodology was to measure the percentage change in Kwh sales per operating labor hours. By measuring the last five years (including the test year 1977) he found that a five-year average change was 4.67%. Working through the steps as developed on Exhibit No. 59, Mr. Karahalios arrived at a productivity offset expressed as a percentage of a total compensation increase of 66.069%. We do not disagree with his methodology except that we have taken a three-year average rather than a five-year average due to the fact that in 1973 and 1974 (as compared to the period 1975 through 1977) significant sales to CF&I and AMAX were not present as they were during the latter three-year period. Accordingly, a three-year percentage change in Kwh sales per operating labor hours is 3.10% and the productivity offset expressed as a percentage of the total compensation increase is 44.414%. Applying that percentage figure to the $3,688,816 out-of-period Electric Department compensation increase, we find that the proper productivity offset is $1,638,351. Inasmuch as Public Service has not experienced an increase in productivity in its Gas Department, no productivity offset has been utilized for the out-of-period wage increase in this department.

Property Taxes.

Public Service proposed two adjustments to test year property taxes. The first adjustment was designed to reflect increased property taxes as a result of the increased revenues authorized by the Commission in its Decision No. 91581. The second adjustment was the addition of a property tax factor to gross revenue of .138654 to determine gross revenues in this docket. The property tax formula is based 55% on net operating revenues, 40% on year-end net plant, and 5% on capital stock and debt.

Staff Witness Karahalios disagreed with Public Service's proposed property tax adjustment on several bases, to wit: (1) future property taxes are based upon an unknown mill levy, (2) there is a considerable length of time between collection of the tax through rates and the payment of the tax by the Company, during which time the Company will have use of the funds collected for the payment of taxes long before said taxes actually would be paid, (3) Public Service failed to make an adjustment in cash working capital, and (4) future property taxes are based on future assessed value of property which is based on future unknown plant, income, stock and debt. Public Service currently is making an adjustment for these unknowns in property tax through its accrual accounting, which adjustments are already reflected in the income statement in this docket. Public Service admits that it overlooked the necessity of an adjustment to cash working capital; however, it also contends that variation in the mill levy historically has been quite small, and that the other two factors (plant and stock in debt) in the property tax formula will increase to even a greater extent than net operating revenues.

Although the Commission has taken into consideration certain out-of-period adjustments, this does not mean that out-of-period adjustments extending, for example, as far into the future as 1979, 1980, and 1981 should be permitted when the test year is 1977. This, coupled with the unknown levels of plant, stock, debt, and mill levy make it appropriate to adopt the adjustment proposed by Staff Witness Karahalios in the amounts of $1,956,202 and $3,037,824 based upon Public Service's revenue increase request.*

Reduction in Liberalized Depreciation as a Result of Normalization.

Public Service proposed the annualization of 1977 property additions to reflect a full year convention for recording the depreciation difference between liberalized depreciation using Asset Depreciation Range (ADR) lives and straight line tax depreciation using guideline lives for property additions since December 1, 1975.

Staff Witness Karahalios adjusted the normalization using a half-year life convention, which Public Service uses for book purposes. The Commission, by Decision No. 91581, adopted normalization for Public Service, in which Public Service used half-year convention with respect to new property additions.

In this docket Public Service attempts to use full-year convention in Mr. Hock's exhibits and half-year convention in Mr. Bumpus' exhibits. We agree with Mr. Karahalios in his use of the half-year convention for purposes of liberalized depreciation as a result of normalization. Mr. Karahalios' adjustment to decrease by $964,817 the Deferred Income Taxes-Liberalized Depreciation Adjustment by Public Service to the amount of $2,606,340 is accepted by the Commission.

Miscellaneous Adjustments.

As a result of the foregoing adjustments with respect to customer advances, productivity offset, property taxes, and deferred

*As a result of the Commission decision herein, the adjustment of $3,037,824 (based on Public Service's request) becomes $2,019,558.

income taxes, with respect to liberalized depreciation, it is necessary to adjust state income taxes in the amount of $179,727 and federal income taxes in the amount of $1,639,116. Further, it is necessary to make a corresponding adjustment to FERC jurisdictional sales in the amount of $145,006 and cash working capital in the amount of $77,282. The Commission finds an adjustment which also was made by Mr. Karahalios for a mechanical error made by Public Service in AFUDC in the amount of $191,238 is proper.

Advertising.

Mountain Plains' Witness Spertus testified that none of the cost of the general conservation, energy supply or cost-of-service advertising should be approved as an expense to be charged to Public Service's ratepayers. Generally, Mr. Spertus stated that Public Service advertising lacked "hard" conservation information. Mr. Spertus also suggested that informational materials with respect to conservation be prepared by entities other than the utility itself with such information to be distributed by the utility. The Commission, of course, does not have jurisdiction over entities other than utility itself which might be charged with preparing informational materials in regard to conservation.

We agree that Public Service should give careful scrutiny to how it spends its advertising dollar. It is true that some of Public Service's advertising appears to be more promotional than informational. For example, the ascription of alertness to the prong-horned antelope and the scarcity of the black-footed ferret is not particularly relevant to energy conservation. Nor is advertising with respect to litter control (although obviously true) relevant to utility operations. The "hard" informational value of this type of advertising is open to question. Realistically, the Commission practically is compelled to accept all Public Service's advertising expenses, or none of it, unless we painstakingly examine Public Service's advertising copy item by item. This latter course is an administrative burden which we cannot assume. Thus, for purposes of this case, we will not make any accounting adjustment with respect to advertising expenses. However, Public Service should be on notice that it carefully consider all types of advertising it uses and be able to prove the customer benefit thereof. Otherwise, in the future the Commission may be compelled to adopt the position advanced by Mr. Spertus that advertising be disallowed as an operational expense in its entirety.

Summary of Earnings Deficiencies and Revenue Requirement.

In view of the foregoing discussion with respect to certain proposed operating adjustments, we state and find that the earnings deficiencies, based upon the test year, are as follows:

	Electric	Gas	Total
Authorized Net Operating Earnings	$95,027,053*	$18,098,323*	$113,125,376*
Actual Net Operating Earnings for the Test Period	84,939,393	13,620,530	98,559,923
Net Operating Earnings Deficiencies	$10,087,660	$4,477,793	$14,565,453

Income and tax requirements make it necessary to increase gross revenues for the Electric Department in the amount of $2.024291 to produce an additional $1.00 in net operating earnings and to increase gross revenues for the Gas Department in the amount of $1.968291 to produce an additional $1.00 in net operating earnings. Accordingly, a total increase of $20,420,359 in retail electric revenues (5.69%) and $8,813,600 in retail gas revenues (5.5%) are required with regard to the above earnings deficiencies. Therefore, the total revenue requirement increase for both gas and electric is $29,233,959 (5.63%).

---

* Figures herein reflect 9.10% rate of return for Electric Department, 9.34% for Gas Department, and 9.14% overall. The .24% differential between the Electric and Gas Departments reflects the higher risk of the latter.

The rates and charges as proposed by Public Service in the tariffs accompanying Advice Letter No. 715 - Electric, Advice Letter No. 716 - Electric, Advice Letter No. 249 - Gas, and Advice Letter No. 250 - Gas, under investigation herein, would under the test-year conditions, produce additional gross electric revenues of $35,296,000 (10.57%) annually and additional gas revenues of approximately $11,768,000 (7.35%) annually. To the extent that revenue produced by such rates and charges would therefore exceed Public Service Company's revenue requirements as found above, such rates and charges are not just and reasonable.

VIII

RATE DESIGN AND SPREAD OF THE RATES

Having determined that Public Service requires a total gross increase in its revenues of $29,233,959 ($20,420,359 for electric and $8,813,600 for gas) it is necessary to spread the revenue requirement among its ratepayers.

Electric Rates.

We find that Public Service's utilization of the average and excess demand method of allocating plant facilities generally is acceptable for purposes of this proceeding. Alternate allocation methodologies have been examined by the Commission in the generic hearings on electric rate structure.*

However we do not accept totally Public Service's application of the average and excess demand methodology. First, we do not agree with Public Service that its advertising expense should be allocated on a per customer basis. Rather we believe this expense should be allocated on a per kilowatt-hour basis. Obviously, the benefits derived are proportional to the amount of usage and are not distributed equally among all customers. Second, we do not accept the tax allocation set forth on

---

*In 1977, the Commission instituted Case No. 5693 involving generic investigation of electric rate structures. Extensive hearings have been held and concluded. Statements of Position are expected to be filed [illegible]

Page 7 of 8 of Public Service Exhibit No. 39 (JHR-3) wherein certain negative tax allocations were made to certain classes of customers including, for example, the Denver Water Board and street lighting. Inasmuch as classes of customers served below cost do not generate taxable revenues, to allocate a negative income tax to those classes of customers amounts to a "double-dipping" benefit for their behalf. Accordingly, we have "zeroed out" the negative income tax allocation to "loss" customers.

Finally, we have made a cost-tracking adjustment. Public Service believes that no class of customers should be raised more than 20% since, in its view, this would create economic discontinuity. We appreciate Public Service's concern in this regard. Nevertheless, in our judgment, it is highly inappropriate that any class of customers be served at rates which do not recover, at a minimum, the embedded cost of debt.

As indicated above, we find that Public Service should distribute the current $12,495,814 in slippage on the basis of relative responsibility of each class for the growth in peak demand.*

In view of the foregoing adjustments to Public Service's cost allocations which we have made, we find that the following percentage increases by customer category, to obtain the increased electric revenue of $20,420,359 are just and reasonable.

Customer Category	Amount	Percentage Increase
Residential General	$3,680,272	3.24%
Residential Heating	376,740	10.00%
Residential Demand	66,577	10.00%
Small Lighting and Power	718,889	3.29%
General Lighting and Power	8,199,199	9.33%
General Secondary Power	355,068	10.89%
Irrigation Power	314,227	13.16%
Special Primary Power	1,990	1.96%
Large Lighting and Power	2,082,172	4.37%
CF&I - Firm	327,609	5.47%
Henderson	530,029	12.01%
Climax	446,883	7.53%
Denver Water Board	222,937	31.07%
ERDA	150,876	8.93%
GSA	54,086	7.09%
Other Public Authority	439,091	14.25%
Street Lighting	2,453,714	42.56%
TOTAL	$20,420,359	5.69%

* Public Service's system peak has shifted from the late afternoon in December and January to the early afternoon in July.

Gas Rate Structure.

In Decision No. 87640, dated October 21, 1975, the Commission ordered Public Service to complete a refined gas cost-of-service study and file it with the Commission as soon as possible. The Commission in Decision No. 87640 modified Public Service's declining block gas rate structure by flattening and shortening the blocks. It did not go further because of the absence of an adequate cost-of-service study.

In this docket Public Service has proposed a uniform increase of 7.35% applicable to all rate steps of all base rates. This increase equates to a 4.59% increase in rates in effect on the filing date of April 3, 1978 when then existing GCA levels are considered. Public Service states that there are two reasons for a uniform increase in all steps of all gas base rates. First of all, the Company states that with the broad scope of increasing cost no one class of service has been affected differently, in a significant way, from another class of service in the increase in the costs of providing that service. Second, Public Service states that inasmuch as its comprehensive gas cost-of-service study has not yet been completed, important adjustments to the Company's gas rate structure should be deferred.

Last year the Commission in its Decision No. 91581, dated November 1, 1977, stated that it questioned the efficacy of continued utilization of a declining block rate structure for gas in light of the deterioration of supply conditions of natural gas and the increased ability of the Company and its suppliers to store gas during off-peak periods. We further stated that those factors may, in fact, dictate the elimination of a declining block rate structure for gas in favor of either a two-part demand-energy rate or even an "inverted" or "J" rate in which the energy blocks would reflect the increasing economic cost of natural gas.

At the request of the Commission, Public Service presented five alternate rate structures for residential and commercial customers (Exhibits No. 84 & No. 86) with respect to gas which are described as follows:

Alternate A: Declining Block

Alternate B: Monthly charge covering all cost except commodity cost plus flat commodity rate.

Alternate C: Monthly charge covering customer cost plus flat commodity rate covering all other costs.

Alternate D: Flat commodity charge covering all costs.

Alternate E: Monthly charge covering customer-billing costs and associated expense plus flat commodity rate covering all other cost.

We find that, at this time, Alternate E is the most appropriate gas rate structure for residential and commercial customers of Public Service. Alternate E provides a service charge per customer per month of $2.48 to cover customer billing cost and associated expenses. Thereafter a flat commodity charge is used for all gas per 100 cubic feet.

IX

CONSERVATION

In Decision No. 91581, dated November 1, 1977, the Commission devoted considerable discussion to the subject of conservation and the opportunities of Public Service with respect thereto. The Commission in that decision ordered Public Service to submit a report concerning its gas conservation on or before July 1, 1978, and also to submit a report on or before September 1, 1978, concerning its voltage reduction program, if any. We also suggested that Public Service should examine the economic feasibility of broadening its gas conservation program to include such additional areas of opportunity as storm windows and doors, weather stripping and caulking, improved flue devices, the use of ignition devices to replace gas pilot lights and the use of clock thermostats. In addition, we suggested that Public Service may wish to explore a broader information and assistance program which will focus on individual conservation planning and assistance to owners and include advice as to what kind of conservation measures may be undertaken by the customer which will result in financial savings to him and energy conservation in general.

The Commission is cognizant of the measures taken by Public Service to date with respect to conservation. We note that it has been publishing booklets with respect to energy conservation, has participated in the American Gas Association Special Heating System Efficiency Improvement Program (SHEIP) and embarked upon a "Southwest Project" to test flue closures and vent dampers, downstream draft diverters, intermittent ignition devices, night set-back thermostats, furnace baffling that will cause a derating of the furnace, and fan and timer control. Public Service also provides a billing energy utilization and analysis program and irrigation pumping plant efficiency test program, and it has held and participated in a number of energy conservation seminars. Gas usage per customer on an annual basis has been reduced about 2 Mcf for a total of 1,200,000 Mcf. We also note with approval that the Company has begun to implement the energy-audit program which the Commission suggested in our last general rate decision was a program Public Service should consider for its customers.

Mountain Plains' Witness Spertus testified that expenditures for utility participation in customers' conservation programs should only be approved as ratemaking items if clearly justified by an appropriate cost/benefit analysis. Although we agree that it would be appropriate for Public Service to evaluate carefully the cost effectiveness of its various conservation programs, we do not agree that the absence of a cost/benefit analysis at this time justifies the "below the line" treatment advocated by Mr. Spertus.

There are indications that natural gas can be conserved by retrofitting existing heating systems. However, the SHEIP must be carried to its conclusion before many of the questions concerning safety, product liability, building codes, cost effectiveness and energy efficiency can be answered. We anticipate that when SHEIP is concluded after the 1978-79 heating season, there will be a sufficient basis for Public Service to develop safe and cost effective retrofit programs for its customers.

Accordingly, beginning with the 1979-80 heating season, we shall expect Public Service to implement appropriate measures to bring the benefits available by retrofitting to its consumers. Such measures shall include appropriate publicity about the benefits of retrofitting and arrangements by which consumers can engage reliable contractors to put retrofitting into operation if the customer desires to do so.

X

SPECIAL COMMENTS

Edison Electric Institute.

Concern was expressed by some of the parties in this proceeding with regard to Public Service's contributions to the Edison Electric Institute (EEI). In its next rate case Public Service should break out by specific category its contributions to EEI and be prepared to demonstrate in what manner, if any, such contributions are of direct benefit to utility ratepayers.

Non-Utility Activities.

Public Service should initiate immediate steps clearly to delineate and identify in its financial records its revenues and expenses with respect to non-utility services or activities (including, but not limited to, appliance merchandising, servicing, etc.).

Energy Forecasting.

In our Decision No. 91581, issued on November 1, 1977, with respect to the 1977 general rate case, the Commission commented that energy forecasting is carried out by Public Service with very little opportunity for review. We further stated that the important function of forecasting should be more visible while at the same time we did not mean to imply that management's responsibilities and prerogatives in this regard should be invaded. Although, in the present proceeding, Public Service presented its future capital expansion requirements more extensively than it had in the past, we still do not have in the public forum the detailed processes by which Public Service obtained its end-result capital requirements, nor do we have delineated clearly the alternatives which it has examined for fulfilling its projected energy needs and the reasons for accepting or rejecting the various alternatives (e.g., cogeneration, power pooling, etc.). Public Service, in future general rate proceedings, shall present not only end-result capital expansion requirements, but the processes and alternatives considered by which this end-result information was obtained. In this way not only this Commission, but the public, may evaluate Public Service's capital requirements, energy forecasts, and its decisions implementing the same.

XI

REIMBURSEMENT OF ATTORNEYS' FEES

In order to expedite the issuance of this final decision herein (which is subject to the provisions of CRS 1973, 40-6-114), the Commission will act, by supplemental decision (also subject to CRS 1973, 40-6-114) on any motion or pleading relating to reimbursement of attorneys' or expert witnesses' fees.

As of July 27, 1978, the following has been filed: "Motion For Reimbursement" by Mountain Plains Congress of Senior Organizations on July 26, 1978.

XII

SUMMARY FINDINGS OF FACT

1. The proper test period in this proceeding is the calendar year 1977.

2. Public Service's combined year-end gas and electric rate base for the test year ending 1977 is $1,237,695,579.

3. The current capital structure of Public Service is not unreasonable.

4. A fair and reasonable return on Public Service's combined gas and electric rate base is 9.14%.

5. A rate of return to common equity of 14.2% is fair and reasonable, sufficient to attract equity capital in today's market, and commensurate with rates of return on investments in other industries having corresponding risks.

6. A total gross increase of retail electric revenues is $20,420,359.

7. The total gross increase of gas revenues required is $8,813,600.

8. To obtain increased electric revenues of $20,420,359 rates for electric customers, where applicable, should be increased as follows:

Customer Category	Amount	Percentage
Residential General	$3,680,272	3.24%
Residential Heating	376,740	10.00%
Residential Demand	66,577	10.00%
Small Lighting and Power	718,889	3.29%
General Lighting and Power	8,199,199	9.33%
General Secondary Power	355,068	10.89%
Irrigation Power	314,227	13.16%
Special Primary Power	1,990	1.96%
Large Lighting and Power	2,082,172	4.37%
CF&I - Firm	327,609	5.47%
Henderson	530,029	12.01%
Climax	446,883	7.53%
Denver Water Board	222,937	31.07%
ERDA	150,876	8.93%
GSA	54,086	7.09%
Other Public Authority	439,091	14.25%
Street Lighting	2,453,714	42.56%
TOTAL	$20,420,359	5.69%

9. All gas base rates should be increased by a uniform percentage to obtain approximate increased gas revenues of $8,813,600 and residential and commercial rates should be restructured to reflect the adoption of a monthly charge covering customer billing costs and associated expenses of $2.48 per customer per month and a flat commodity charge per 100 cubic feet.

10. Public Service should undertake such additional actions as hereinafter are ordered.

XIII

CONCLUSIONS ON FINDINGS OF FACT

Based upon all the evidence of record in this proceeding, the Commission concludes that:

1. The existing gas and retail electric rates for Public Service do not, and will not, in the foreseeable future, produce a fair and reasonable rate of return.

2. Such rates presently in effect are not, in the aggregate, just and reasonable or adequate, and, based upon the test year ending December 31, 1977, the overall revenue deficiency for Public Service is $29,233,959.

3. Public Service should be authorized to file new gas and electric rates and tariffs that would, on the basis of the test year conditions, produce additional revenues equivalent to the revenue deficiencies stated above, spread among its ratepayers in the manner set forth above under "Rate Design and Spread of the Rates."

4. The rates and tariffs, as ordered herein, are just and reasonable.

O R D E R

THE COMMISSION ORDERS THAT:

1. The electric tariff revisions accompanying Advice Letter No. 715 - Electric, filed by Public Service Company of Colorado on April 3, 1978, shall be suspended permanently.

2. The electric tariff revisions accompanying Advice Letter No. 716 - Electric, filed by Public Service Company of Colorado on April 3, 1978, shall be suspended permanently.

3. The gas tariff revisions accompanying Advice Letter No. 249 - Gas, filed by Public Service Company of Colorado on April 3, 1978, shall be suspended permanently.

4. The gas tariff revisions accompanying Advice Letter No. 250 - Gas, filed by Public Service Company of Colorado on April 3, 1978, shall be suspended permanently.

5. Public Service Company of Colorado shall file new electric rates in accordance with Summary Finding of Fact No. 8, above.

6. Public Service Company of Colorado shall file new gas rates in accordance with Summary Finding of Fact No. 9, above.

7. The rates and tariffs provided for in paragraphs 5 and 6 of the Order herein shall be filed by Public Service Company of Colorado on or before the 10th day following the effective date of this Order, to be effective upon filing. Filing of all the new rates and tariffs provided for herein shall reflect the effective date of the various tariffs and the authority for filing under this Decision.

8. Public Service Company of Colorado shall commence an accounting separation of its utility and non-utility operations within 30 days following the effective date of this Order.

9. All pending motions (save and except those related to reimbursement of attorneys' and/or expert witnesses' fees) not previously ruled upon by the Commission or by the Order herein are denied.

This Decision shall be effective on August 23, 1978.

DONE IN OPEN MEETING the 1st day of August, 1978.

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

Commissioners

COMMISSIONER EDYTHE S. MILLER
SPECIALLY CONCURRING

Commissioner Edythe S. Miller Concurring Specially:

I agree with the decision herein. It is necessary to point out, however, that this decision necessarily recognizes normalized (as distinguished from flow through) depreciation accounting as a result of Decision No. 91581 in last year's rate case. I did not agree with the majority in 1977 in authorizing "normalization" and my views with respect to the same have not changed. However, for practical purposes, the decision to authorize normalization is not subject to subsequent reversal by a regulatory body because of Federal Tax Law.

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

Edythe S. Miller
Commissioner

APPENDIX A

EXHIBITS

Exhibits	Title and Description
A	Testimony of Richard F. Walker
B	Testimony of D. D. Hock
C	Testimony of J. D. Heckendorn
D	Testimony of J. H. Ranniger
E	Testimony of J. N. Bumpus
F	Testimony of Eugene W. Meyer
G	Summary of the Testimony of Robert Spertus
H	Testimony of Dr. John W. Rettenmayer
I	Testimony of Dr. George A. Parkins (partial)
J	Testimony of Craig Merrell
K	Testimony of James A. Richards
L	Testimony of Matityahu Marcus
M	Qualifications of Lance Russell
N	Qualifications of Gary S. Saleba

APPENDIX A

E X H I B I T S

Exhibits	Title and Description
1 through 18	Exhibits to testimony of Richard F. Walker
19 through 23	Exhibits to testimony of D. D. Hock
24	Public Service Company - Emergency Electric Load Reduction Procedure
25	Public Service Company Electric and Gas Customer Advances for Construction (1977)
26	Public Service Company Customer Advances for Construction - Electric (1972-1977)
27	Public Service Company Customer Advances for Construction - Gas (1972-1977)
28	Public Service Company of Colorado - "Plant Held for Future Use" (12 months ended December 31, 1977)
29	Public Service Company - Construction Work in Progress, 1976, 1977
30	Public Service Company Estimated Impact of 1978 Wage Increase on the Union and Non-Union Payroll
31	Advertising Expense - 12 months ended December 31, 1977
32	Public Service Company of Colorado Fort St. Vrain Generation and Capacity
33 through 36	Exhibits to testimony of J. D. Heckendorn
37	Public Service Company Proposed Electric Tariff Sheets (J.H. Ranniger)
38	Public Service Company Proposed Gas Tariff Sheets (J.H. Ranniger)
39	Public Service Company of Colorado 12 mos. ended December 1977 - Elec. Dept. Average and Excess Demand

APPENDIX A

Exhibits	Title and Description
40	Illustration of various demand allocation methods (J.H. Ranniger)
41	Public Service Company Electric Base Rate Comparisons (J.H. Ranniger)
42	Public Service Company 12 mos. ended December 1977 - Elec. Dept. Proposed Increases and Rates of Return (J. H. Ranniger)
43	Public Service Company - 12 mos. ended December 1977 - Elec. Dept. Spread Sheets (J.H. Ranniger)
44	Public Service Company - Gas Base Rate Comparisons (J.H. Ranniger)
45	Public Service Company - 12 mos. ended December 1977 - Gas Dept. Spread Sheets (J.H. Ranniger)
46	Public Service Company of Colorado - Sample of General Commercial Lighting Customers GCL-1 Survey Summary
47	Schedules 1 through 37 of Witness J. N. Bumpus - Public Service Company
48	Curtailment of Power Deliveries to CF&I Steel Corporation 1/1/77-12/31/77
49	Kidder, Peabody & Co., Incorporated Public Service Company Analysis
50	Electric Utility Common Stock Market Data (dated May 1, 1978)
51	Mountain States Telephone and Telegraph Company, v. The Public Utilities Commission, the Colorado Municipal League v. The Public Utilities Commission 544 Colo. 576 P.2d
52	Public Service Company of Colorado - Corporate Deficiency Between Actual and Allowed Rates of Return on Common Equity
53	Public Service Company Average Common Equity
54	Special Analysis - Argus Research Corp. - Electric Utility Quality Ratings: An Update

APPENDIX A

Exhibits	Title and Description
55	Public Service Company of Colorado Schedules 1 through 10 (Eugene W. Meyer)
56	GSA Exhibits (Dr. John W. Rettenmayer)
57	Public Service Company of Colorado Electric Dept. Rate Base - Net Original Cost - 12 mos. ended December 31, 1977 (P.A. Letourneau)
58	Public Service Company of Colorado Net Operating Earnings of the Electric Department - 12 mos. Ended December 31, 1977 (A.F. Karahalios)
59	Productivity Off-Set - PS Co. Five-year average - Electric Dept. (A.F. Karahalios)
60	Public Service Company - Staff Adjustments (A.F. Karahalios)
61	Public Service Company - Effect of Staff Recommendation to Eliminate the Property Tax Factor to Gross Revenue (A.F. Karahalios)
62	Public Service Company - Growth of Contribution to System Peak (G.J. Parkins)
63	Public Service Company System Load dated July 19, 1977
64	Public Service Company of Colorado Electric Energy Account - year ended December 31, 1976
65	Public Service Company of Colorado Electric Energy Account - year ended December 31, 1977
66	Public Service Company of Colorado Appendix B - Distribution of Diversity Benefits under Maximum Non-coincident Demand Methods
67	Public Service Company of Colorado Return on Equity - Discounted Cash Flow (W.C. Merrell)
68	Public Service Company of Colorado Capitalization - December 31, 1977 (W.C. Merrell)

I&S Docket No. 1200

APPENDIX A

Exhibits	Title and Description
55	Public Service Company of Colorado Schedules 1 through 10 (Eugene W. Meyer)
56	GSA Exhibits (Dr. John W. Rettenmayer)
57	Public Service Company of Colorado Electric Dept. Rate Base - Net Original Cost - 12 mos. ended December 31, 1977 (P.A. Letourneau)
58	Public Service Company of Colorado Net Operating Earnings of the Electric Department - 12 mos. Ended December 31, 1977 (A.F. Karahalios)
59	Productivity Off-Set - PS Co. Five-year average - Electric Dept. (A.F. Karahalios)
60	Public Service Company - Staff Adjustments (A.F. Karahalios)
61	Public Service Company - Effect of Staff Recommendation to Eliminate the Property Tax Factor to Gross Revenue (A.F. Karahalios)
62	Public Service Company - Growth of Contribution to System Peak (G.J. Parkins)
63	Public Service Company System Load dated July 19, 1977
64	Public Service Company of Colorado Electric Energy Account - year ended December 31, 1976
65	Public Service Company of Colorado Electric Energy Account - year ended December 31, 1977
66	Public Service Company of Colorado Appendix B - Distribution of Diversity Benefits under Maximum Non-coincident Demand Methods
67	Public Service Company of Colorado Return on Equity - Discounted Cash Flow (W.C. Merrell)
68	Public Service Company of Colorado Capitalization - December 31, 1977 (W.C. Merrell)

I&S Docket No. 1200

APPENDIX A

Exhibits	Title and Description
69	Basic DCF formula and rearrangement of to solve for "P"
70	Book value rate - cost of equity (formulas)
71	Formulas (book value, market price on stock)
72	Public Service Company of Colorado Determination of Revenue Requirement (Based on 13.9 return on equity) (J.A. Richards)
73	Public Service Company of Colorado Determination of Revenue Requirement (Based on 14.4% return on equity) (J. A. Richards)
74	Public Service Company of Colorado Determination of Revenue Requirement (Based upon a 14.8% return on equity) (J.A. Richards)
75	Public Service Company of Colorado Ratio of Earnings to Fixed Charges (S.E.C. Method) - December 31, 1977 (J.A. Richards)
76	Moody's 24 Electric Utilities - various financial statistics
77	Public Service Company - Work Simplification Program (Study #1)
78	Public Service Company response to requests for information and documents by Commissioners, Staff and intervenors
79	Intervenor's First Set of Interrogatories and Requests for Production of Documents to Respondent Public Service Company
80	Respondent's Answers to Mountain Plains Congress of Senior Organizations First Set of Interrogatories and Request for Production of Documents
81	1977 Irrigation Pump Efficiency Testing Program - Public Service Company of Colorado and Subsidiary

APPENDIX A

Exhibits	Title and Description
82	Friday, April 21, 1978 2 p.m. Agenda considering Commission discussion with representative from Moody's Investors Service, Inc.
83	Actual and Forecasted Sales - Public Service Company
84	Public Service Company Alternate Gas Rate Forms - Residential Service Schedule RG-1 - Billings (Comparisons) Alternate A, B, C, and D (J.H. Ranniger)
85	Public Service Company - Attachment - Advertising
86	Public Service Company Alternate Gas Rate Forms - Residential Service Schedule RG-1 - Billing Comparisons Alternate A, Alternate E (J.H. Ranniger)

APPENDIX B

The $12,495,814 "slippage" discussed on Page 16 of this decision is created by the fact that the Allowance for Funds Used During Construction (AFUDC) amount which is credited to the income statement of the Electric Department of Public Service does not completely offset, in conformance with past Commission policy, the revenue impact of allowing Construction Work in Progress (CWIP) to remain in rate base for ratemaking purposes.

The "slippage" amount of $12,495,814, is determined by calculating the revenue requirement without CWIP and AFUDC in the rate base and income statement, respectively, and substracting that result from the revenue requirement as allowed by this decision.

The combined rate base net of CWIP of $1,035,314,865 multiplied by the rate of return of 9.14% gives net operating earnings of $94,627,779 of which $76,749,313 represents electric department earnings. From this figure, electric department net operating earnings pro forma, excluding AFUDC of $72,834,587, are subtracted to give a net electric operating earnings deficiency excluding CWIP and AFUDC of $3,914,726. This latter figure is multiplied by the tax factor of 2.024291 to provide the electric operating revenue adjustment required of $7,924,545 exclusive of CWIP and AFUDC. Subtracting the $7,924,545 from the $20,420,359 electric department revenue increase granted herein a "slippage" amount of $12,495,814 is derived.