ALJ/emk/bw

ORIGINAL

Decision 82 04 028 APR - 6 1982

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of GENERAL TELEPHONE COMPANY OF CALIFORNIA, a corporation, for authority to increase certain intrastate rates and charges for telephone service.	Application 60340 (Filed March 10, 1981; amended April 6, 1981)
Investigation on the Commission's own motion into the rates, tolls, rules, charges, operations, costs, separations, practices, contracts, service, and facilities of GENERAL TELEPHONE COMPANY OF CALIFORNIA, a California corporation; and of THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY, a California corporation; and of all the telephone corporations listed in Appendix A, attached hereto.	OII 88 (Filed April 7, 1981)

(Appearances are listed in Appendix A.)

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INTERIM OPINION

I. SYNOPSIS OF DECISION

This is an interim decision. It authorizes an increase in customer billings of $11.99 million.

This increase is in addition to an increase of $117.0 million previously authorized in 1981. General originally requested $296.0 million.

Further hearings have been scheduled for May 11, 1982 to consider new evidence on how much intrastate long distance revenue General expects to collect in 1982. After those hearings are completed, we may authorize a further increase as explained in this decision.

This decision also authorizes General to obtain an attrition increase for 1983. The exact amount of the increase will not be known until late 1982.

The $11.99 million increase authorized by this decision will be collected from an increase in the existing billing surcharge for residential and business customers from 7.87% to 10.48%. No other change in rates or rate design is made by this decision. After the May hearings are complete, we will address the need for a new rate design.

This decision authorizes General to earn a return on equity of 16.5%. The authorized increase is designed to provide General an intrastate rate of return of 12.71% on its rate base of approximately $2.273 million. Such a return will provide an after tax interest coverage of 2.34 times, a before tax coverage of 3.55 times, and an internal generation of funds of 71%. These ratios indicate that General will have the financial capability to raise the capital required for modernizing its plant and improving service.

We conclude in this decision that General is not providing satisfactory service. We do so on the basis of customer surveys which indicate a very high incidence of certain common problems, including static, cross talk, and calls not going through.

It is obvious from the record that there is a disparity between the quality of service rendered by General as perceived by the subscriber and as measured by existing service indices. Consequently, the decision provides for representatives from the telephone utilities and Commission staff and other parties to the proceeding to meet and confer for the purpose of developing more meaningful indices. For this reason, OII 88 will remain open to afford an opportunity for further consideration of these matters.

Because the quality of General's service is unsatisfactory, we are adopting a penalty mechanism which will give a credit of $1.40 per month to customers in those exchange areas where service does not meet the standards we set out in this decision.

We have imposed a competitive bidding requirement on General, insofar as its selection of central office switching equipment is concerned, to prevent it from favoring GTE's manufacturing subsidiary to the detriment of the service General provides.

We have adjusted General's projected operating results to ensure its ratepayers do not unduly contribute to the profits of General's affiliated corporations. We have adjusted downward $11,692,000 in expenses and $8,554,000 in plant to reflect this. Numerous other adjustments to General's expense estimates were adopted based upon investigation and testimony by our staff.

We have excluded construction work in progress (CWIP) from rate base.

Introduction

General Telephone Company of California (General) seeks authority to effect step rates to increase its intrastate gross revenues approximately $296 million (21.96%)[1/] for the test year 1982 and an additional $90 million (5.43%) attrition allowance for the test year 1983.

To enlarge the scope of these proceedings to cover essentially all aspects of General's public utility operations, this Commission issued Order Instituting Investigation (OII) 88 into the rates, tolls, rules, charges, operations, costs, separations, practices, contracts, service, and facilities of General and The Pacific Telephone and Telegraph Company (Pacific) and of all the California telephone utilities that interconnect with General.

After due notice 52 days of hearings were held before Administrative Law Judge (ALJ) N. R. Johnson and/or ALJ John B. Weiss and/or Commissioners Richard D. Gravelle and Priscilla C. Grew during the period April 27, 1981 through October 2, 1981, and the matters were submitted subject to the receipt of concurrent opening briefs due on or before November 2, 1981 and concurrent closing briefs due on or before November 16, 1981. Oral argument was held before the Commission en banc on November 17, 1981. The matter was reopened on December 3, 1981 to permit the receipt of written evidence on the impact of the Economic Recovery Tax Act of 1981 (ERTA) on the operations of General.

1/ From this requested amount of $296 million should be deducted the increases granted to General subsequent to the filing of the application. These are General's Decision (D.) 93255 granting a $12.7 million attrition allowance, General's Resolution T-10451 granting a $5.9 million depreciation expense allowance increase, and Pacific's D.93367 providing for increased settlements revenues of $98.7 million. The net request after deductions for those increases is $179.0 million.

On February 26, 1982 General filed a petition to reopen the proceedings to receive additional evidence on test year 1982 intrastate toll revenues. According to the petition, current economic conditions have resulted in a drastic reduction in estimated intrastate toll revenue from the estimates of record in the proceeding of approximately $58.174 million.

The petition to receive additional evidence on this one specific item was granted and one additional day of hearing was held in Los Angeles.

At the hearing, City of Santa Monica (SM) made a motion[2/] that all evidence adduced at the hearing be stricken from the record on the bases that reopening of the proceeding for the purpose of considering changes in General's toll revenue is unconstitutional and violates the due process rights of all interested parties including SM in that inadequate time was granted to prepare testimony or cross-examination and the late filing constitutes a total violation of the regulatory lag plan. SM further alleged that the petition was granted before many interested parties received notice of it and therefore denied them any opportunity to have input on the question of whether the proceeding should be reopened, to what extent a reopening should be limited, or whether other matters should be considered in addition to toll revenue changes, such as changes in related expenses. The motion was granted and all testimony

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2/ For the purposes of the record, SM reduced the motion to writing and filed it on March 15, 1982. On March 24, 1982 a similar motion to strike the above evidence was filed by the Town of Los Gatos.

and evidence adduced at the hearing on March 11, 1982 were stricken from the record by an assigned Commissioner's ruling dated March 26, 1982.

Further hearings on the issue of appropriate intrastate toll revenue and related expense levels were scheduled commencing May 11, 1982. The ruling noted that General and the Commission staff must file and serve all prepared testimony on which they intend to rely. Such testimony is to include, but is not limited to, updated estimates of total California toll billings, investments, reserves, expenses, taxes, and separation factors or else explain why showings on these matters are unnecessary. General was directed to file and serve all its prepared testimony on all parties by April 5, 1982 and the Commission staff and those interested parties who wish to present testimony are to file such testimony by April 21, 1982.

Opening and/or closing briefs were received from General, the Commission staff, the cities of Los Angeles (LA) and Santa Monica (SM) (Cities), the County of Los Angeles (County), Telephone Answering Service of California (TASC), the Town of Los Gatos (Los Gatos), and CAUSE West (CAUSE).

Public Witness' Statements

Public hearings were held at Los Angeles on April 27, 1981, at Santa Monica on April 28, 1981, at Santa Barbara on April 29, 1981, at San Fernando on April 30, 1981, at San Bernardino on May 11, 1981, at Palm Springs on May 12, 1981, at West Covina on May 13, 1981, and at Los Gatos on October 1, 1981. Statements and/or testimony were presented by more than 300 witnesses at these hearings. These statements included the following subject matters listed in order of descending frequency:

1. The level of the quality of service rendered by General.
2. The amount and frequency of rate increases by General, including the effect of these increases on people with fixed incomes such as senior citizens.
3. Excessive mileage charges included in General's present and proposed tariffs.
4. The deficiencies and inequities of the Zone Usage Measurement (ZUM) boundaries and rates for Los Gatos and Sunland-Tujunga areas.
5. Billing problems.
6. The inequity of granting any rate increase until a perceptible improvement in the quality of service has been made.

7. The inability of General's management personnel to adequately fulfill the responsibilities of their respective positions.

8. The cost and lack of necessity of General's commercials appearing on television, on radio, and in newspapers.

Individual service complaints were investigated and a summary of each investigation was included in an exhibit entered into evidence during the hearings.

II. GENERAL'S PRESENT OPERATION

General is a subsidiary of GTE whose headquarters are at Stamford, Connecticut. General operates within approximately 10,600 square miles serving approximately 330 communities and locations in portions of the following 20 California counties: Fresno, Imperial, Kern, Los Angeles, Marin, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, Tulare, Ventura, and Yolo.

GTE was incorporated under the laws of the State of New York on February 25, 1933. It is the parent company of 60 communications, manufacturing, and research subsidiaries with operations in 40 states and 20 countries abroad. The GTE system had a combined revenue and sales of nearly $9.9 billion in 1979, consolidated net income from operations of $612 million, 227,000 employees, and more than 462,000 shareholders.

General had an average of 26,999 equivalent employees in 1979. Wage payments applicable to operations in 1979 amounted to $465,425,978 of which $127,211,179, or 27.3%, was charged to construction. At the close of 1979 General operated 175 central offices in 72 exchanges providing service to 3,993,191 telephones; 2,257,875 of these telephones are classified as main stations with 78% of the main stations being residential subscribers.

III. RATE OF RETURN

The parameters establishing utility revenue requirements are generally set forth in two United States Supreme Court decisions: Federal Power Commission et al. v The Hope Natural Gas Company (1944) 320 US 591, 605; 88 L ed 333, 346; and Bluefield Waterworks and Improvement Company v The West Virginia Public Service Commission (1923) 262 US 679, 692, 693; 67 L ed at 1176. The Bluefield decision establishes the revenue requirement as the minimum amount that will permit a utility to earn a return on the value of its property which it employs for the convenience of the public equal to that generally being made at the same time in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties.

The Hope decision defines such a revenue requirement as being the minimum to be allowed which will enable the company to operate successfully, to maintain its financial integrity, and to compensate its investors for risks assumed.

The applications of these guidelines to a specific utility's operations require the valuation of numerous complex and interrelated factors such as the cost of money, capital structure of the utility in question as compared with other similar utilities, interest coverage ratios, return on common equity, price/earnings ratios, and price/book ratios. It is axiomatic that the revenue requirement derived from such a procedure reflects an assumption of good and adequate service by the utility. As previously noted in the summary of the decision, we are establishing a penalty mechanism to be applied in those areas where General's service does not meet the standards we set out. Any penalty General incurs will affect its ability to earn the rate of return we authorize.

In California, the net revenue requirement, determined as above, is expressed as a percentage return on weighted average depreciated rate base for California jurisdictional operations and is intended to provide sufficient funds to pay the interest on a utility's long-term debt, dividends on its preferred and/or preference stock, and a predetermined reasonable return on common equity. Complete showings on rate of return were presented into evidence in these proceedings by General, the Commission staff, and LA.

Position of General

Testimony and exhibits were presented on behalf of General by the executive vice president and director of Duff and Phelps, Incorporated, Francis E. Jeffries, and by General's treasurer and assistant secretary, Charles J. O'Rourke. According to the testimony, the principles considered by witness Jeffries in forming his judgment about a fair rate of return for General are that a public utility should be permitted an opportunity to earn a return sufficient to (1) assure confidence in its financial soundness, (2) maintain and support its credit standing, and (3) enable it to attract the capital necessary for the proper discharge of its continuing duty to serve the public. The return to the equity owner should be commensurate with the returns of investments on other enterprises considering the relative investment risks. He noted that investors are interested in the end result of utility regulation and are not persuaded to commit capital based on theoretical rates of return which are not achievable. Included in the exhibit accompanying the testimony of witness Jeffries

was a tabulation indicating that the earnings per share for Standard & Poor's (S&P) 400 industrials had increased 10.3% per year and that the dividends had increased 6.4% a year as compared to the increased earnings and dividends for independent telephone companies of 6% per year and 4.7% per year, respectively.

He further noted that the telephone industry is capital intensive and, therefore, requires substantially greater investment in plant and property to produce a dollar of revenue than do most other types of industries. This witness further testified that, in his opinion, electric utilities were more stable and less risky than telephone utilities because of the effects of energy adjustment costs offsetting one of the major components of total expense. He noted that the telephone industry today is facing greater risks than it has in the past as evidenced by the relative inability of telephone utilities to adjust prices for services on a timely basis and the effects of competition. With respect to competition, he noted that the revenue growth rate for competitors was significantly higher than for the telephone industry. He emphasized the fact that California telephone utilities have one additional risk not experienced by other telephone companies which is the potential tax liability relating to investment tax credit (ITC) and accelerated depreciation. One measurement technique used by this witness to determine the implied cost of common equity is the discounted cash flow (DCF) method. Using the DCF method Jeffries used six major independent companies listed on the

New York Stock Exchange to measure the expected investment return on equity for telephone companies, he used S&P 400 industrials to measure the expected return for industrial companies, and he used S&P electric power companies to measure the expected return for electric power companies.

This witness evaluated four factors in arriving at a recommended return on common equity of 17% as follows:

1. A relative risk analysis demonstrated that investors perceived telephone companies to have higher risks and to require higher returns than industrial companies generally. An examination of the rates of return on S&P 400 industrials indicated a rate of return on common equity for this industrial composite was 17.3% in 1979.
2. The rate of return on common equity earned by 10 comparable independent telephone utility companies averaged about 15% in 1979 and 1978. In light of inflation, high interest rates, and uncertain competition, a return on common equity for a telephone company should be higher for the future.
3. An analysis of equity debt risk spread indicated that an 18.7% return on common equity would be appropriate.
4. A 17% return on common equity would produce interest coverage ratios comparable to those achieved by other single "A"-rated independent telephone companies.

General's witness O'Rourke testified that inflation, competition, regulatory lag, and technological changes have acted to increase the relative investment risk of telephone companies. According to his testimony, inflation impacts telephone utilities more than other industries because they are capital intensive and unable to optimize construction expenditures in terms of financial market conditions and profit opportunities. He notes that unlike regulated utilities, such unregulated companies entering the telecommunications field such as International Business Machines, International Telephone & Telegraph Corp., Xerox, and Exxon are free to choose the most profitable segments of the market in which to compete and can reprice their services to fully offset increased costs on a timely basis. Also, such unregulated companies offer the most up-to-date equipment forcing the regulated companies to either unsuccessfully compete or to have large write-offs of equipment prior to the expiration of their service lives.

Witness O'Rourke projected the capitalization for General at the end of the test year 1982 as being approximately 50% long-term debt, 3% short-term debt, 8% preferred stock, and 39% common equity. He believes such a capitalization is reasonable because the common equity ratio is above the minimum level necessary to maintain an "A" bond rating but that a higher level would be more desirable in today's market because it would reduce the negative impact of changing interest costs, active inflation, and uncertainty.

Witness O'Rourke selected 17 electric utilities upon which to base his determination of the growth rate of dividends using the DCF method. These utilities all had publicly traded stock, were located outside of California, had total capitalization in the range of $1 billion to $4.2 billion, had common equity ratios in the range of 35%-45%, had payout ratios not in excess of 90%, and had nuclear fuel as an energy source of 20% or less.

In addition to his use of the DCF method to derive an equitable return on common equity, this witness used the risk premium method wherein he applied the historical yield spread between Moody's 24 utility common stocks and newly issued utility bonds to the expected cost of bonds to General in 1981 and 1982. The range of return on common equity established by the application of these two methods was 16.7% to 18.05%. Such a range of return on common equity produces a pre-tax interest coverage of 3.55 times to 3.75 times.

When S&P downgraded General's bonds from "A" to "BBB+", witness O'Rourke revised his estimate of the reasonable return on common equity upward from 16.7%-18.05% to 16.9%-20.55%. In the opinion of this witness, it is necessary to raise the pre-tax fixed charge coverage ratio back up into the 3.0 to 4.0 times range to regain General's "A" bond rating with S&P and maintain it with Moody's. Between the time witness O'Rourke presented his direct testimony and the time he presented his rebuttal testimony, this Commission issued D.93367 on Pacific's A.59849 for a general rate increase. This decision authorized a return on common equity of 17.4%

and, in the opinion of witness O'Rourke, if this Commission should fail to grant a similar return on equity to General in this proceeding, the financial community would downrate General's offerings further.

Also in his rebuttal testimony O'Rourke indicated his belief that the return on common equity recommended by LA and the Commission staff was unrealistic in that it was below the long-term debt interest rates of current issues and it was not based on market data. He also testified that it was necessary for the times interest coverage to be well above 3.0 rather than at or near that level in order to have S&P restore General's "A" bond rating and in order to prevent downrating by Moody's.

Position of the Commission Staff

Testimony on the cost of capital and a recommended rate of return was presented on behalf of the Commission staff by a financial examiner with its Revenue Requirements Division (RRD), Terry R. Mowrey.

He recommends a rate of return in the range from 11.86 to 12.07 for test year 1982 and 12.16 to 12.37 for the year 1983. These recommended ranges in the rates of return are based on a return on common equity ranging from 14.75% to 15.25%. The difference between the two years' recommended rate of return reflects financial attrition due to the increased embedded cost of debt resulting from both new issues of higher priced debt and the retirement of low cost debt to be replaced with the higher cost debt. According to this witness, attrition should be recognized by step rates rather than the use of year-end calculations so that the return will more accurately reflect the cost.

Witness Mowrey further testified that the differences between the capital structures recommended by General and by the Commission staff are minimal and reflect the use of average year data by the staff and year-end data by General. This witness stated that the determination of the proper allowance for return on equity is of necessity a matter of informed judgment which considers the specific requirements for a particular utility. According to his testimony, he was guided by the standards set forth in the United States Supreme Court decisions and prior Commission decisions indicating that the return to the equity holder should be commensurate with returns on other enterprises that have similar risks, should be sufficient to enable the utility to attract capital at reasonable rates and maintain its financial integrity, and should balance the interest of both the investors and the ratepayers. Included in the exhibit accompanying his testimony were 23 comparison tabulations pertaining to interest rates, bond yields, interest coverage, stock values, dividends and earnings, payout ratios, capital structures, plant investment, operating ratios, and related information.

Other factors witness Mowrey considered in arriving at his recommended return on equity were: General is a regulated public utility with the obligation to provide service at reasonable rates; the effects of continued inflation and any increases in embedded costs of capital; General's capital requirements; the reduction in risk associated with General's inclusion in GTE's telephone systems; and the greater internal cash flow relating to normalizing of federal income

taxes for ratemaking purposes. Witness Mowrey noted that his recommended 15% return on common equity provides for pre-tax coverage within the range of 3.0 to 4.0 deemed appropriate by S&P for a single "A" rating.

He further noted that General currently reports its financial results on a restated basis. Such a computation assumes the eligibility for accelerated depreciation and ITCs would be lost, and the company would owe a back-tax liability together with accrued interest. However, there is currently a bill in the U.S. Congress which would remove the alleged liability and, if passed, General's books of accounts for financial reporting purposes would no longer reflect such liability and prior earnings would be restated. Such a result should have a positive impact on investors on an analysis perception of General's financial risks.

Position of LA

LA's position on recommended rate of return was presented into evidence by consulting engineer Manuel Kroman who testified that the approach he used in developing a recommended rate of return for General in this proceeding was to make a critical analysis of General's request to determine whether or not the bases upon which General predicates its request are sound. According to this witness, should such bases be erroneous or should the propositions and theories relied upon in the development of the additional revenue requirement be shown to be invalid, then the revenue request should be made to conform to the correct evaluation of relevant data and relationships. Consequently, witness Kroman closely examined the basis of witness Jeffries' conclusion that a fair

rate of return on common equity for General is 17% and witness O'Rourke's recommended range of earnings on common equity of between 16.90% and 20.55% with an overall return of from 12.85% to 14.27%.

He noted that both of General's presentations relied on the DCF method in arriving at the recommended levels of return on equity. According to this witness, the DCF method relies on three basic assumptions which are (1) the investor can accurately predict the future dividend payments associated with a given stock and the annual dividend rate will increase uniformly and indefinitely into the future, (2) the earnings per share of a given stock will also increase uniformly and indefinitely into the future, and (3) the price earnings ratio of the stock will remain constant. In the use of the DCF method, a selection must be made of an appropriate group of companies to serve as the basis for determining growth rates and dividend yields, an appropriate time period over which to compute the growth rate and an appropriate time period upon which to base the dividend yield. This witness tabulated variations in yields and price/earnings ratios of Moody's 24 utilities from the years 1965 through January 30, 1980 and noted that it is obvious from the variation in the data that a wide range of results may be achieved with the DCF method depending on what time period is selected as the basis in determining the appropriate level of yield. The tabulation also indicated a wide variety of price/earnings ratios over that period of years.

Witness Kroman also tabulated data on witness O'Rourke's 17 selected utilities and found that the median computed expected return for 1980 was 16.1% as contrasted with the recorded return of 12.29%. A similar variation between computed and experienced earnings was tabulated for Dow Jones' 30 industrials. Another tabulation prepared by this witness indicated that telephone carriers' and electric utilities' net incomes were far less adversely affected by economic slowdowns than were manufacturing corporations, invalidating, in his opinion, General's witness' contentions that independent telephone companies are more risky than either industrial companies or electric companies.

With respect to the risk premium method used by General's witnesses O'Rourke and Jeffries as one method of deriving an allowance for return on common equity, witness Kroman testified that the results of using the method are dependent upon the time periods selected for averaging. In support of this position he used General's witness' data and computed 5-, 10-, and 15-year averages instead of the 25-year period used by General's witnesses. His computation showed widely fluctuating results which, in his opinion, cannot produce any meaningful guide for determining the proper level of return on equity.

Witness Kroman prepared other comparison tabulations which indicated that:

1. The median before-tax coverage of the 17 "A"-rated utilities used by General's witnesses in arriving at a recommended rate of return is well below the range sought by General.

2. With respect to times interest coverage, telephone utilities have outperformed energy utilities..

3. The recorded return on average common equity for GTE telephone companies, Bell System telephone companies, witness O'Rourke's 17 utilities, and Dow Jones' 15 utilities for the years 1978, 1979, and 1980 was in the range of 10.70% to 13.56% as compared to witness O'Rourke's 1982 test year recommended return on equity from 16.90% to 20.55%.

This witness' recommended capital structure for rate of return computations would be as follows:

Long-term debt	$1,608,000,000	51.87%
Short-term debt	80,000,000	2.58
Preferred stock	220,000,000	7.10
Common equity	1,192,000,000	38.45
Total	$3,100,000,000	100.00%

He further recommends that the overall rate of return should provide before- and after-tax interest coverage commensurate with that being achieved by other "A"-rated utilities as well as return on common equity which is in line with other utilities' experience. He recommends a return on common equity of 15.2% as being fair to both investors and ratepayers. Such a recommendation is predicated on an assumed satisfactory level of service being provided by General. He believes that should service be found to be deficient, an appropriate penalty on return on equity should be imposed commensurate with the degree of such a service deficiency.

With the above capital structure, a return on common equity of 15.2% would provide a rate of return of 12.03%, a before-tax times interest coverage of 3.11, and an after-tax coverage of 2.15 times.

Witness Kroman also referred to this Commission's OII 84, an investigation on the Commission's own motion into the accounting for station connections and related ratemaking effects, and testified that if the staff's recommendations in that matter were implemented, the resultant reduction in long-term debt should be reflected in the allowances on common equity and thereby the overall rate of return both for test year 1982 and computation of an attrition allowance for test year 1983.

Discussion

The recommended capital structures, cost factors, and weighted cost factors presented by General, the Commission staff, and LA are shown in Table I.

It will be noted that General's capitalization ratio for long-term debt plus short-term debt is 53%, the staff's long-term debt ratio is 52.80%, and LA's long-term and short-term capitalization ratios total 54.45%, a relatively minimal range. However, both General's and LA's witnesses included short-term debt in the capital structure whereas the staff witness excluded such short-term debt from the capital structure. Staff witness Mowrey testified that short-term debt was excluded from the staff-recommended capital structure because most of the short-term borrowing is used for construction and allowance for funds used during construction (AFDC) compensates the investor for short-term borrowing and

TABLE I

Year 1982

Component	Capitalization Ratios	Cost	Weighted Cost a/
General's Requested Rate of Return			
Long-term Debt	50.00%	10.45%	5.23%
Short-term Debt	3.00	12.00	0.36
Preferred Stock	8.00	8.33	0.67
Common Equity	39.00	16.90	6.59
		20.55	8.01
	100.00%		12.85%
			14.27%
Staff's Recommended Rate of Return			
Long-term Debt	52.80%	10.40% b/	5.49%
Preferred Stock	6.90	8.33	0.57
Common Equity	40.30	14.75	5.94
		15.25	6.15
	100.00%		12.00%
			12.21%
LA's Recommended Rate of Return			
Long-term Debt	51.87%	10.00%	5.29%
Short-term Debt	2.58	12.00	0.31
Preferred Stock	7.10	8.33	0.59
Common Equity	38.45	15.20	5.84
	100.00%		12.03%

a/ The Commission staff's, General's, and LA's witnesses recommend that the rate of return for the year 1983 be modified to reflect the embedded cost of debt changes resulting from year 1983 debt financing.

b/ Revised for recorded financing in 1981.

it is therefore not appropriate to include short-term debt in the capital structure. Such a position is contrary to General's position that short-term debt is issued as needed to cover expenditures as they become due, and that there is no differentiation at the time of short-term borrowing between revenue expenditures and capital expenditures or whether a given capital expenditure will bear AFDC.

In A.60990 filed October 10, 1981, General sought and was granted authority to issue and sell 2,500,000 shares ($50,000,000) of its common stock ($20 par value) to GTE. General estimated that at December 31, 1981, after the issuance of the common stock, it would not be indebted to holders of short-term obligations. Under these circumstances, the exclusion of short-term debt from our adopted capital structure appears reasonable.

It is noted from A.60990 that General's capital structure as of December 31, 1981, including the effects of the above-discussed common stock issue, is 52.3% long-term debt, 7.4% preferred stock, and 40.3% common equity, which approximates very closely the staff's recommended capital structure.

General's estimate of 10.45% as the embedded cost of debt reflects year-end figures whereas LA's and the Commission staff's figures of 10.28% and 10.40%, respectively, reflect average year conditions.

According to the record, the staff witness computed the year-end effective rates for General's outstanding debt and associated interest charges at December 31, 1980 with projected financing in 1981, 1982, and 1983, together with bond retirements in each of the respective years. The estimated issuance cost used by the staff witness was consistent with his projections contained in A.60343, General's request for financial attrition. The staff's projection of an embedded cost of long-term debt of 10.40% appears reasonable and will be adopted. Similarly, we will also adopt the staff's embedded cost of debt of 10.94% computed on an average-year basis for the year 1983 in our determination of the amount of financial attrition.

The cost of preferred stock is computed by General, the Commission staff, and LA to be 8.33%. We will adopt this figure.

The record generally supports a limit of 53% debt to preclude a worsening of General's already precarious financial condition. In addition, the record indicates S&P requires a 40% common equity ratio for an "A-" rating and a 43% common equity ratio for an "A" rating when preferred stock is present in the capital structure.

General shows a capitalization ratio of 8% for preferred stock as compared to the staff's preferred stock capitalization ratio of 6.90% and LA's preferred stock ratio of 7.10% in a capital structure which includes short-term debt. An 8% preferred stock ratio set forth in General's presentation represents General's original estimated issuance of $60 million of preferred stock. This figure was later revised to $25 million following General's bond downrating.

For the purposes of this proceeding we will adopt General's projected capital structure at December 31, 1981 as shown in A.60990 after including the effect of the $50 million common stock issue. This capital structure consists of 52.3% debt, 7.4% preferred stock, and 40.3% common equity. It closely approximates staff's recommended capital structure. Consequently, we will adopt that capital structure and the above-discussed 10.40% embedded cost of debt and the 8.33% cost of preferred stock, leaving for determination only the proper allowance for return on common equity.

Witness O'Rourke testified that the present split rating by Moody's and S&P will not continue indefinitely and that unless Moody's perceives this decision as leading to the restoration of General's rating by S&P, it will also downrate General's bond rating. This position was not challanged on the record. Should Moody's downrate General's bonds, it will have an adverse effect on General's ratepayers in both the cost and availability of capital. According to the record, the average spread between "A"-rated utility bonds and "BBB"-rated bonds was 49 basis points during the 10-year period 1971 to 1980. Furthermore, the "BBB" market is restricted because some institutional investors are precluded from purchasing the lower quality securities which, in times of tight money, can result in some "BBB"-rated utilities finding it impossible to obtain financing at any rate. It is axiomatic that should this happen, General would be unable to obtain the large amount of money necessary to continue its service improvement program.

Under these circumstances, steps to ensure the restoration of General's "A" bond rating by S&P appear warranted.

In downrating General's bonds from "A" to "BBB+", S&P stated that General's bonds were maintained at the "A" rating in December 1980 on the bases of a perceived improvement in regulatory treatment by this Commission, the assumption of eventual tax forgiveness, and S&P expectation of a more aggressive equity investment policy by GTE. S&P reasoned that with greater infusions of equity anticipated due to indications of better regulatory environment, as well as estimated growth in calling volumes, service levels could be restored and profitability enhanced to a more satisfactory level. According to S&P, these improvements did not occur and it did not appear that General's operations would be supportive of an "A" rating.

In making the downrating, S&P also stated:

> "GTE California faces a burdensome growth-related construction program (with annual spending expected to average 20%-25% of capitalization) and substantial external financing requirements in the years ahead. Earned returns on capital and common equity have been weak in recent years reflecting an unsupportive regulatory climate, high use of debt leverage, and the increasing cost of capital."
> (S&P Fixed Income Investor, March 14, 1981, page 1180.)

According to the record, an "A" rating generally reflects a pre-tax coverage between 3.0 and 4.0 times, a 43% common equity ratio, and internal generation of funds in the 65%-75% range. All three factors materially relate to the utility's return on common equity. General's percentage of common equity in the capital structure has declined steadily from 39.87% in 1976 down to 36.11% in 1980. Such an equity percentage deterioration stresses a utility's ability to maintain adequate interest coverage which, as noted above, is one of the prime criteria that rating agencies look at. A high return on common equity increases the equity ratio by both encouraging the infusion of equity capital and by increasing retained earnings. Such an improvement in the common equity ratio acts to relieve a utility's stress in providing ample times interest coverage.

With the issuance of $50 million of common stock authorized by D.93318 dated December 1, 1981 on A.60990, General's common equity ratio as of December 31, 1981 was raised above 40%. In addition, General filed A.61555 to issue an additional $75 million of common stock which will further increase the common equity ratio to 41.4% as of December 31, 1982.

A return on common equity of 16.5% will provide a pre-tax times interest coverage of 3.55 and an internal generation of construction funds of 71%, both well within the above-listed "A" rating parameters. Under present market conditions this is sufficiently high to provide GTE every incentive to continue to infuse substantial equity capital.

After careful consideration of all the recorded evidence in this case and the arguments advanced by the various parties to the proceeding, we adopt as reasonable a return on equity of 16.5%, assuming General provides adequate telephone service. The 16.5% return on common equity applied to our previously adopted capital structure and costs translates to a rate of return of 12.71% developed as follows:

Component	Capitalization Ratios	Cost	Weighted Cost
Long-term Debt	52.30%	10.40%	5.44%
Preferred Stock	7.40	8.33	0.62
Common Equity	40.30	16.50	6.65
Rate of Return	100.00%		12.71%

The after-tax coverage of the above 12.71% rate of return is 2.34 times and the pre-tax coverage is 3.55 times. The internal generation of funds resulting from this adopted rate of return is 71%. Such ratios are high in the range of coverages used by S&P for "A"-rated companies and should go a long way toward restoring General's bond rating for future issues.

It should be noted that the above 12.71% rate of return is premised on General's providing adequate service. As subsequently detailed, there still remain serious service deficiencies in General's operation. For this reason we are adopting a service area by service area penalty mechanism which, as discussed later in this opinion, will have an impact on General's ability to earn its authorized rate of return.

IV. AFFILIATED INTERESTS

General

This Commission has a long history of reviewing transactions between a utility and its affiliates and subsidiaries to ensure that, for ratemaking purposes, the affiliates' costs allocated to the utility are just and reasonable and the affiliates' returns should not exceed that which would exist had the utility performed the services or installed the facilities itself.

With the Commission's position in mind, the affiliate investigation team (Team) of the RRD reviewed the reasonableness of such transactions between General and the following GTE affiliates: GTE Service Corporation (GTESC), GTE Laboratories, Incorporated (GTE Labs), AE, GTEDS, and General Telephone Directory Company (Directory Company). In the aggregate, Team's estimates reflect $7,575,000 less operating expense and $104,000 less rate base than do General's estimates. For intrastate operations, these translate to $6,185,000 less operating expense and $92,000 less rate base.

The major portion of this difference relates to Account 674, General Services and Licenses, with an expense difference of $6,271,000 of which $2,544,000 relates to GTE Labs' estimate and $3,727,000 relates to differences in GTESC' allocated expense.

General Services and Licenses

Account 674, General Services and Licenses, is included in Chapter 11, General and Other Operating Expenses, of the staff's Results of Operations Report. Testimony on the 1982 test year estimate for Account 674 was presented on behalf of General by its budget director, L. E. Hegge. Direct and rebuttal testimony describing GTE Labs' technical character, philosophy, and function as a subsidiary of GTE and the activities of the laboratories conducted on behalf of GTE telephone operations were presented by the vice president and director of research of GTE Labs, Dr. Paul E. Ritt. The Team's estimate for Account 674 was summarized in the staff's Results of Operations Report in Chapter 11 by associate utilities engineer H. M. Mirza. The estimate for this account, however, was prepared and presented into evidence by public utility financial examiner K. S. Nagel.

General estimated the 1982 test year license contract expense to be $26,212,000 but stipulated to Team adjustments of $350,000 for Corporate Communications and Washington office expenses and $388,000 to reflect license contract billing for Quebec Telephone consistent with D.92366. These two adjustments total $738,000, reducing General's general service and license contract expense to $25,474,000.

The Team's comparable amount is $19,203,000, a difference of $6,271,000 on a total-company basis and $5,010,000 on an intrastate basis. This $6,271,000 differential consists of two main components: (1) $3,727,000 difference in GTESC's allocated expenses, and (2) $2,544,000 difference in GTE Labs' estimates.

The rate of growth of GTESC's pro rata charges to General before ratemaking adjustments was 21%, 28%, and 62% for the years 1977, 1978, and 1979, respectively. Based on this rate of increase General increased the actual 1979 license contract billing of $14,212,000 before ratemaking adjustments by 21%, 23%, and 24% for the estimated years 1980, 1981, and 1982, respectively, to yield its original estimate of $26,212,000 for the 1982 test year. The Team rejected this estimate on the bases that General did not consult with GTESC on the amount of the charges that would be forthcoming, held the disallowed expense at the level set forth in D.92366 when adjusting the results of operations to show the effects of prior decisions, and did not take into consideration certain items that would affect the 1982 test year license contract amount. The Team adjusted GTESC's 1981 total estimate to reflect the effect of a 1% personnel growth ceiling which was placed into effect on the GTE telephone operations system-wide with the result that the 1981 base for GTESC's estimate was reduced by $1,687,000. The Team also adjusted the 1981 base to reflect the effect of the termination of the Western Region Office in February of 1981. The Team's estimate for the 1981 base year derived as above is $190,665,000, or $5,287,000 less than GTESC's estimate of $195,952,000. The Team increased this amount by 15% to reflect growth for its test year 1982 estimate and also reflected an adjustment of $5,000 for International Treasury expenses allocated to General. Using the GTESC allocation factors, GTESC's expense to General is computed to be $21,747,000, or $3,727,000 less than General's estimate of $25,474,000. This estimate appears to be reasonable and will be adopted.

According to the record, in 1979 GTE management segregated GTE Labs into nine technology centers. Each technology center represents a major client group within GTE. An "advocate" is responsible for each technology center to meet the clients' needs and to keep the clients informed of new ideas and technology being developed at GTE Labs. These nine technology centers are as follows: Communications Products Technology Center, Advanced Component Laboratory, Electrical Equipment Technology Center, Lighting Products Technology Center, Precision Materials Technology Center, Government Technology Center, Telephone Operations Technology Center, Communications Network System Technology Center, and Advanced Technology Laboratory.

Staff witness Nagel's review of the operations of these various technology centers indicated to him that the expenses, including basic and applied research, of the telephone operations technology center to be allocated to the network sector department of GTESC and subsequently further allocated to telephone operating companies (Telcos) through GTESC should be permitted and that all the remaining expenses of GTE Labs that are allocated to Telcos should be disallowed. According to this witness, the activities of telephone operations technology center are of direct and primary benefit to General's ratepayers while the remaining expenses of GTE Labs being allocated to the Telcos are not of direct or primary benefit to General's ratepayers. The Team calculated the telephone operations technology center cost to be $1,676,000 which was $8,924,000 less than the $10,600,000 total 1981 estimated GTE Labs' expenses to be allocated to the network sector department

of GTESC. Using the 15% increase previously discussed, this witness computed the 1982 test year amount for telephone operations technology center to be $1,927,000 or $10,263,000 less than the $12,190,000 total estimated GTE Labs' expense included in Team's estimate. Multiplying the $10,263,000 reduction to the network sector department's 1982 test year expense by General's latest allocation percentage of 24.79% results in the Team's $2,544,000 reduction in the network sector department's 1982 test year allocation to General.

According to rebuttal testimony of General's witness Ritt, the Team's allocations were inaccurate in that telephone operations will receive direct and primary benefit from basic and applied research performed in other technology centers. Specific examples of such benefits were cited by this witness. As an alternative to the Team's method, he suggested an analysis of direct and primary benefits for each project founded on a scrutiny of defined projects and client requests. To provide a vehicle for implementation for this recommendation, he submitted a list detailing all of the projects in GTE Labs impacting the test year. This list reflects those projects which are of primary and direct benefit to telephone operations regardless of the technology centers in which the project is being conducted. Witness Ritt alleged that the exhibit demonstrates that the direct and primary benefit criterion for telephone operations is amply met for projects in various technology centers.

Witness Ritt further testified that if his budget estimate for telephone operations project were adopted in this proceeding and were to follow the direct and primary benefits standard as he has applied it, the effect on the staff's recommended disallowance of $2,544,000 would be the elimination of the disallowance in its entirety.

This Commission addressed the subject of the funding of research and development expenses in D.90362 dated June 5, 1979, in Pacific's A.55492 for a general rate increase. In that decision we stated:

> "We should ask the following question: Is the expenditure of direct and primary benefit to the ratepayers of the OTC? If the answer is 'yes', the expenditure should be allowed (unless serious public policy reasons favor its disallowance) in spite of indirect or consequential value in other areas, including the possible development of products. Conversely, if an expenditure's purpose is not shown to be directly and primarily beneficial to the ratepayers, it should not be charged to them regardless of some secondary or consequential benefit to them." (Mimeo. pages 13, 14.)

Applying staff witness Nagel's criteria that an allocation of more than 50% of the project cost to telephone operations indicates direct and primary benefits to the ratepayers to General's witness Ritt's list detailing all of the projects in GTE Labs impacting the test year results in a basic and applied research amount of $2,818,096 that is of benefit to the ratepayers. Increasing this 15% to reflect the 1982 test

year results in a downward adjustment of $3,240,810 to be applied to the Team's GTE Labs expense estimate of $12,190,000, leaving $8,949,190. The application of 24.79% allocation factor to this amount results in a downward adjustment to General's Account 674 expense of $2,218,504. This adjustment appears reasonable and will be adopted. Adding this to our previous GTESC allocation adjustment of $3,727,000 results in an Account 674 adopted figure of $19,528,000.

AE Adjustment

Both the Team and General have developed rate base and expense adjustments for general purchases from AE based on principles adopted in prior Commission decisions. The difference between the Team's and General's estimates was that the Team used a 15% return on AE's equity for the 1982 test year as contrasted with General's use of 18% return on equity. The Team's recommended 15% return on equity was

based on a study of a broad spectrum of American industry and was stated to be independent of the rate of return recommendation for a rate of return on common equity for General. After review, General stipulated to the staff's downward adjustment to AE of $1,091,000 for expenses and $8,465,000 for rate base. These figures will be adopted.

Directory Company Adjustment

Both the Team and General had developed the Directory Company adjustment based on principles adopted in this Commission's prior decisions. The original difference of $1,788,000 between the Team and General in the net Directory Company expense adjustment for test year 1982 reflected different estimating procedures used to determine gross directory advertising revenue collected by General, directory advertising revenue remitted to Directory Company, and expenses incurred by Directory Company in the publishing of General's directories. The Team's recommended adjustment of $4,464,000 reduction is based on the last authorized rate of return of 10.39% authorized in D.92366. Using the midpoint of the staff's recommended rate of return of 11.97% for the computation of the adjustment results in an adjustment of $4,067,000. After review, General stipulated to this amount. However, consistent with our past practices, we will use our authorized rate of return in this proceeding of 12.71% to derive our adopted downward adjustment of $3,881,000.

GTEDS Adjustment

Evidence and testimony on an appropriate GTEDS adjustment were presented on behalf of the Team by utilities engineer M. F. Yee. Rebuttal testimony was presented on behalf of General by GTEDS' accounting director F. E. Hogan.

The ratemaking adjustments made by both General and the Team were intended to limit the earnings for GTEDS' business with General to the rate of return authorized for General in conformance with this Commission's past decisions.

General developed its GTEDS adjustment by using 1980 budgeted GTEDS revenues increased by judgment growth rates to develop 1982 revenues. It used the average return on net investment of 15.26% for the years 1975, 1977, and 1978 to develop its average net plant investment and based its allowable earnings on an assumed 12.5% rate of return.

The Team adopted General's estimates of revenue and expenses other than income taxes which it computed using statutory rates. However, it computed average net investment by applying the percentage of 1978 actual average net investment to 1978 actual revenues of 67.97% to the 1982 estimated revenues. It used the last authorized rate of return of 10.39% in its computations but recommended that the authorized rate of return from this proceeding be used to calculate the GTEDS adjustment.

Using the above-described computing methods, the Team recommends that General's net expenses and rate base estimates for test year 1982 be reduced by $1,621,000 and $186,000, respectively, and General recommends that reductions of $713,000 and $82,000 be made to net expenses and rate base estimates for the test year 1982, respectively.

The purpose of the rebuttal testimony submitted by witness Logan was to show that General's estimated 1982 return on investment for GTEDS of 15.26% relative to General's operations in California although higher than GTEDS' estimate is more appropriate than the staff's estimate of 16.59%. Neither General's use of three years' average return on investment to compute the ratemaking adjustment for GTEDS nor the Team's use of recorded data relating to average debt investment to revenues appears unreasonable. Consequently, we will adopt the average of General's return on investment of 15.26% and the Team's return on investment of 16.59%, or 15.93% in the computation of our adopted ratemaking adjustment. Relating this 15.93% return on investment to the net income before interest of $4,593,000 used by both General and the Team results in a GTEDS adjustment of a negative $877,000 in expenses and a negative $100,000 in rate base which we will adopt as reasonable.

V. RESULTS OF OPERATIONS

General

Complete results of operations testimony and exhibits were presented by General and the Commission staff. Substantial differences in estimates exist in revenues, primarily local service revenues, maintenance expense, general and other operating expense, depreciation expense, property and other taxes, payroll taxes, and associated state and federal income taxes. Also addressed in this portion of the decision are maintenance balancing accounts, interest during construction, normalization of book tax timing differences, equal life group (ELG) depreciation, 1968-1969 flow-through, and such rate base items as plant capital, CWIP, materials and supplies (M&S), working cash, depreciation reserve, and deferred tax reserve.

The results of operations data for total company operations were presented into evidence on behalf of General by its budget director L. E. Hegge, by its vice president-revenue requirements R. L. Ohlson, and by network engineering manager A. H. Bush, and for the California intrastate operations by its business relations director G. G. Hascall. Staff presentations were made by various subsequently identified staff members. Rebuttal testimony was presented on behalf of General and rejoiner testimony was presented on behalf of the Commission staff as subsequently discussed.

A. REVENUES

General

Supervising utilities engineer E. Marks presented testimony and exhibits on settlement revenues as well as separated results of operation. Local revenue estimates were presented on behalf of the Commission's Communications Division (CD) by utilities engineer J. Geigenmuller. The total operating revenues consist of local service revenues which include monthly charges (including semipublic telephones), message charges (including multimessage units (MMU) and ZUM), service station revenue, local private line revenue and other local service revenue, interstate toll service revenue, intrastate toll service revenue, and miscellaneous revenues. An amount for uncollectibles is subtracted from the total revenues to obtain total operating revenues. General's and the Commission staff's 1982 test year operating revenue estimates at present rates are tabulated below, together with the adopted revenues:

Item	General	CD	Adopted
	(Dollars in Thousands)		
Local Service Revenue	$ 630,295	$ 647,204	$ 647,652
Intrastate Toll Revenue	742,280	728,025	739,685
Interstate Toll Revenue	375,622	387,294	395,052
Miscellaneous Revenues	112,118	116,452	116,452
Uncollectibles	(29,897)	(32,500)	(32,500)
Total Operating Revenue	$1,830,418	$1,864,475	$1,886,341

(Red Figure)

Operating revenues may be divided into two broad categories: revenues involving settlements with connecting telephone companies and revenues not involving settlements with connecting telephone companies. Through the settlement process General receives revenues which reflect its separated (e.g. intrastate) cost of providing services jointly with the connecting company plus a return on its investment in facilities required to provide the services. The adopted settlement revenues are based on the separated levels of adopted results of operations expense and rate base levels discussed below.

Local Service Revenues

CD's estimate of the nonsettlement portion of local service revenues appears reasonable and will be adopted. Basically, CD's estimate was developed from a later General forecast provided in response to a staff data request. However, according to General, this forecast was in error in that it neglected to reduce the estimated local service revenues by the amount of the service surcredit. Subsequently, General is willing to accept the nonsettlement portion of the staff estimate provided it is reduced by $13,365,000 to reflect the service surcredit ordered by D.92366. According to the record, the latest estimate of CD was based on simple trend lines including totals of General's Account 501 (exchange portion of local revenues including the service surcredit) for the month December 1979 through October 1980 adjusted for the increased rates granted by D.92366 and founded on the assumption that the trend line would approximate the pre-decision results. On cross-examination CD's witness Geigenmuller indicated that after General informed CD of General's estimating error, he compared recorded 1980 local revenues with General's estimated 1980 local revenues and found the recorded level to have excluded General's estimate. This estimating difference when

applied to the 1982 test year estimate does not result in an estimate sufficiently different from CD's original estimate to justify a change in this recommendation.

The two categories of local service revenues which are derived via settlements are message charges and extended area service. The settlement revenues for both of the categories as explained above reflect the adopted expense and rate base levels discussed below.

Toll Service Revenues

Toll revenues consist of interstate and intrastate toll revenues. For interstate revenues, General receives its separated costs for providing interstate service and return on its investment allocated to interstate service. The return received is common for all participating companies and is known as a settlement ratio. Intrastate revenues consist of message toll, wide-area toll service (WATS), and private line toll. In a process similar to the above-described division of revenue procedure for interstate service, General receives toll settlement revenues from Pacific for toll service provided within California.

The principles of telephone cost separations have been used by CD and General to develop estimates for interstate and intrastate toll revenues and to develop separated results of operations for the test year ending December 31, 1982. The separations factors which were used to allocate costs for test year 1982 were based on recorded data and historical relationships. Separations factors were developed for the various classes of operating expenses and for the components of rate base, and the same factors were used to separate the estimated total results of operation and developed toll settlement revenue estimates.

The difference between CD's and General's estimates on both intrastate and interstate toll revenues relates to differences in estimated expense and investment levels and estimated settlement ratios. The CD-recommended interstate toll settlement ratio which reflects the increase in message toll rates authorized by the Federal Communications Commission during 1981 is adopted. The adopted intrastate toll settlement ratio is derived from the estimated total California toll billings sponsored by both CD and General and from the adopted intrastate levels of expense and rate base. As with the settlement portion of local service revenues, the adopted toll service revenues reflect subsequently discussed and adopted expense and rate base items.

Miscellaneous Revenues

Miscellaneous revenues consist of telegraph commissions, directory advertising, rent revenues, and other revenues. The staff's estimate of $116,452,000 exceeds General's estimate of $112,118,000 by $4,334,000. The staff's estimate based on later data will be adopted.

Uncollectibles

CD's estimate for uncollectibles is a negative $32,500,000 as compared to General's uncollectible estimate of a negative $29,897,000. The staff estimate based on later data will be adopted.

B. MAINTENANCE EXPENSE

General

Maintenance expense consists of the cost of labor and materials and related administration charges for the repairs and rearrangements of operating plant. The staff presentation of maintenance expense for the staff's results of operations report was made by senior utilities engineer C. O. Newman. Direct and rebuttal testimony on maintenace expense was presented on behalf of General by its budget director L. E. Hegge.

General follows the Federal Communications Commission (FCC) Uniform System of Accounts for telephone companies but further subdivides the FCC accounts into "R" for repair or "M" for moves and changes. General's network engineering and construction, service, switching services, and supply and transportation departments have the primary responsibility for plant maintenance accounts.

The maintenance functions are performed under the general direction of the vice president-marketing and customer service and of the vice president-network engineering and construction. The following tabulation compares the 1982 test year estimates prepared by General and CD, together with the adopted amounts. The bases for the adopted results are discussed in the ensuing paragraphs.

Acct. No.	Account	CD	General[a/]	Adopted
	Maintenance Expenses	(Dollars in Thousands)		
602	Outside Plant	$ 41,483	$ 42,439	$ 41,483
603	Test Desk Work	29,256	29,991	29,256
604	Central Office Equipment	136,036	148,984	143,572
605	Station Equipment	154,724	159,866	154,724
606	Buildings and Grounds	7,927	8,079	7,927
610	Maintain Transmission Power	10,426	10,284	10,426
612	Other Maintenance	1,162	1,173	1,162
	Total	$381,014	$400,816	$388,550

a/ General's figures include a negative adjustment of $960,000 for labor class 06 included in CD's estimate and stipulated to by General.

The method used by General in estimating labor costs parallels the method followed in the actual payroll transactions on its books of accounts. Each hourly paid employee and most of management employees are assigned to appropriate labor group and associated payroll clearing accounts. The remaining portion of management employees is assigned directly to final accounts instead of payroll clearing accounts. The forecasted levels of employees for 1980, 1981, and 1982 are entered in account detail into a computer model called company-wide budget model (CWBM). CWBM generates estimated operating expenses (excluding depreciation), gross construction additions, including cost of removal and salvage value based on various inputs which include employee levels, material, contract costs, and various other factors. The wage rate projections for hourly paid employees are based on General's labor agreement which became effective March 5, 1980 and expires March 4, 1983. General estimated the level of overtime will remain constant for the period 1980 through 1982. Major nonlabor expenditures were separately forecasted based upon historical experience or estimated need giving recognition to changes and growth patterns in operating procedures. The estimated number of managerial employees was based on the ratio of management to hourly employees.

CD's engineer followed General's estimating procedure for determining the number of hourly management employees for 1982, applied average wages for 1982 based on 1979 recorded data, increased to reflect increased labor rates, and used labor dollars as the vehicle for estimating nonlabor expenses where a relationship existed and trended or averaged those expenses that had no relationship to labor. According to this witness, most of General's labor estimates were equated to productivity (hours per unit of measure) and this productivity was compared to the recorded amounts for prior years. Where the productivity derived from General's estimates appeared reasonable, it was used by CD's engineer, otherwise he established a productivity based on recorded experience.

The CD engineer calculated the actual average productive hours per employee per year for each labor class, including overtime, from the actual recorded experience for the year 1979. The productive hours were compared to those used by General in its estimates in establishing the number of employees by responsibility center (RC) in all but labor class 06 (LC-06). The productive hours per employee used by General appeared reasonably accurate. For LC-06 General used 1,727 productive hours per employee per year for estimating 1982 hourly employee levels whereas the 1979 experience was based on 1,826 productive hours. CD's engineer tested General's estimate for this item by using 1,826 instead of 1,727 hours which resulted in a total overall adjustment of $2,286,000 that affected maintenance expense by a negative $960,000.

General stipulated to this $960,000 adjustment and General's originally estimated figures were adjusted by this amount in the tabulation appearing above.

The difference between CD's and General's estimates results from the LC-06 adjustment above discussed, different estimates in the number of telephones, different estimating procedures, and/or different productivity factors. As noted, LC-06 labor adjustment was stipulated to by General. General used an estimate of 4,566,029 average total telephones in 1982 as compared to the CD engineer's estimate of 4,482,992 average total telephones. CD's estimate was prepared using later data and will therefore be adopted.

Outside Plant, Account 602
Desk Work, Account 603
Other Maintenance Expense, Account 612

For these three accounts, the productivity factors resulting from General's labor estimates were found to be reasonable by the CD engineer who used them in arriving at his estimates. The difference in account estimates therefore relates to different estimates of telephones and, as previously stated, we will adopt the staff's estimate based on later data.

Central Office Equipment

Account 604, repairs of central office equipment, is subdivided into three subaccounts: M-20 and R-20 for central office moves and changes and repairs, respectively, and R-27 for frame maintenance. CD's estimates for central office moves and changes (M-20) is $16,744,000 as compared to General's estimate of $17,036,000. The difference is due to a difference

in the number of telephone estimates and consequently we will adopt CD's estimate for this subaccount.

The difference in estimates for central office repairs (R-20) and frame maintenance (R-27) reflects differences between CD's and General's estimates of productivity factors and total telephones. The productivity factor used by General's witness in the determination of R-20 expense was 8.10 hours per hundred telephones. CD's witness noticed that the productivity had been deteriorating since 1976 primarily due to General's unprecedented hiring of new personnel. Such hiring had subsided by 1979 and, in his opinion, General should have now realized some benefits from training experience. A counterforce to improved productivity was the increased calling volumes and additional customers necessitating additional facilities to handle the increased load. It was the opinion of CD's witness, however, that this counterforce would not offset the other positive improved effects on productivity. Consequently, in his original estimate, he used 7.5 hours per hundred telephones in estimating R-20 labor which was slightly less than the 7.54 recorded for 1980 and more than the 7.43 of 1979.

Witness Newman testified that it was called to his attention that clerical and conference and training time was not included in the computations of his productivity figures used in his estimate but was included in the productivity figures he derived from General's 1982 estimate for R-20 expenses. As a result, General's 1982 estimate of 8.10 shown in the staff report should have been 7.57 to be comparable with

the other figures set forth in the report. Witness Newman testified that upon receipt of the above information, he again reviewed estimates for this account and concluded that it adequately covered clerical and conference and training time; however, the productivity estimate of 7.5 showed in the original tabulation should be revised to 7.00 to be comparable with other figures.

According to this witness' testimony, a similar situation prevailed for Account R-27. As a result, General's estimate for R-27 labor with a productivity factor of 2.24 hours per hundred telephones should be 2.09 to be comparable with the other figures.

General's witness Hegge testified that the allowance for conference training and clerical activities included in CD's estimate, which he computed to be 7.1%, was inadequate as indicated by the 1980 recorded figure of 12.5% and a 1981 budget estimate of 13.8%. He further testified that the estimate of 13.8% for 1981 would hold true for the test year 1982 because the emphasis in 1983 upon conversion to electronics including digital as well as ongoing training will require training and clerical support to be continued at least as high as the 1980 and 1981 level. Using a 13.8% time for conference training and clerical activity and using witness Newman's method would have resulted in a productivity factor of 7.97 and would produce a R-20 dollar estimate of $102,962,000 compared to witness Newman's estimate of $96,890,000. The same procedure applied to witness Newman's R-27 estimate of $22,402,000 would result in an estimate of $23,806,000. These adjustments to witness Newman's trended estimates appear reasonable and will be adopted for this account.

Station Equipment

Account 605, repairs of station equipment, is subdivided into five subcategories consisting of large PBX (M&R 30), station equipment (M&R 45), and equipment production center (M-44). CD accepted General's estimate for repairs and moves and changes of large PBX equipment. The balance of the labor charge differentials in this account relate to differences in estimates of the number of telephones. Consistent with our other adopted results, we will adopt CD's estimates based on later data. CD's estimate for the equipment production center portion of this account is $30,061,000 as compared with General's estimate of $33,407,000, a difference of $3,346,000 or 11.1%. General's estimate of materials resulted from applying inflation factors for 1980, 1981, and 1982 to the 1979 recorded data and adding in a special program. According to the record, CD's engineer used the same method but started with 1980 recorded data. Because it is based on later data we will adopt the CD's estimate for this portion of the subaccount. General also used the same method for computing the contract portion of the other portion of this subaccount. CD's engineer found the contract amount fluctuated from one year to the next and consequently used a 3-year average to establish a base to which the inflation factors were applied. The staff method appears reasonable and will be adopted.

Buildings and Grounds

Account 606, repairs of buildings and grounds, is divided by General into two subaccounts: M-12 consisting of contracts and R-12 consisting of repair labor. After review, CD's witness accepted the expenses in M-12 account of $304,000 as reasonable. General estimated the R-12 account for 1982 at $7,776,000 as compared to CD's estimate of $7,623,000. The difference in the estimates results from differences in estimated number of telephones and consistent with our previous actions, we will adopt CD's estimate for this account.

Maintaining Transmission Power

General's estimate for Account 609, maintaining transmission power, for the test year 1982 was $10,284,000 as contrasted to the CD's estimate of $10,426,000, a difference of $142,000, or 1.4%. General's estimate provided for annual increases of 20% on a 1980 estimate used as a base. CD's estimate was based on the estimated kilowatt-hour usage and the estimated price per kilowatt-hour, and reflected an electrical energy base rate of $0.023 per kilowatt-hour which became effective January 21, 1981 and an energy cost adjustment clause (ECAC) rate of $0.067 per kilowatt-hour derived from escalating the ECAC rate for 1981 of $0.041 per kilowatt-hour by 3.3% every four months through 1982. CD's estimate appears reasonable and will be adopted.

Maintenance Balancing Account

On his own initiative, CD's utilities engineer T. I. Toczauer recommended that General be ordered to set up a balancing account for traffic expenses, commercial expenses (with the exception of Account 649, directory expenses), and maintenance expenses to assure that savings from authorized traffic and commercial expenses either be used for service improvements above and beyond the original maintenance expense allowance, be refunded to the ratepayers, or be recorded in a balancing account requiring Commission authorization on how it would be used. This recommendation was neither endorsed nor opposed by CD.

General argues that all can agree that equipment maintenance is important and that lack of adequate maintenance can affect service level. However, according to General, there are a number of reasons that singling maintenance out of the many complex facets of the telephone business for special treatment is impractical and probably unworkable. Included among these reasons are:

1. The proposed intrusion of this Commission into the prerogative of management.
2. The prevention of management's ability to allocate finite financial resources to any sphere of operations which require such resources based on the need existing at any given time.
3. The timing of withdrawals and/or deposits to the balancing account and the administration of such an account have not been adequately addressed on this record.

Because the current inflationary period results in General's filing for a general rate increase every other year, its expenditures in maintenance, traffic, and commercial accounts are under almost constant review. Expenditures over and under the authorized level are promptly noted and reflected in presentations at the hearings on the rate increase applications. Under these circumstances, establishment of the recommended balancing account appears unnecessary and will not be authorized.

C. TRAFFIC EXPENSES

Traffic Expense Estimates

Testimony on the traffic and commercial expense portions of CD's results of operations report was presented into evidence by utilities engineer T. I. Toczauer.

According to his testimony, the traffic expense estimates were prepared by considering the latest recorded expenses and adjusting for anticipated growth, inflation, and efficiency. This witness used several methods in preparing his estimates of traffic expenses. The results generally bracketed General's estimates of the various expenses. Consequently, this witness adopted General's estimate for total traffic expense for the test year 1982 of $97,731,000. We will use this figure in our adopted results.

D. COMMERCIAL EXPENSES

CD's testimony on commercial expenses was presented into evidence by utilities engineer T. I. Toczauer.

The following tabulation sets forth commercial expenses by FCC account number for the test year 1982 as estimated by CD and by General, together with the adopted results:

Acct. No.	Item	Staff	General	Adopted
		(Dollars in Thousands)		
	Commercial Expenses			
640	General Commercial Admin.	$ 7,386	$ 7,386	$ 7,386
642	Advertising	5,807	6,362[a/]	5,807
643	Sales Expense	15,782	16,508	15,782
644	Connecting Company Relations	1,381	1,381	1,381
645	Local Commercial Operations	84,007	85,415[a/]	84,007
648	Public Telephone Commissions	2,970	2,970	2,970
649	Directory Expenses	53,837	53,352	53,837
650	Other Commercial Expenses	29	29	29
	Total	$171,199	$173,403[b/]	$171,199

a/ CD figure stipulated to by General.

b/ $171,168 stipulated basis by General.

According to the record, CD based its estimates on an analysis of ongoing and recorded expenses adjusted for unusual and nonrecurring expenses, information and data obtained from field trips, data responses, and discussions with General's employees; consideration of the effects of known and planned changes in General's operations; and efficiency levels. The estimates were prepared by considering the latest recorded expenses and adjusting for anticipated growth, inflation, and efficiency.

For Accounts 640, General Commercial Administration, 644, Connecting Company Relations, 648, Public Telephone Commissions, and 650, Other Commercial Expenses, CD's and General's estimates for the 1982 test year are the same and will be adopted.

CD's estimate for Account 642, Advertising, is $5,807,000 and is $555,000 less than General's estimate of $6,362,000. The difference reflects an adjustment made by the staff for advertising expenses conducted nationwide by GTESC. General stipulated to this adjustment. Consequently, we will adopt the staff's estimate for this account.

CD's estimate for Account 643, Marketing and Sales Expense, is $15,782,000 and is $726,000, or 4.6% less than General's estimate of $16,508,000.

The $726,000 difference is due to an adjustment of $272,000 to Phone Mart expenses and a $454,000 adjustment related to national advertising. The Phone Mart adjustment reflected the allocation of additional sums to nonregulated retail sales activities of Phone Mart. General stipulated to this adjustment. The $454,000 adjustment made by the staff

reflects the deletion of a portion of national advertising expense which is charged to this account. The staff adjustment appears reasonable and will be adopted.

CD's estimate for Account 645, Local Commercial Operations, is $84,007,000 and is $1,408,000 less than General's estimate of $85,415,000. The difference reflects the staff's adjustment of allocating approximately 10% more of Phone Mart expenses to unregulated retail sales. This adjustment was stipulated to by General and the CD estimate will therefore be adopted.

CD's estimate for Account 649, Directory Expenses, is $53,837,000 and is $485,000 more than General's estimate of $53,352,000. CD's estimate is based on more recent information from the Directory Company and will therefore be adopted.

E. GENERAL AND OTHER OPERATING EXPENSES

The staff's presentation on general and other operating expenses, excluding Account 674, General Services and Licenses, was made on behalf of the Engineering Analysis section of RRD by utilities engineer H. M. Mirza. As previously stated, the testimony on Account 674 was presented on behalf of the affiliate Team section of RRD by financial examiner Kent S. Nagel.

Tabulated below by FCC accounts are the test year 1982 estimates prepared by Revenue Requirements Division and General, together with the adopted results. The bases for adopting the figures we did are set forth in the following paragraphs.

Acct. No.	Account	Staff	General[a]	Adopted
		(Dollars in Thousands)		
	General Office Salaries & Expenses			
661	Executive Department	$ 2,907	$ 2,907	$ 2,907
662	Accounting Department	50,609	50,750	50,750
663	Treasury Department	467	727	727
664	Law Department	1,355	1,490	1,355
665	Other Gen. Off. Salaries & Exp.	41,580	41,917	41,580
	Equal Employ. Opport. Adj.	(4)	(4)	(4)
	Total Gen. Office Exp.	96,914	97,787	97,315
	Other Operating Expenses			
668	Insurance	2,018	2,096	2,018
669	Accident and Damage	311	311	311
671	Operating Rents	17,297	16,303	17,297
672	Relief and Pensions	103,006	103,006	103,810[b]
674	General Services & Licenses	19,203	25,474	19,528
675	Other Expenses	1,022	1,022	1,022
677	Exp. Charged to Construction (Cr.)	(12,582)	(11,448)	(12,686)[b]
	Total Other Operating Expenses	130,275	136,764	131,300
	Total General & Other Operating Expenses	$227,189	$234,551	228,615

(Red Figure)

a/ General's original estimates before stipulations were as follows: Account 661-$3,167, Account 663-$1,037, Account 665-$42,036, Account 668-$2,271, Account 672-$109,150, Account 674-$26,212, and Account 675-$1,022 and Equal Employment Opportunity adjustment - $4.

b/ Consistent with adopted payroll.

General Office Salaries and Expenses

General office salaries and expenses (Account 661 to Account 665, inclusive) are those operating costs incurred in performing the executive, accounting, treasury, law, personnel, public relations, engineering, and other general office functions. The cost includes salaries, office supplies, and periodicals, contracts for outside services, together with traveling and other expenses of general office employees. Engineering Analysis' estimate of Account 661, Executive Department, for the test year 1982 was $2,907,000 as compared to General's estimate of $3,167,000. The difference was due to an adjustment made by the Engineering Analysis witness for lobbying expenses of the governmental affairs department as recommended by the accountants. General stipulated to this adjustment and Engineering Analysis' estimate for this account will be adopted.

For Account 662, Accounting Department Expense, Engineering Analysis estimated 1982 test year expense of $50,609,000 as compared to General's estimate of $50,750,000, a difference of $141,000. The $141,000 difference reflects Engineering Analysis witness' adjustment for unbudgeted manpower savings by General for an accounts payable system (APS). Such a system is a complex comprehensive computer program capable of providing many accounting reports, extensive auditing details, processing accounts payable, and cash management. The program is expected to generate savings in the test year 1982 once the system is in operation. Because General did not provide sufficient information for the engineer to adequately evaluate the impact of APS on his test year manpower estimate, the Engineering Analysis' witness recommends

that $141,000 for four additional employees budgeted for test year 1982 be disallowed.

General's witness Hegge presented rebuttal testimony indicating that four additional employees, one management and three hourly employees, were already on General's payroll as of 1981 and that regardless of whether a mechanized APS system is implemented in 1982 or not, these employees will still be required because of volume increases. Under these circumstances, the Engineering Analysis witness' adjustment appears inappropriate and will not be adopted. Consequently, the adopted dollar amount for this account will be $50,750,000.

Treasury Department

Engineering Analysis' estimate of Account 663, Treasury Department, for the test year 1982 was $467,000 as compared to General's estimate of $1,037,000. The $570,000 difference consists of $310,000 exclusion by Engineering Analysis' witness duplicative budgeted cost and the elimination of $260,000 for a credit line fee which he testified was not of a beneficial nature to General. General stipulated to the exclusion of the $310,000 duplicative budgeted cost.

According to Engineering Analysis witness Mirza's testimony, the $260,000 credit line fee is not necessary to sell commercial paper or to obtain short-term loans. He further testified that General has not borrowed against this credit line secured by payment of such fees for at least five years. Under these circumstances, it is his belief that the $260,000 adjustment was fully justified. According to the testimony of General's witness O'Rourke, the $260,000 represents payments by General to banks for credit lines for approximately $2 million maintained by General. He further testified that

by maintaining these bank credit lines, General is judged less risky and therefore attains better ratings from rating agencies for short-term borrowings and that the credit lines are required to satisfy rating agency criteria for such short-term ratings. Without such credit lines the credit ratings could not be obtained and General would be unable to borrow by issuing commercial paper which is less costly than other bank borrowings which are at or above prime rates. General's argument is persuasive and we will not adopt the staff's recommended adjustment of $260,000 resulting in our adopting for Account 663 a 1982 expense figure of $727,000.

Law Department

Engineering Analysis' estimate of $1,355,000 for the 1982 test year law department expense is $135,000 less than General's estimate of $1,490,000. This $135,000 adjustment reflects the elimination of anticipated legal fees associated with the tax rebate case. Engineering Analysis' witness testified that it is unlikely that these legal services will be required because the tax rebate case is now being decided by the U.S. Congress. He stated that it appears likely that the legislation now pending in Congress will be enacted. Whether this is still true or not, adoption of the staff adjustment may provide General an additional small incentive to see the legislation enacted. Under these circumstances, the staff adjustment of $135,000 appears reasonable and will be adopted, leaving an Account 664 expense for the 1982 test year of $1,355,000.

Other General Office and
Salaries and Expenses

Engineering Analysis' estimate of Account 665, Other General Office and Salaries and Expenses, is $41,699,000 before Labor Class 06 adjustment for the 1982 test year as compared to General's estimate of $42,036,000, a difference of $337,000. This $337,000 difference consists of Engineering Analysis' estimate of $617,000 lower estimate of engineering expense which was partially offset by an inclusion of $280,000 for tuition aid cost. Engineering Analysis' adjustment of $617,000 consisted of the application of a 3.6% or $558,000 underrun experienced by General for the year 1980. The application of this 3.6% difference to the 1982 test year results in a decrease in the 1982 budget figure of $737,000. This $737,000 decrease was reduced by $119,000 for the LC-06 adjustment, leaving a net difference of $618,000. This adjustment appears reasonable and will be adopted. In this same account Engineering Analysis' witness included the cost of tuition aid for the estimated year 1982 of $280,000 based on the recorded years 1978, 1979, and 1980. This amount appears reasonable and will be adopted, leaving an Account 665 amount for test year 1982 adopted for the purposes of this proceeding of $41,580,000.

Insurance

Engineering Analysis' estimate for Account 668, Insurance, was $2,018,000 as compared to General's estimate of $2,271,000, a difference of $253,000. The $253,000 difference is due to estimating errors of $175,000 by General and a lower insurance premium estimate of $78,000 by Engineering Analysis. General stipulated to the $175,000 estimating error adjustment. The lower insurance premium estimate of $78,000 advocated by Engineering Analysis is based on later data than was available to General and will therefore be adopted. Adopted expense for Account 668 is therefore $2,018,000 as estimated by Engineering Analysis.

Accident and Damage

Engineering Analysis and General estimated expense of Account 669, Accident and Damage, to be $311,000. This figure will be adopted.

Operating Rents

Engineering Analysis' estimate of Account 671, Operating Rents, was $17,297,000 as compared to General's estimate of $16,303,000, a difference of $994,000. Engineering Analysis' estimate was based on more recent data indicating that higher operating rents will be incurred by General. Because it is based on later data, we will adopt the staff's estimate of $17,297,000 for this account.

Relief and Pensions

Engineering Analysis' estimate for relief and pensions was $103,006,000 as contrasted to General's original estimate of $109,150,000. After review, General stipulated to the staff's estimate of $103,006,000. However, consistent with our adopted payroll we will adopt $103,810,000 for this item.

General Services and Licenses

As discussed in the section under Affiliated Interests, we adopted as reasonable for this proceeding $19,528,000 for Account 674, General Services and Licenses.

Other Expenses

Both Engineering Analysis and General estimated the expense for Account 675, Other Expenses, to be $1,022,000 for the test year 1982. This figure will be adopted.

Expenses Charged to Construction-Credit

Engineering Analysis' estimate of Account 677, Expenses Charged to Construction-Credit, was a negative $12,582,000 for the 1982 test year as contrasted to General's estimate of a negative $11,448,000, a difference of $1,134,000. The difference between these estimates relates to the allocation of payroll expense for general office personnel, salary grade 8 or above, to capitalized construction on the part of Financial Analysis as contrasted to General's treatment of expensing these managerial salaries. According to the record, personnel expense under the accounting change proposed by Engineering Analysis includes those in public affairs, accounting, legal, revenue requirements, and treasury departments. In D.92366 we stated that "given the magnitude of General's current construction program, it is difficult to conceive of any of the managerial personnel not being involved in one way or another." Such an observation appears as valid today as it did at the time of the issuance of D.92366 and we will therefore adopt the staff's expense estimate as adjusted to recognize adopted payroll for Account 677 of a negative $12,686,000.

F. TAXES

Testimony and exhibits were presented on behalf of RRD on ad valorem and other state and local tax expenses by utilities engineer A. A. Mangold, on payroll taxes by research analyst S. A. Miller, and on taxes based on income by financial examiner N. C. Fabian. In addition, research program specialist D. T. Gardner presented testimony on the normalization of book tax timing differences.

Rebuttal testimony and exhibits on normalization of book tax timing differences were presented on behalf of General by its budget director L. E. Hegge.

Tabulated below are the 1982 test year estimates of taxes other than income as presented by General and the Commission staff, together with our adopted figures. The bases for our adoption of these figures follows.

Acct. No.	Account	Engineering Analysis	General	Adopted
		(Dollars in Thousands)		
	Operating Taxes			
307.1	Ad Valorem Taxes	$38,460	$ 40,894	$39,888
307.4	Other State and Local Taxes	240	294	240
	Subtotal	38,700	41,188	40,128
	Payroll Taxes			
307.5	California Unemployment Ins.	1,837	1,900	1,856
307.6	Federal Unemployment Ins.	655	681	664
307.7	Federal Insurance Contribution Act	32,139	33,120	32,506
	Subtotal	34,631	35,701	35,026
	Total Taxes Other Than On Income	$73,331	$ 76,889	$75,154

Ad Valorem Taxes

General's estimate of $40,894,000 for Account 307.1, Ad Valorem Taxes, was derived by the application of the latest effective tax rate of 4.74 available at the time General made its estimates times 25% of the market value which was computed on the average ratio of market value to net investment of 97.05% for the 5-year period 1976 to 1980. Engineering Analysis' estimate was similarly computed using the then latest available tax rate of 4.69% and the 1980 ratio of market value to present a net plant investment of 91.6% to yield its estimate of $38,460,000. General agrees that the latest effective tax rate of 4.69% should be used in the computation of the ad valorem taxes but that the average 5-year ratio of market value to net plant investment should be used rather than the 1980 figure used by Engineering Analysis. Engineering Analysis' witness testified that the ratio of market value to the net plant investment dropped to 95.4% in 1979 and 91.6% in 1980 after having held constant at close to 100% for 1976, 1977, and 1978. Engineering Analysis' use of the recorded figure 5½% below the latest 5-year recorded average appears unjustifiable; similarly, General's use of the 5-year average in face of indicated downward trend in the percentage used is not justified. Under these circumstances, we will adopt as reasonable a figure of 95% ratio market value to net plant investment and a tax rate of 4.69% to yield an ad valorem tax of $39,888,000.

Other State and Local Taxes

Engineering Analysis estimated Account 307.4, Other State and Local Taxes, at $240,000 as compared to General's estimate of $294,000. Engineering Analysis' estimate, based on the trend for the 5-year period 1976 through 1980, appears reasonable and will be adopted.

Payroll Taxes

Payroll taxes paid by General consist of Account 307.5, California Unemployment Insurance, Account 307.6, Federal Unemployment Insurance, and Account 307.7, Federal Insurance Contribution Act. The total of these three payroll tax accounts is estimated by Engineering Analysis as $34,631,000 as contrasted to General's estimate of $35,701,000, a difference of $1,070,000. Both Engineering Analysis and General used the same method in computing the payroll taxes. The differences in the estimates are due to different labor expense estimates. Payroll taxes adopted for the purposes of this proceeding of $1,856,000 for Account 307.5, $664,000 for Account 307.6, and $32,506,000 for Account 307.7, totaling $35,026,000, reflect our adopted payroll levels.

G. TAXES BASED ON INCOME

General

Differences between General and RRD estimates of state and federal income taxes generally related to differences in estimated revenues and expenses. The adopted income taxes in this proceeding are based on adopted revenues and expenses.

Component items to be considered in the computation of federal and state income taxes include the following items: tax depreciation including the cost of removal expense and plant retirements in the test year, federal deferred tax reserve, ITC, normalization of book tax timing differences, CCFT effective rate, incremental CCFT rate, and the impact of ERTA.

Tax Depreciation

Financial Analysis used General's tax depreciation estimate for this proceeding after making adjustments for the differences in the plant additions and depreciation estimates. In the computation of CCFT the full benefit of accelerated depreciation has been flowed through whereas liberalized tax depreciation on a normalized basis was used for the development of federal income taxes (FIT).

Federal Deferred Tax Reserve

The cost of removal expense has been included in excess tax depreciation and the tax effect of the cost of removal deduction has been included in deferred tax reserve. Financial Analysis reviewed and evaluated General's development of deferred tax reserve for the test year 1982 and used its method in its computations. General's deferred tax reserve estimate of $363,980,000 is less than Financial Analysis' estimate of

$368,484,000 by $4,504,000 due to differences in the depreciable plant and the depreciation rate used by Engineering Analysis. Our adopted federal deferred tax reserve reflects our adopted values of depreciable plant and the depreciation rate.

ITC

Financial Analysis' estimate of ITC for test year 1982 used as a reduction of FIT is on a ratable flow-through basis. The ITC realized on plant additions since 1971 is amortized on a full-year convention basis over the life of the plant additions.

Fixed Charges

Financial Analysis' fixed charge estimate of $136,667,000 is less than General's estimate of $164,217,000 by $27,550,000 due to the inclusion of short-term CWIP in rate base by General and a difference in the estimate of the cost of debt. Our adopted fixed charges reflect the exclusion of CWIP from rate base.

Normalization of Book Tax Timing Differences

In addition to normalizing book tax timing differences relating to straight-line versus accelerated depreciation in computing federal income taxes as required by D.87838 and D.91337, General proposes the normalization of book tax timing differences for capitalized pensions, capitalized payroll taxes, capitalized use taxes, and capitalized state income taxes caluclated for the purpose of computing federal income tax expense. Pensions, payroll taxes, use taxes, and state income taxes are currently being deducted from current income for tax purposes, thus reducing General's tax liability. Normalization would result in the recomputation of tax expense for ratemaking purposes as though the expenses were not currently deductible but must be capitalized for tax purposes. The difference between the actual tax liability and the recomputed tax expense would be

recorded in a reserve account for deferred taxes. Normalization of book tax timing differences will increase General's 1982 revenue requirement by about $31 million.

The Commission staff opposes normalization of these book tax timing differences based on its belief that this Commission and the California Supreme Court have long favored flowing through such benefits to the utility ratepayers. In support of this position, the staff witness quotes this Commission's response to the Federal Energy Regulatory Commission (FERC) Docket No. RM8042 dated July 3, 1980 which stated in part:

> "3. The Commission (FERC) recognizes that a utility that normalizes will increase its cash flow because ratepayers will be providing the utility an interest free loan. The Commission advocates this policy because of its belief that if a utility normalizes, its debt and equity capital cost, for which the consumers are responsible, will be less. California questions this premise because such a devise ignores the traditional rate-making process of raising capital to a reasonable rate of return allowance but instead legitimizes a scheme to obscure from the ratepayer how much money the utilities are really receiving. If a utility is in need of any increase in cash flow the proper place to consider such issues is in a proceeding which sets a just and reasonable rate of return on a utility's common equity, not the manipulation of the utility's cost of service income tax allowance."

Because of this policy position taken before FERC and in various Commission decisions, Financial Analysis does not recommend the normalization of book tax timing differences other than accelerated depreciation.

Witness Gardner opposed normalization of book tax timing differences:

> "This argument is valid under ordinary circumstances, but when annual construction outlays approach 20% to 25% of the utility's earnings base, adequate cash flow levels may not be obtainable by simply increasing the rate of return. To do so would require authorizations greatly in excess of returns earned on commensurate-risk investments and violates the principles established by the Hope and Bluefield cases."

This witness went on to state that it should be noted that neither General's nor the staff's tax witnesses are aware of any existing tax law which would preclude the Commission from revoking the requested normalization of book tax timing differences at a future date should such action appear desirable at that time.

In his rebuttal testimony, General's witness Hegge noted that FERC had rendered a decision on Docket No. RM8042 requiring tax normalization. This rule (Exhibit 134 in this proceeding) was published in the Federal Register, Volume 46, No. 93, Thursday, May 14, 1981, at pages 26613 to 26638. The rule amended Part 2 of FERC's regulations to require a public utility making a rate filing under theFederal Power Act or an interstate pipeline making a rate filing under the Natural Gas Act to use tax normalization for miscellaneous timing differences

to compute the income tax component of its cost of service. The rule requires a rate applicant to use tax normalization for all timing differences transactions except those addressed in prior FERC orders. At page 26615 of this rule, FERC states as follows:

> "...tax normalization better achieves the goals of equity and fairness in rates than does flow-through. The primary rationale for tax normalization is matching the recognition in rates of the tax effects of expenses and revenues with the expenses and revenues themselves. In terms of expenses only, this means that tax normalization matches tax benefits with cost responsibility. Tax normalization allocates the tax benefits of an expense to the same time periods that the expense itself is allocated." (Order stayed July 6, 1981.)

It is noted that ERTA does not mandate the establishment of the normalization of book tax timing differences as proposed by General. Furthermore, it is believed that increases in internal source of funds that flow from this and others of our recent decisions are more than sufficient, as demonstrated in our decision below on CWIP. Therefore, we will not unnecessarily burden the ratepayers by the imposition of the additional revenue requirement resulting from normalization of the book tax timing differences.

CCFT Effective Rate

Consistent with treatment of other utilities filing CCFT returns on a combined report basis, Financial Analysis computed CCFT using the effective tax rate with the statutory rate as a floor. An evaluation of the data provided indicated that General's tax rate was on the average less than the

statutory rate. Therefore, Financial Analysis used the statutory rate of 9.6% for CCFT. This will be used for our adopted results.

Incremental CCFT Rate

General's CCFT rate established by the State Franchise Tax Board uses a three-factor formula which determines the relationship of wages, revenues, and average net tangible property of all General system telephone operations in California to wages, revenues, and average net tangible property of the total General system. Since only the revenue factor changes in computing CCFT for reflecting an increase in rates, this Commission has in the past used incremental tax rates for any increases in rates granted by the Commission. The incremental tax rate developed for this proceeding is 1.68 and, consistent with our past practices, will be used in the computation of net-to-gross multiplier.

ERTA

On August 13, 1981 President Reagan signed into law ERTA which provided for a new accelerated depreciation system for business. The estimated change in net income and rate base due to the direct effects of ERTA were set forth in Exhibit 188. ERTA also institutes the Accelerated Cost Recovery System (ACRS) for recovery property placed in service after December 31, 1980. It further provides that normalization of accelerated depreciation, useful lives, and the investment credit is mandatory for all public utilities with respect to property depreciated under ACRS. These provisions do not affect the AAA/AA treatment of accelerated depreciation authorized by D.87838 for pre-1981 property. Accordingly, pending the final outcome and resolution of the tax remand matter (see Exhibits 69 and 70), rates authorized in this decision shall be subject to refund upon further order of the Commission.

Subsequently, the proceeding was reopened by an ALJ Ruling to receive written evidence by the parties to the proceeding on the effects of ERTA. The exhibits filed by General and the Commission staff were received as late-filed Exhibits 190 and 191, respectively. General and the Commission staff computed the effects of ERTA using both a 10-year and 5-year recovery period for central office equipment (COE).

The Treasury Department has approved, effective January 1, 1981, a reduction in the asset depreciation range (ADR) guideline class for COE from 20 to 18 years resulting in the classification of such equipment placed in service on or after January 1, 1981, as 5-year recovery property for depreciation.

Tabulated below is the 1982 and 1983 intrastate change in revenue requirement due to ERTA as computed by the Commission staff. General's computed intrastate revenue requirement reduction is $5,547,000 for 1982 and $13,283,000 for 1983. Substituting this decision's authorized rate of return of 12.71% increases the intrastate revenue reduction to $7,077,000 for 1982 and $13,189,000 for 1983. We will include the former in our adopted summary of earnings and the latter in our computations of an 1983 attrition allowance.

	Intrastate Operations	
	1982	1983
	(Dollars in Thousands)	
Cost of Service		
1. Additional ACRS Depreciation	$ 48,601	$ 76,831
2. Statutory Tax Rate	x 46%	x 46%
3. Current Taxes Payable	(22,356)	(35,342)
4. Deferred Taxes Payable	22,356	35,342
5. Ratemaking Tax Expense	$ 783	$ 1,461
Rate of Return		
6. Avg. Reserve for Deferred Taxes	$ 32,376	$ 60,346
7. Rate Base	(32,376)	(60,346)
8. A.60340 Recommended Rate of Return[a/]	x.11.97%	x 11.97%
9. Net-to-Gross Multiplier	x 1.91	x 1.91
10. Gross Revenue Requirements	(7,402)	(13,797)
11. Net Change in Revenue Requirement (Line 10 plus Line 5)	$ (6,619)	$(12,336)

(Red Figure)

a/ Consistent with original staff's results of operations for 1983 a 0.3% rate of return adjustment is included in the financial attrition allowance.

D.93851 dated December 15, 1981 on these proceedings made revenues collected from January 1, 1982 on subject to refund pending our final determination of the effect of ERTA. Our inclusion of the effect of ERTA for both test years 1982 and 1983 obviates the necessity of ordering any such refund.

IDC

General's estimate of this item was $1,084,000 for the test year 1982 as contrasted to the staff's estimate of $2,471,000. The difference reflects the inclusion of IDC in lieu of short-term CWIP in rate base and is consistent with the Team's exclusion of short-term CWIP from rate base. As subsequently discussed, we have excluded short-term CWIP from rate base. Consequently, we will adopt the Team's estimate of IDC excluding short-term CWIP from rate base for both expense and rate base.

CCFT Flow-Through

Both the Team and General estimated this item to be $778,000 for test year 1982. We will adopt this figure.

H. TELEPHONE PLANT, DEPRECIATION EXPENSE AND RESERVE, AND RATE BASE

General

Exhibits and testimony on Chapter 13, Telephone Plant, and Chapter 15, Rate Base excluding Working Cash, were presented by senior utilities engineer A. A. Mangold; testimony and evidence on Chapter 14, Depreciation Expense and Reserve, were presented by utilities engineer M. F. Yee; and evidence and testimony on the working cash portion of Chapter 15, Rate Base, was presented by utilities engineer B. Y. Tan. In addition, utilities engineer K. P. Coughlan presented testimony and an exhibit on ELG depreciation, and research programs specialist D. T. Gardner presented testimony relative to the inclusion of short-term CWIP in rate base.

General's witness Hegge presented rebuttal testimony on M&S estimates presented by staff witness Mangold and the working cash presentation made by staff witness Tan. In addition, General's witness A. H. Bush presented rebuttal testimony relating to staff witness Coughlan's presentation on ELG depreciation.

Tabulated below are 1982 test year telephone plant, depreciation expense and reserve, and rate base items as presented by RRD and General, together with the adopted results. The bases justifying our adopted results appear in the following paragraphs.

Item	RRD	General	Adopted
		(Dollars in Thousands)	
Telephone Plant			
Telephone Plant in Service (Weighted Avg. Net)	$ 4,335,561	$ 4,490,715	$ 4,490,715
CWIP	-	264,892	-
Plant Held for Future Use	376	361	376
Materials and Supplies	41,000	96,500	42,200
Working Cash	(126,060)	5,850	(125,153)
Depreciation Reserve	(1,147,123)	(1,146,006)	(1,146,006)
Def. Tax Reserve	(368,484)	(363,980)	(363,980)
Rate Base before Adjust.	2,735,270	3,348,332	2,898,152
Adjustments			
IDC	26,931	14,662	37,318
Automatic Electric	(8,465)	(8,465)	(8,465)
Directory Company	-	-	-
GTEDS	(186)	(82)	(100)
Norm. Book Tax Timing	-	(11,135)	-
ELG Depreciation	-	(827)	-
CCFT Flow Through	5,845	5,641	5,845
Average Reserve for Deferred Taxes	-	-	(40,879)
Total Rate Base	2,759,395	3,348,126	2,891,871

(Red Figure)

Telephone Plant in Service

Engineering Analysis' 1982 test year estimate of total weighted average telephone plant in service is $4,335,561,000 as compared to General's estimate of $4,490,715,000, a difference of $155,154,000 or 3.6%. For the test year 1982 Engineering Analysis' estimate of gross construction expenditures is $780.0 million as compared to General's estimate of $777.8 million. The difference in estimates of total weighted average telephone plant in service relates to different apportionments of gross construction expenditures to Account 100.1, Telephone Plant In Service, and Account 100.2, Plant Under Construction. In the year 1980 the actual gross construction expenditures of $656 million caused Account 100.1 to increase by $547 million or 83.4% of the gross construction expenditures and Account 100.2 to increase by $109 million or 16.6% of the gross construction expenditures.

According to Engineering Analysis' witness, these percentages approximate the average split for the five-year period 1976 through 1980 which was 86.6% annual gross expenditures to increase Account 100.1 and 13.4% to increase Account 100.2. Engineering Analysis' witness testified he used the average split for the five-year period 1976 through 1980 for each of the four major plant accounts contributing to CWIP, i.e. land and buildings, central office equipment, outside plant, and general equipment, with the result that Engineering Analysis' estimates of gross construction expenditures were split with increases to Account 100.1 of 84.1% of the construction work and increases to Account 100.2 of 15.9%. Account 100.2, CWIP, is in turn split into long-term

interest-bearing and short-term noninterest-bearing CWIP. In 1980 the split of the average balance was 8% long-term and 92% short-term. Engineering Analysis used that split for its estimates for the years 1981 and 1982.

According to the rebuttal testimony of General's witness Hegge, staff witness Mangold's estimating procedure results in unrealistic results. He testified that with witness Mangold's method Account 100.2, CWIP, will always grow regardless of the level of gross construction expenditures. He noted that in the historical pattern of growth in work-order-related construction expenditures would not continue throughout the test year as indicated by a tabulation showing a decrease in the percentage increase over the previous year from 24.8% in 1980 down to 12.6% in 1982. In addition, he presented a tabulation showing the historical relationships between gross construction expenditures and the level of CWIP for the years 1975 through 1980 and the projected relationships using witness Mangold's estimates. This tabulation presented results which, according to witness Hegge, were unrealistic. For example, central office equipment, representing the largest of the four components affecting CWIP, showed Account 100.2 ending balances as a percent of gross additions ranging from 64.7% to 85.4% of actual recorded balances for the period 1975 through 1980 and 107.1% for test year 1982 using witness Mangold's estimates. General's testimony and arguments are persuasive and we will adopt General's estimate of telephone plant in service of $4,490,715,000 for the purposes of this proceeding.

Depreciation Expense and Reserve

The major issue between General and the Commission staff on this item is the use of ELG for future years. General currently employs a straight-line vintage group (SLVG) method as prescribed by this Commission's Standard Practice U-4 for depreciating the majority of its plant investment. The adoption of ELG for test year 1982 would result in an increase of $1,366,000 in depreciation expense and a decrease in rate base of $827,000.

General advocates the use of ELG depreciation accounting because it permits depreciating each group of assets over its actual life as contrasted to the SLVG method which breaks down depreciable property into vintage groups consisting of all the plant and depreciation category added in a single year. The weighted arithmetic average of the lives of all units in that group is called the "average life". Reciprocal weighting is used to produce depreciation charges for the category which will equal the sum of the charges that will be made in each vintage group were each vintage group depreciated separately. General argues that under the SLVG method of depreciation, some of the items will be retired with lives shorter than the average service life resulting in the accumulated depreciation account being reduced by more than the depreciation those items have generated. As noted, California uses SLVG with remaining life depreciation to compensate for changes in life estimates. When re-estimates of life remaining in a vintage group of assets are made, a new depreciation accrual rate is established for the survivors

by deducting the amount already depreciated from the cost of the plant and accruing the remaining cost over the estimates of the remaining life of the surviving units. While not disputing the theoretical advantage of ELG over the SLVG method of depreciation, Engineering Analysis opposes the adoption of ELG on the following bases:

1. ELG in actual use will provide no better match of capital recovery with consumption of capital than the SLVG method presently in use.
2. ELG will increase General's revenue requirements with more depreciation accruals in early years with questionable benefits to the ratepayer.
3. ELG will increase the staff work load and may prove so complex as to preclude effective regulatory oversight.

In support of the above position, staff witness Coughlan testified that rarely, if ever, does actual experience match forecast and that the useful life of the utility property is only one of the estimates required for the determination of the depreciation accrual. The other basic estimate required is net salvage. According to this witness, the precision for life survivorship is no better than the precision for the estimated net salvage and the useful life estimate requires the use of expert judgment with the result that the apparent precision of the ELG method is only illusionary. This witness further testified that while General has proposed ELG for all of its plant investment, such a depreciation practice is unnecessary for units of property where depreciation expense is computed in accordance with the forecast method which has the identical results as ELG depreciation.

General argues that compared with SLVG, ELG shifts the capital recovery costs for a group toward the early years, thereby more accurately matching capital recovery to the consumption of asset life which further allows implementation of the basic financial principle of matching cost with revenues. The record in this proceeding confirms the fact that ELG will cost ratepayers more than SLVG depreciation. However, according to the staff, this increased revenue requirement is not matched by any increase in benefits to the ratepayers.

Engineering Analysis witness Coughlan testified that the implementation of ELG would require additional records to be maintained by General and consequently would require additional regulatory review by the Commission. That such additional record-keeping would be required if ELG were authorized is not denied by General. However, General states that with the availability of the modern computer, such additional record-keeping would present a minimum burden on General and therefore would be a minimum burden on the ratepayers. According to the staff, the record-keeping requirement for ELG is perhaps the most important reason for the FCC's limiting ELG to new plant additions. After consideration, we are not persuaded that the advantages of the theoretically more precise ELG method in depreciation accruals outweigh the disadvantages to the ratepayer of the increased revenue requirement nor the disadvantages to General and to the Commission staff of the increased record-keeping. Consequently, we will not authorize ELG accounting depreciation practices.

Exclusive of ELG considerations, General's estimate of depreciation expense is $361,078,000 or $13,082,000 higher than Engineering Analysis' estimate of $347,996,000, and General's estimate of depreciation reserve is $1,146,006,000 or $1,117,000 less than Engineering Analysis' estimate of depreciation reserve of $1,147,123,000. Differences in these estimates reflect Engineering Analysis' lower estimate of telephone plant in service. Consistent with our previously discussed adoption of General's telephone plant in service figures, we will adopt General's depreciation expense and reserve figures for the purposes of this decision.

M&S

General's estimate of M&S is $96,500,000 as contrasted to the Engineering Analysis' estimate of $41,000,000, a difference of $55,500,000. The significant difference in these two estimates results from the inclusion by General in its M&S inventory of M&S used for construction and the exclusion of such M&S by Engineering Analysis. Engineering Analysis is of the opinion that M&S for construction should not be included in the M&S component of rate base since it is also included in construction expenditures which are flowed through to rate base through the allocation of construction to Accounts 100.1 (plant in service) and 100.2 (CWIP).

According to the testimony of Engineering Analysis' witness Mangold, some of the materials used in the construction program flow through Account 1220, M&S, as a part of normal accounting procedures and such materials may have been purchased or salvaged. Similar reuse of salvage materials is anticipated for test year 1982 and the book cost of such

salvage material is included in the estimates of gross construction expenditures. According to this witness, to the extent that such materials have in the past flowed through Account 1220, Account 1220 should be adjusted if recorded amounts in Account 1220 are the bases for estimating M&S for inclusion in rate base.

However, in this particular case, witness Mangold testified that the recent escalation of construction expenditures has caused Account 1220 to escalate also and it is difficult to use recent Account 1220 balances to test the reasonableness of General's estimate. Consequently, Engineering Analysis did not use recent Account 1220 balances to derive its estimate but rather used the relationship for the weighted average balance in Account 1220 of 0.94% of the weighted average balance in Account 100.1 for the years 1973 through 1978 as the bases for his 1982 test year estimate. He noted that for test year 1980 the adopted M&S was 0.92% of the adopted weighted average utility plant in service. Engineering Analysis' method of using 0.94% of the weighted average utility plant in service for test year 1982 appears reasonable and will be adopted. The application of the 0.94% factor to our adopted weighted average net telephone plant in service figure of $4,490,715,000 yields $42,200,000 (rounded) which we adopt as reasonable.

Property Held for Future Use

The staff's estimate for this item for the 1982 test year is $376,000 as contrasted to General's estimate of $361,000, a difference of $15,000. Set forth in the staff's audit report under comparative balance sheet as of December 31, 1980 is property held for future use of $375,000. We will therefore adopt the staff's estimate of $376,000.

CWIP in Rate Base

General seeks authorization to have work orders which have gross additions under $25,000 or a construction period of 60 days or less included as plant in service and thereby be included in rate base, work orders which have gross additions over $25,000 and a construction period of between 60 days and one year be treated as CWIP but included in rate base (short-term CWIP), and work orders which have gross additions over $25,000 and a construction period of over one year (long-term CWIP) be treated as CWIP and not included in rate base. Under General's proposal, the AFDC (sometimes referred to as IDC) would continue to apply to long-term CWIP not included in rate base. General's request as above-summarized contrasts with present practices which treat work orders that have gross additions under $10,000 or a construction period of 60 days or less as telephone plant in service to be included in rate base, and work orders which have gross additions of over $10,000 and a construction period of over 60 days as CWIP.

According to the testimony of General's witness Hegge, the proposal to raise the limit from $10,000 to $25,000 is sound because price levels and interest rates have increased substantially since the $10,000 limit was established in 1957. And, further, the $25,000 limitation is consistent with accounting procedures established by the FCC in Docket No. 21230 (68 FCC 2nd 902) amending the FCC's Uniform System of Accounts (31 C FR Sec. 100.2) effective January 1, 1979. In his testimony, General's witness Hegge contrasts the inclusion of short-term CWIP in rate base wherein the money is collected from the ratepayer in the same period as the money is paid out by the investor to the current IDC procedure used by this Commission which records the return on CWIP as income in the current period and spreads the collection of this return over the service life of the plant. Under such an arrangement, according to witness Hegge, the ratepayers are further required to pay General a return on the return until the IDC is fully amortized as contrasted with CWIP in rate base wherein once it is transferred to plant in service General is entitled to start collecting a return from the ratepayer.

General argues that CWIP construction includes such items as cables which include a variety of plant for both growth and modernization that benefit today's ratepayers. According to General, these construction activities consist of such work as modernizing local and toll facilities, relieving the congested metropolitan networks, reestablishing plant margins, and restoring service levels; all of which benefit today's customers.

The Commission staff opposes the inclusion of CWIP in rate base as a departure for traditional ratemaking as evidenced by the following decisions: Pacific's D.90642 (1979); General's D.87505 (1977) 82 CPUC 15; San Diego Gas & Electric Company's D.87639 (1977) 82 CPUC 291; Southern California Edison Company's D.86794 (1976) 81 CPUC 49; and Pacific Gas and Electric Company's D.86281 (1976) 80 CPUC 396. The staff further argues that although short-term noninterest-bearing CWIP was included in rate base in General's most recent rate case, D.92366, the Commission was careful to limit the decision to the unique facts involved in that case. According to the staff, compelling arguments against the inclusion of CWIP in rate base were summarized by staff witness Gardner as follows:

"1. Although CWIP in rate base would theoretically improve earnings quality, there is no way to measure the subsequent impact on either stock prices or bond ratings.

"2. The amount of cash flow generated by including CWIP in rate base may be too small to have any effect on external financing needs or financial health.

"3. Ratepayers should not be required to pay the utility a return on plant which is not 'used and useful'.

"4. AFDC provides an incentive for utilities to complete construction projects in the shortest possible time.

"5. CWIP in rate base makes present customers involuntary investors in new plant, from which they may or may not receive a benefit.

"6. AFDC properly allocates the cost of construction to future customers who will benefit from the new plant.

"7. CWIP in rate base, when measured on a present value basis, may be more costly to ratepayers than the addition of AFDC to rate base."

In the above-referenced Pacific's D.90642, it is noted that CWIP in rate base was not at issue. In General's matter, D.87505, we stated as follows:

> "In General's case we are not convinced that inclusion of CWIP in rate base would necessarily lead eventually to a fair rate of return lower than would otherwise be required. In this connection it was brought out that General has minimal needs for additional external financing and that General's financial condition has improved as the result of normalization of Federal Income Tax expense and since in General's case CWIP represents a relatively small portion of total capitalization and AFDC a relatively minor item on the income statement and so long as the condition subscribed in the preceding paragraph obtained, the ratemaking treatment of CWIP should have little effect on the fair rate of return determination." (82 CPUC 15 at 29.)

Obviously, these conditions do not prevail today in connection with this instant proceeding. Furthermore, San Diego Gas & Electric Company's D.87639, Southern California Edison Company's D.86794, and Pacific Gas and Electric Company's D.86281 all relate to our exclusion of long-term rather than short-term CWIP from rate base. Under these circumstances, the citations quoted by the staff in support of its position appear to bear little, if any, relevance to this proceeding.

After consideration, it appears to us that the more persuasive arguments for the inclusion of short-term CWIP in rate base are the improvement in earnings quality, the increase in cash flow, the elimination of AFDC cost over the operating life of the plant, and the elimination of paper income from General's income statements. From the record in this proceeding, it appears that the improvement in earnings would have little, if any, impact on either General's stock prices or bond ratings; that an increase in cash flow above that resulting from our authorized earnings is not required and would unnecessarily burden the ratepayers; that when measured on a present value basis in the present financial market, the addition of AFDC to rate base might possibly impact the ratepayer less than CWIP in rate base; and that AFDC income is presently correctly evaluated by the financial community. Under these circumstances, we will not include short-term CWIP in rate base in this proceeding.

The following tabulation compares Engineering Analysis' and General's estimates of the effects of inclusion and exclusion of short-term CWIP in rate base:

	Engineering Analysis' Estimate			General's Estimate		
	Present Policy	General's Proposed Policy	Increase in Rate Base	Present Policy	General's Proposed Policy	Increase in Rate Base
	(Dollars in Thousands)					
Short-term CWIP	$ 0	$486,500	$486,500	$ 0	$264,892	$264,892
Net Rate Base Effect of AFDC on Short-Term CWIP	26,900	14,662	(12,238)	63,322	14,662	(48,660)
Total	26,900	501,162	474,262	63,322	279,554	216,232

(Red Figure)

The difference between Engineering Analysis' estimate of $486,500,000 and General's estimate of $264,892,000 was the amount of short-term CWIP previously discussed under telephone plant in service wherein we adopted General's estimate of $264,892,000. It will be noted that for the period 1979-1982 General's estimate of the net rate base increase due to AFDC on short-term CWIP was $48,660,000 as compared to Engineering Analysis' estimate of $12,238,000. The $36,422,000 difference was due to the exclusion of AFDC by Engineering Analysis for the years 1980 and 1981. Both General and Engineering Analysis excluded 1979 AFDC. According to the record, the staff excluded AFDC for these two years as a result of our inclusion of CWIP in rate base in D.92366. D.92366 became effective in November 1980; however, it was based on the test year 1980. Consequently, AFDC should be excluded for both 1980 and 1981. However, because this decision excludes CWIP from rate base, 1980 and 1981 are the only years that AFDC should be excluded from rate base. Under these circumstances, the net rate base increase adjustment we will adopt for this proceeding is $37,318,000, reflecting the inclusion of AFDC in rate base for the years 1979 and 1982.

We will also adopt General's proposal of classifying as short-term CWIP work orders of less than one year's duration or involving less than $25,000 in telephone plant expenditures.

Working Cash

Working cash balance in rate base is to compensate General for funds it has provided to pay the operating expense of the business in advance of receiving offsetting revenues. Tabulated below by component parts is the working cash estimate as prepared by Engineering Analysis and General, together with our adopted results. The bases for adopting the specific amounts are discussed in the following paragraphs.

Item	Engineering Analysis	General	Adopted
	(Dollars in Thousands)		
Operational Cash Requirements			
Minimum Bank Balances	$ 0	$ 18,404	$ 4,518
Misc. Special Deposits	2,346	2,346	2,346
Misc. Receivables	13,460	19,988	13,460
Working Funds	414	414	414
Other Deferred Charges	11,950	13,548	11,950
Prepayments	10,459	10,459	10,459
Total Gross Requirements	38,629	65,159	43,147
Deductions, Funds Not Supplied by Investors			
Avg. Amount Available - Rev. before Expenses	$ 37,445	$(26,927)	$ 45,694
City Users Tax	205	205	205
Employee Withholdings	7,505	7,674	7,567
Other Deferred Credits	20,931	20,931	20,931
Revenue Settlements	2,765	(1,923)	2,765
Credit Received from Suppliers	68,750	59,349	64,050
Lag in Payment Capitalized Items	27,088	0	27,088
Total Deductions	164,689	59,309	168,300
Working Cash Allowance	$(126,060)	$ 5,850	(125,153)

(Red Figure)

Minimum Bank Balances

Engineering Analysis excluded minimum bank balances from working cash because as of May 1, 1980 General has been paying activity fees for banking in lieu of maintaining compensating bank balances and the staff felt the minimum bank balance payment unnecessary. However, the record indicates that minimum bank balances are still required to support General's approximately $200 million of credit line with some 20 banks to support General's commercial paper. According to the record, General is contractually obligated to maintain bank balances in the amount of $4,518,000 in order to support the above credit line. We will use this amount for the computation of working cash.

Miscellaneous Special Deposits

Engineering Analysis and General both agreed that this item of operational cash balance should be $2,346,000 for the test year 1982 and this amount will be adopted.

Miscellaneous Receivables

Engineering Analysis' estimate for this item is $13,460,000 as compared to General's estimate of $19,988,000. The difference reflects Engineering Analysis' exclusion of interest-bearing notes on the basis that such notes should not be included in rate base to earn a return while they are also earning interest for General. Engineering Analysis' position appears reasonable and will be adopted.

Working Funds

Both Engineering Analysis and General agree that this item should be $414,000. It will be adopted.

Other Deferred Charges

Engineering Analysis' estimate of this item is $11,950,000 as contrasted to General's estimate of $13,548,000. The difference in these estimates results from Engineering Analysis' adoption of Financial Analysis' recommendation pertaining to payments made prior to 1980 for M&S that have not been received and closed work orders for materials in process of fabrication. The staff's position appears to be consistent with our past decisions and will be adopted.

Prepayments

Both Engineering Analysis and General agree that this item should be $10,459,000 and this amount will be adopted.

Average Revenue Before Expenses

The average revenue available as a result of collecting revenues in advance of paying expenses and taxes and accruing depreciation was estimated to be a negative $26,927,000 by General and a positive $37,445,000 by Engineering Analysis. The major difference in the estimates is the amount of income tax used in the lead/lag study. General used revenue at present rates whereas Engineering Analysis computed income taxes at an assumed 13% companywide rate of return. The adopted amount of $45,694,000 assumes the authorized rate of return and includes the effects of General's D.93255 and Resolution T-10451 and Pacific's D.93367.

City Users Tax

Both Engineering Analysis and General agree that this item should be $205,000. This amount will be adopted.

Employees' Withholdings

Engineering Analysis estimates this item as $7,505,000 as compared to General's estimate of $7,674,000. The minor difference in this estimate is due to differences in payroll estimates. Our adopted figure of $7,567,000 reflects the payroll expense associated with our adopted level of expenses.

Other Deferred Credits

Both Engineering Analysis and General estimate this item as $20,931,000 and this figure will be adopted.

Revenue Settlements

Engineering Analysis computed this item to be a deduction from working cash of $2,765,000 as contrasted to General's estimate of an addition to working cash of $1,923,000. The difference in these estimates reflects the direction of cash flow between General and Pacific in the settlements process. Engineering Analysis' estimate reflects cash flow from General to Pacific in accordance with historic patterns as contrasted with General's estimate which is based on accounting accruals indicating a cash flow from Pacific to General. We are persuaded that actual cash flow rather than accounting accruals should be used in the working cash computations for test year 1982. Consequently, for purposes of this proceeding, we will adopt Engineering Analysis' estimate for this item of working cash.

Credit Received from Suppliers

Engineering Analysis' estimate for this item indicates a deduction from working cash of $68,750,000 as contrasted with General's estimate reflecting a deduction from working cash of $59,349,000. This item reflects value of labor material and other supplies received but not yet paid for by General which thereby reduces General's operational cash requirements. Both Engineering Analysis and General estimated the base year 1979 amount to be $49,383,000. General developed its estimate based on the ratio of this amount to actual materials purchased which was then applied to anticipated purchases in test year 1982. Engineering Analysis used the ratio of total construction expenditures less capitalized payroll to estimate the test year 1982 credit received from suppliers. The staff argues

that General's estimate is inaccurate because credit is based on materials only and does not recognize the total construction expenditures whereas General argues that the staff's estimate is inaccurate in that it ignores changes in inventory levels and reuse of salvage material, and includes transactions entirely unrelated to credit received from suppliers. Both arguments have merit and we will therefore adopt the average of the two estimates, or $64,050,000.

Lag in Payment Capitalized Items

For this item the staff estimates a working cash deduction of $27,088,000 as contrasted to General's estimate of zero. Engineering Analysis made this adjustment to working cash requirement to reflect the lag in payment of capitalized items that are either in plant in service, M&S, or in CWIP and thereby earn either a rate of return or accrue IDC during a period when other parties are actually furnishing this capital. The capitalized amounts forming the basis of this estimate by Engineering Analysis include such items as payroll, federal insurance contribution tax, federal unemployment insurance, state unemployment insurance, workers' compensation insurance, pension, medical and dental insurance, vacation pay, vacation accrual, and GTEDS payments. The expensed portion of these items are considered on an overall basis in connection with the working cash estimates as related to the lag in the payment of expenses. We can discern no basis for different treatment of capitalized items and will, therefore, adopt the staff's recommended working cash deduction of $27,088,000.

Average Lag in Collection of Revenues

Engineering Analysis estimated 33.78 lag days for this item as contrasted to General's estimate of 35.19 days. The difference reflects an adjustment by Engineering Analysis to Accounts Receivable to reflect that portion of revenue receivable that belongs to Pacific as a part of the final settlement process. Engineering Analysis' position appears sound and will be adopted.

Average Lag in Payments

Engineering Analysis estimated the average lag in making payments as 43.155 days as contrasted to General's estimate of 28.07 days. The major reason for the difference is due to estimated federal and state income taxes used in the lead/lag study. General used income taxes at present rates for the income tax expense with lag days generated by proposed rates. Engineering Analysis used income taxes that assumed a rate of return of 13%. Other differences were in the lag days used for federal unemployment insurance, goods and services, vacation expense, and vacation accrual. Our adopted results are based on income taxes computed in accordance with our authorized rate of return and 128.93 days lag.

For federal unemployment insurance, Engineering Analysis, consistent with its usual practice, computed the lag days from the midpoint of each quarter to the date of quarterly payment. This method appears reasonable and will be adopted.

For goods and services, Engineering Analysis computed lag days from the date they were received to date of payment except for goods and services received on a regular basis where the midpoint of the service period to date of payment was used. General used the midpoint of the month of accrual to the date paid for all goods. The staff method appears reasonable and will be adopted.

Engineering Analysis computed the lag days for vacation expense and accrual from the midpoint of the year of accrual to the date the vacations were actually taken whereas General estimated its lag days for both vacation expense and accrual on actual accounting records and vacation experience. General used 351.81 days of lag for vacation expense as contrasted to 139.75 lag days for vacation accrual. General conceded that 351.81 days of lag should be used for both. Recomputing this item on that basis substantially reduces the difference between Engineering Analysis' and General's estimates. In view of this and because, as the record shows, Engineering Analysis' method follows historical practices, we will adopt Engineering Analysis' figures.

CCFT

The staff estimate for this rate base adjustment item was $5,845,000 for the test year 1982 as contrasted to General's estimate of $5,641,000. General's estimate was based on the statutory tax rate of 9.6% whereas the staff's estimate was computed using the effective tax rate with the statutory rate as a floor. Consistent with our past practices, we will adopt the staff estimate.

Deferred Tax Reserve

Financial Analysis estimated the deferred tax reserve to be $368,484,000 for the test year 1982 as compared to General's estimate of $363,980,000. The estimates differ because of the differences in depreciable plant and rate of depreciation used by Financial Analysis and General. Consistent with our adoption of General's depreciation expense and reserve, we will adopt General's estimate of deferred tax reserve.

Net-to-Gross Multiplier

Item	Ratio
Gross Operating Revenues	100.00
Uncollectibles at 1.49 (Intrastate Operations only)	1.49
	98.51
State Corporation Franchise Tax at 1.68%	1.66
	96.85
Federal Income Tax at 46%	44.55
Net Revenue	52.30
Net-to-Gross Multiplier (Gross Revenue ÷ Net Revenue	1.91

Component	Capitalization Ratio	Cost	Weighted Cost				
Long-term debt	52.30	10.40	5.44	X	1.015[a/]	=	5.52
Preferred stock	7.40	8.33	0.62	X	1.91	=	1.18
Common equity	40.30	16.50	6.65	X	1.91	=	12.70
			12.71				19.40

19.40 ÷ 12.71 = 1.53 = net-to-gross multiplier adjusted for interest deductions

a/ Allowance for uncollectibles.

I. SUMMARY OF EARNINGS

Table II contains the summary of earnings in 1982 test year as estimated by the Commission staff and General, together with our previously discussed adopted revenue, expense, and rate base items for the company as a whole and our adopted intrastate summary of earnings.

TABLE II

SUMMARY OF EARNINGS
AT PRESENT RATES
Estimated Year 1982

Item	Staff	General	Adopted	
			Total Company	Intrastate
		(Dollars in Thousands)		
Operating Revenues[a/]				
Total Operating Revenues after Uncollectibles	$1,846,475	$1,830,418	$1,866,341	$1,483,263
Operating Expenses				
Maintenance	381,014	400,816	388,550	306,488
Traffic	97,731	97,731	97,731	82,003
Commercial	171,199	171,168	171,199	148,124
General Office and Salary	96,918	97,791	97,315	80,948
Other Operating Expenses	130,275	136,764	131,300	109,249
Subtotal Oper. Expenses	877,137	904,270	886,095	726,812
Depreciation Expense	347,996	361,078	361,078	283,736
Taxes Other Than on Income	73,331	76,889	75,154	60,524
Taxes On Income	188,284	146,176	179,353	132,125
Total Oper. Expenses	1,486,744	1,488,809	1,501,680	1,203,197
IDC	2,471	1,048	1,084	853
CCFT Flow-Through	(778)	(778)	(778)	0
Automatic Electric	(1,091)	(1,092)	(1,091)	(858)
Directory Company	(4,464)	(4,067)	(3,881)	(3,362)
GTE - Data Services	(1,621)	(713)	(877)	(770)
Norm. Book Tax Timing Differences	-	22,270	-	-
1968-69 Flow-Through	-	379	-	-
Equal Life Group	-	1,295	-	-
Net Operating Expenses	1,481,261	1,507,187	1,497,126	1,199,844
FIT (ERTA)			989	783
Net Operating Revenues	365,214	323,231	369,215	283,419
Rate Base before Adjustments	2,727,939	3,349,447	2,898,152	2,282,078
IDC	26,931	14,662	37,318	29,530
CCFT Flow-Through	5,845	5,641	5,845	0
Automatic Electric	(8,465)	(8,465)	(8,465)	(6,641)
GTE - Data Services	(186)	(82)	(100)	(79)
Norm. Book Tax Timing Differences	-	(11,135)	-	-
ELG Depreciation	-	-	-	-
Avg. Deferred Tax (ERTA)	-	(827)	(40,879)	(32,376)
Total Rate Base	2,752,064	3,349,241	2,891,871	2,272,512
Rate of Return	13.27	9.66	12.77	12.47

(Red Figure)

a/ Includes effects of General's D.93255 and Resolution T-10451 and Pacific's D.93367.

VI. ATTRITION

Attrition may be defined as erosion in a utility's earnings when its operating and financial expenses increase at a more rapid rate than its revenues and productivity gains. The two main components of attrition are financial attrition and operational attrition. Under this Commission's regulatory plan, major rate cases require alternate year test year periods. The effect of attrition for the years between general rate increase applications is to preclude the utility from earning its authorized rate of return during those years. Both General and the Commission staff agree that an allowance should be provided through a step rate increase to compensate the utility for attrition expected to occur in the year between rate applications.

Testimony on attrition was presented on behalf of General by its vice president-revenue requirements Richard L. Ohlson and on behalf of the Commission staff by financial examiner T. R. Mowrey and utilities engineer B. Y. Tan.

General computed the additional revenue requirement necessary to compensate for attrition by the application of the change in the embedded cost of debt and preferred stock, the change in depreciation rates, the inflation impact, and productivity gain to the Commission's determined level of 1982 operations. The Commission staff's estimate of the attrition allowance necessary was developed by adjusting the 1982 estimated levels of revenues, expenses, and rate base by significant known or expected changes and historical trends to arrive at an estimate of General's 1983 operations.

General's estimate of financial attrition was $7,416,000 and operational attrition was $48,473,000. According to the record, General is also requesting an additional attrition allowance of $14,790,000 to compensate for the increase in the 1983 depreciation rates over the authorized 1982 depreciation rates for a total of $70,679,000. The Commission staff computed the financial attrition allowance to be $7,047,000 and originally computed the operational attrition allowance to be $4,161,000. This latter amount was subsequently revised to a negative $2,078,000, making a total attrition allowance of $4,969,000. This allowance excludes the ERTA effects which are included as a separate adjustment and the additional attrition allowance for increased 1983 depreciation rates which, as subsequently discussed, will be treated separately after the staff's review of General's 1982 depreciation study.

It is axiomatic that the relevance of either estimate is predicated on the accuracy of the forecast. In both D.92497 dated December 5, 1980 on Southern California Gas Company's A.59316 and D.92549 dated December 30, 1980 on Southern California Edison Company's A.59351, we authorized attrition allowances to become effective January 1 following the test year without the necessity of further hearings. In both these matters the staff proposed the utility file an advice letter late in the test year which would include results of operations for the test year with eight months' recorded and four months' estimated data. The staff recommended the advice letter be served on all parties to the general rate increase proceeding and that a period for comments be allowed. If necessary, public hearings could be held. In both matters we rejected the staff's proposal on the basis that we are inadequately staffed to undertake the required review and the potential for establishing a "mini rate case" would have an adverse effect on the operation of the Regulatory Lag Plan.

For the above reasons, we will similarly authorize an attrition allowance now to be recovered through a billing surcharge to be implemented at the beginning of the year 1983. However, as subsequently discussed, an advice letter filing containing General's 1983 revenue estimates, depreciation rates, and plant-in-service estimates will be required for Commission staff review and Commission approval before the implementation of the step rates. As previously stated, we will adopt RRD's revised embedded cost of debt on an average-year basis for the year 1983 of 10.94%, and will use this to determine the financial attrition allowance.

Arriving at a similar allowance for operational attrition is considerably more complex than the determination of suitable financial attrition allowance. In deriving his original estimate of operational attrition of $4,161,000, Engineering Analysis' witness Tan used various estimating techniques including the application of average gains, least square projections, and the application of contract percentage increases. General's rebuttal witness Ohlson testified that such inconsistent trending techniques produced distorted results. He applied least squares trending methods to staff data to produce an operational attrition of $49,704,000 and to General's data to derive an operational attrition requirement of $70,589,000. Witness Ohlson further testified that his original estimate of operational attrition of $65,190,000 was based on a gross national product (GNP) deflator forecast estimate of 10.1%. As of June 23, 1981, the inflation rate forecast for 1983 over 1982 was 8.1%. Using this latter figure and including the effects of General's acceptance of the staff's estimates, he estimated the operational attrition to be

$48,473,000. To this figure witness Ohlson added depreciation expense attrition of $14,790,000 and a rate of return attrition of $7,416,000 to derive a total additional revenue requirement for attrition for the test year 1983 of $70,679,000 which he recommends the Commission adopt for purposes of this proceeding.

After consideration, we conclude that the staff method for computing operational attrition is reasonable and will adopt it. Tabulated below is the operational attrition revenue requirement by component items as estimated by the staff and General, using staff's data and General's data. The bases for the computation of our adopted attrition allowance are set forth in the ensuing paragraphs.

OPERATIONAL ATTRITION AND REVENUE REQUIREMENT

Item	Engineering Analysis	General Staff Data	General Utility Data
	(Dollars in Thousands)		
Expenses			
Labor & related overheads	$ 55,568	$ 72,484	$ 76,100
Materials & related overheads	5,267	3,802	4,035
Others	26,534	25,651	27,035
Payroll taxes	5,271	6,239	6,534
Ad Valorem taxes	2,616	2,809	4,390
Depreciation expense	32,353	33,712	41,091
Investment credit a/	(6,439)	(6,439)	(6,439)
Total Expenses	121,170	138,258	152,746
Rate Base			
Plant in service	405,112	415,952	506,840
Plant under construction	-	-	19,453
Property held for future use	20	20	-
Materials and supplies	3,852	5,280	18,586
Working cash allowance	(9,946)	(9,946)	624
Depreciation reserve	(185,337)	(185,641)	(176,254)
Deferred tax reserve	(26,600)	(26,600)	(20,500)
Total Rate Base	187,101	199,065	348,749
Revenue Requirement Rate Base b/	33,820	35,980	69,092
Total Revenue Requirement	154,990	174,238	221,838
Less Tax Act Effects	12,336	-	-
Revenue Growth	157,068	131,617	160,241
Net Operational Attrition	$ (14,414)	$ 49,704	$ 61,597

(Red Figure)

a/ Investment tax credit x 1.91 (net-to-gross multiplier).

b/ Revenue requirement for rate base equals total rate base x rate of return x 1.53 (net-to-gross multiplier adjusted for interest deductions).

Labor and Labor Overhead

Engineering Analysis' witness estimated a 11.95% increase in this category based on 9.0% increase in wages and a 4.63% increase in primary services offset by 2% improvement in productivity. This estimate appears reasonable and will be adopted for purposes of this proceeding.

Materials and Materials Overhead

This component item reflects a 12.2% increase as estimated by Engineering Analysis and reflects material inflation of 7.3% and a 4.63% increase in primary services. The material inflation is based on a projection of recorded 1974 through 1980 costs for primary services in this category. The estimate appears reasonable and will be adopted.

Others

Engineering Analysis' estimate for this component item reflects a 12.79% increase based on a 7.8% cost escalation with a 4.63% increase in primary services. This estimate appears reasonable and will be adopted.

Payroll Taxes

Engineering Analysis estimated this item by the product of the estimated payroll and the estimated 1983 overall payroll tax rate as contrasted to General's estimate based on least squares trends. We will adopt General's estimate based on staff data of $6,239,000 for this item.

Ad Valorem Taxes

Engineering Analysis estimated these taxes by increasing 1982 ad valorem taxes in proportion to the higher 1983 rate base (without working cash). General's estimate for this item was based on least squares projection. We will adopt General's estimate based on staff data of $2,809,000 for this item.

Depreciation Expense

Engineering Analysis' estimate of this item is based on estimated 1983 plant in service and 1982 depreciation rate as estimated by the depreciation unit of Engineering Analysis. It does not include supplemental depreciation expense resulting from an increase in depreciation rates in 1983 over 1982. General's estimate reflects a least squares projection. Consistent with our adoption of General's depreciation expense, we will adopt General's estimate using General's data of $41,091,000 for this item.

Investment Credit

This item was estimated by both Engineering Analysis and General to be $6,439,000 equal to ITC of $3,371,000 multiplied by 1.91 net-to-gross multiplier and will be adopted.

Rate Base

Engineering Analysis' estimate for rate base items is based on the increase in plant in service derived from construction budget expenditures of $864 million for 1983 which in turn is based on the construction cost per additional primary service, the cost of plant added to serve existing customers, and the inflation effect on construction costs. Additional M&S for 1983 was derived from the increase in construction expenditures. Working cash allowance was estimated by applying a 10% increase to the 1982 working cash estimate. Depreciation reserve and deferred tax reserve were based on the estimated 1983 plant in service.

Consistent with our adopted 1982 test year rate base items, we will adopt Engineering Analysis' estimate

of property held for future use of $20,000, a working cash allowance of $9,946,000, and deferred tax reserve of a negative $26,600,000, and General's utility data estimates of $506,840,000 for plant in service, $176,254,000 for depreciation reserve, and $19,453,000 for plant under construction. For materials and supplies, we will adopt $4,764,000 developed from our previously adopted ratio of 0.94% of plant in service.

The total of these individual rate base items is multiplied by our adopted rate of return of 12.71% and the 1.53 modified net-to-gross multiplier gives an attrition allowance requirement for rate base items which added to the total expense attrition allowance requirement yields a total revenue requirement for an attrition allowance.

Revenue Growth

Engineering Analysis' estimate for this item was based on the projection of historical growth in revenue per primary service of 6.25% increase in revenue per primary service and 4.63% increase in the number of primary services, a combined overall growth of 11.17% to yield a revenue growth estimate of $157,068,000. General's estimate, based on a least squares trend, was $131,617,000 using staff data and $160,241,000 using General's data. Engineering Analysis' estimate was based on the product of revenue at staff-recommended rate of return of 11.97% and a 11.17% growth in revenue whereas General's utility data computation was based on revenue at its recommended intrastate rate of return of 13.12% and a 9.78% growth in revenue based on 4.52% growth in revenue per primary service and 5.03% growth in General's primary services in 1983.

Our adopted revenue growth figure reflects revenue at our adopted rate of return of 12.71% and 9.78% growth in revenue based on General's projected growth in revenue per primary service of 4.52% and the staff's projected growth in primary services of 5.03%.

As previously discussed, our adopted ERTA effects for test year 1983 were computed to be a revenue requirement decrease of $13,189,000.

Deducting the revenue growth and the ERTA effect from the total revenue requirement leaves an operational attrition requirement which added to our adopted financial attrition allowance yields the total attrition allowance.

As previously noted, General has proposed that the attrition allowance authorized in this proceeding include the estimated effect of 1983 changes in General's composite depreciation rate. The staff supports this request in principle but recommends that the amount of such allowance be determined after the staff has reviewed General's 1982 depreciation study and notes that this recommendation is consistent with the procedure recently followed by the Commission in authorizing increased rates to reflect the changes in General's 1981 composite depreciation rate in Resolution T-10451. Such a recommendation appears reasonable and will be adopted.

Modification of Attrition Allowance

The adopted attrition allowance for General is the first such provision for any telephone utility by this Commission. The volatility of telephone utility revenues is traditionally recognized as the major factor in sharp earnings fluctuations. Except for capital costs, expenses are largely under the control of the utility management. Utility revenues, so largely dependent on toll, are not readily predictable two years in advance. Therefore, we will require General to submit for review by the staff an estimate of revenues for the year 1983 concurrently with the previously noted depreciation filing.

Based on the record in this proceeding, the rate base estimates of General and the staff are extreme in their divergence. Although we have adopted General's estimate, we do not desire to compound the lack of uncertainty for test year 1982 by a further uncertain plant-in-service choice for attrition year 1983. Therefore, it is appropriate for this proceeding to require a further review of plant in service before the adoption of a final attrition allowance. Accordingly, General will be required to submit for staff review and Commission determination the plant-in-service estimate for 1983 concurrently with the previously noted depreciation and revenue estimate submissions. Such a submittal will be in the form of an advice letter filing on October 1, 1982 and would contain updated plant in service, depreciation expense, and revenue figures. The basic operational allowance will be modified to reflect the updated plant-in-service and revenue figures. Any changes in rates resulting from the attrition allowance will be subject to authorization by Commission resolution.

VII. RATE DESIGN

As the record now stands, the additional revenue needed to enable General to earn its authorized 12.71% rate of return is $10,420,000. This will be obtained by authorizing an increase from 7.87% to 10.48% for the surcharge presently applicable for Schedules A-1 through A-40. An increase in billings of $11.99 million is necessary to generate $10.42 million additional revenue to General. The difference reflects the effect of toll settlements paid by General to Pacific.

The matter of rate design will be fully addressed in our decision following the additional hearings in May 1982.

VIII. SERVICE

The quality of service rendered by General as perceived by its customers and as measured by various reporting standards was by far the most controversial issue raised in this proceeding. Testimony on the quality of service and related matters was presented on behalf of General by its vice president-service H. Gasser, by its vice president-revenue requirements R. L. Ohlson, by its network engineering director R. B. Shirey, by its general network engineering manager of traffic engineering R. E. Shultz, by its network planning director J. R. Miller, by its labor relations and compensation director C. A. Green, by a senior research fellow at the Hoover Institute on War, Revolution, and Peace at Stanford University, William Schneider, by a senior associate at Management Analysis Center, Inc., Dr. R. C. Baesemann, by a professor in the School of Business Administration at the University of Western Ontario, M. R. Leenders, by the executive director-technical strategic planning of GTE Automatic Laboratories, Incorporated, E. J. Glenner, and by senior account executive of the senior research division of Walker Research, Incorporated, J. W. Marr; on behalf of the Commission staff by supervising utilities engineer H. Strahl, by utilities engineers R. Howard and M. Hodges, by financial examiner T. R. Mowrey, and by Mervin Field of Field Research Corporation; on behalf of CAUSE by Dr. Norman Kaplan, W. A. Kargas, Jr., and Marvin Kaitz; on behalf of SM by Mayor Ruth Yannatta Goldway; and on behalf of Los Gatos by vice mayor B. Ventura.

The above testimony encompassed the following subject matters:

1. Customer perception of quality of service.
2. Quality of service as established by measurement standards.
3. Competitive bidding.
4. Selection of central office switching equipment (COSE).
5. Maintenance of adequate margins.
6. Management compensation plan.
7. Dynamic rate of return.
8. Establishment of a citizens utility board.

A. CUSTOMER PERCEPTION OF QUALITY OF SERVICE

Correspondence

Fourteen petitions with a total of 745 signatures from 32 cities protesting the rate increase were received by the Commission. The majority of these petitions included as one of the bases for protesting the rate increase the perceived poor quality of service rendered by General. Those that referred to the perceived poor quality of service generally requested that no rate increase be granted until the quality of service is improved to a satisfactory level.

According to the record, the Commission also received 513 pieces of miscellaneous correspondence protesting the quality of service. Fifty-one of these complained of poor service on business telephones and 462 complained of poor service on residential telephones. These 513 pieces of correspondence were received from a total of 119 different cities.

Questionnaires

A check list of the 16 most common service problems experienced by General's subscribers had been used in connection with public witness hearing in Diamond Bar held on General's A.59132. This check list was somewhat modified to provide for a rating of the overall quality of service as perceived by the customer and the frequency of occurrence of the various service problems. The modified check list was then distributed as questionnaires by SM, CAUSE, and at public witness hearings by the Commission staff.

Approximately 1,717 persons responded to the questionnaires distributed by SM and the results were tabulated in exhibit form and presented by SM. This exhibit indicated that from 84.5% to 91.3% of the subscribers rated the overall quality of service of General as being unsatisfactory. The most common service problems rated by respondents as occurring often or very often were excessive noise or static on the line, line goes dead after dialing, line reverts to dial tone, dialed number does not ring, pay phones inoperative, all circuits busy, and cross-talk.

The Commission staff received 539 questionnaires listing 15 problem classifications and indicating the frequency of the problems experienced by the respondents according to three categories, i.e. seldom, sometimes, or often; 38 questionnaires listing 16 common service problems similar to SM's service survey, and 236 of its own 16 service problem questionnaires. Of the 539 15 service problem questionnaires received, 327 respondents checked off all 15 service problems listed as having been encountered and 211 checked at least

one or more of the service problems listed. Of the 38 SM questionnaire responses received, 23 responded to the overall quality of service with 21½ rating the overall quality as being unsatisfactory and 1½ as satisfactory.

Of the forms received from the public witness hearings, 10 rated the overall quality of service. All 10 rated the service as being poor. Of the 236 responses received, 209 indicated the subscriber had encountered one or more of the service problems and only 18 indicated that they had not encountered one or more of the common service problems.

Surveys

Two scientific customer polls were introduced into the record to reflect the subjective perception of service levels held by General's customers. These two surveys were the monthly customer surveys conducted by Walker Research, Incorporated (Tel-Cel) and the Commission-ordered survey conducted in August 1981 by the Field Research Corporation.

The Walker Research survey provided measurements of customer satisfaction levels with service order installation, repair service, Phone Mart, and dial service-local and direct distance dialing (DDD). According to General, the Tel-Cel reports showed customer satisfaction levels ranging from 83% to 93% in these categories on a companywide basis with 7% to 17% of the customers expressing some level of dissatisfaction. General also notes that the trouble areas, such as the Santa Monica division whose objective service measures fall below companywide results, also show poor results in the measures of customer satisfaction.

The results of the Field Research Corporation's survey were introduced into evidence on the last day

of hearing on October 2, 1981. This survey showed that companywide, 59.3% of General's one-party residential customers say they are either very (22%) or somewhat (37.3%) satisfied with service provided by General. Of the 35.9% expressing some degree of dissatisfaction with General's service, 15.8% were somewhat dissatisfied and 20.1% were very dissatisfied. The survey also revealed that the degree of satisfaction with General's service is directly related to the number of daily calls made by customers with the heavy users, those making 10 or more calls in a typical 24-hour period and who represent about 20% of all residential customers, indicating the least satisfaction with the level of their residential telephone service. Of the residential customers interviewed, 65.8% have the impression that General's overall service has stayed at the same level during the past year while 29% believed the level of service had changed. Of this 29% perceiving a change, 17.9% think the service has deteriorated and 11.1% think the service has improved. In the Santa Monica division, 57.1% of the subscribers interviewed are dissatisfied with the level of service and only 37.8% were satisfied with the service. With respect to the residents in the Monrovia Exchange, 51.2% are dissatisfied with General's overall service while 42.2% are satisfied; 58.0% think service has stayed the same during the past 12 months, 24.8% think service has deteriorated, and 12.7% say it has improved.

With respect to service problems, the survey indicated that companywide 70.0% of all customers contacted who made a call during the previous 24-hour period from their residential telephone reported that they had experienced one or more of the following nine telephone service problems: no dial tone, reached wrong number when number dialed correctly, received false busy signal, call did not complete, cross-talk on line, static or noise on line, voices fading in and out during conversation, difficulty with low volume, and being cut off while on the line. The survey summarized the different kinds of problems reported during a 24-hour period on a companywide basis as follows:

	Percent
No problems reported	30.0%
One Kind	20.5
Two Kinds	15.2
Three Kinds	13.1
Four Kinds	8.3
Five Kinds	6.2
Six Kinds	3.6
Seven Kinds	2.1
Eight Kinds	0.5
Nine Kinds	0.5

The survey also noted that the degree of satisfaction with General's service is directly related to the number of daily calls made by the subscribers. Those making 10 or more calls in a typical 24-hour period, who represent about 20% of all residential users, are less satisfied with their service than the medium or light users.

Discussion

The correspondence, questionnaires, and surveys discussed above indicate very clearly and strongly that a large segment of General's business and residential customers find the quality of service rendered by General to be unsatisfactory. It is equally clear that those subscribers that are experiencing service problems generally do not perceive any improvement in service in the past year. General argues that although its measured service levels do not yet reach the highest level desired in all categories, they have shown steady improvement and are meeting or exceeding all measurement criteria established by D.92366 standards for telephone service. General further argues that there is a very definite lag in the customers' perception of quality of service when service levels either improve or deteriorate and that it is only a matter of time until the customers perceive that service is indeed improving. This assertion is subject to question in view of the results of surveys indicating that far more subscribers believe that service is deteriorating than believe it is improving. The wide discrepancy in the subscribers' perception of the level of service as indicated by the professional surveys above-described and as measured by D.92366 criteria necessitates a

review and revision of the existing objective service measurements as subsequently discussed.

The Tel-Cel survey, indicating a companywide range of customer satisfaction of 83% to 93% with respect to service order installation, repair service, Phone Mart, and dial service-local and DDD, was based on residence and single-line business customers sampled as follows:

Service Order	Recent service orders requiring a premise visit.
Phone Mart	Recent service orders placed at a Phone Mart.
Repair Service	Recent trouble reports.
Operator Service	Random sample from customer records and billing file.
Dial Service (Local and DDD)	Random sample from customer records and billing file.

In contrast, the Field Research sample was randomly selected from General's complete single-party residential customer billing list. While the Tel-Cel survey is undoubtedly a useful tool in evaluating trends and the effects of company actions in the specific categories evaluated, the overall quality of service as perceived by the customers, who after all are the ultimate judges of the quality of service being provided would be more accurately reflected by the Field Research survey. It is this overall quality of service which this Commission must evaluate when establishing a reasonable rate of return for the utility. With more than 35% of the customers contacted expressing some degree of dissatisfaction with the quality of service and with 70% of the customers

contacted having experienced one or more service problems within the 24-hour period preceding the interview, it is axiomatic that the record will not support a finding that the overall level of service rendered by General is satisfactory or adequate.

In this regard, we must mention some of the most cogent details in the Field Research Survey. The overall incidence of customers experiencing the following problems at least once during the preceding 24 hours was as follows: static or noise, 47%; call did not go through, 43.5%; other voices on the line, 24.1%; dial tone problems, 23.7%; faulty busy signal, 17.1%; low volume, 12.9%; voices fading in and out, 12.2%; faulty wrong number, 11.9%; and line cut-off, 7.2%.

The above problems are experienced more frequently in Santa Monica and Monrovia.

When 43.5% of all General's customers contacted in a random survey by a highly reputable public opinion firm report that at least once in the preceding 24 hours their call did not go through, something is definitely wrong in General's service territory. Such evidence explains the broad public dissatisfaction registered at the public witness proceedings and our finding that service is inadequate.

B. MEASUREMENT STANDARDS

Introduction

Ordering Paragraph 3 of D.92366 required General to file quarterly reports setting forth the reports of data presently required by GO 133, the standard of service being performed as measured by additional indicators set forth in paragraph 1 of Appendix D to the order, the type, make, and capacity of new Class 5 or 4/5 switches installed during the period in each exchange, and a list of major service improvements that have been implemented. On the record in this proceeding, General, the Commission staff, CAUSE, and SM criticized certain portions of both GO 133 and the additional indicators for measuring service set forth by D.92366 and recommended revision and/or elimination of certain provisions of both of these measuring standards.

GO 133

The purpose of this Commission's GO 133, Rules Governing Telephone Service, is to establish uniform standards of service to be observed in the operation of telephone utilities. The specific telephone service measures included in GO 133 are held primary service orders, held regrade service orders, installation commitments, customer trouble reports, dial tone speed, dial service, toll operator answering time, and directory assistance operator answering time. Staff witness Howard testified that a review of GO 133 indices disclosed the following information as of December 1980:

1. Installation commitments of four days' average time were met about 98.1% of the time.
2. Customer reports per 100 telephones averaged 7.0% for 1980 as contrasted to 7.1% for 1978 and 1979.
3. Dial tone speed averaged 99.4% for 1980, well above General's reporting level of 98.1%.
4. The dial service index was consistently below the 98.2% reporting level and averaged 97.8% for 1980.
5. Toll operator answering time averaged 89.5% for 1980 which is above the reporting level of 88.9%.
6. Directory assistance operator answering time just matched the year-end level for 1979 of 82.7% and exceeded the 1980 year-end objective of 81.9%.

Staff witness Strahl testified that with the changing technology, such as electromechanical conversion to electronics, cordboard operator offices to computerized traffic service position systems (TSPS) and directory assistance systems/ computer (DAS/C), the relevance of some of the indices has become questionable. He cited as an example the dial tone speed index which measures how fast a subscriber gets a dial tone upon lifting the receiver is essentially meaningless on digital switches and that if the digital switch does not give a dial tone within a fraction of a second, there is a problem in the outside wire or terminal or else there is something wrong with the switch itself. Also, the dial service measurement which measures the ability to successfully complete a call does not take into consideration such factors as noise on the

line and disconnection in the middle of the conversation. In addition, lack of dial tone would not be reflected in this measurement and would be reflected in the trouble report measurement only if a complaint was lodged about it. Further criticism of GO 133 indices testified to by witness Strahl was that the concept of peak demand was completely overlooked and that the network performance during the high calling volume hours might be lost in the total system average.

CAUSE witness Kaitz presented testimony indicating that both the dial service index and the trouble reports per 100 telephone index produced distorted results. According to his testimony, General's practice in reporting dial service as a three-month moving average not only destroys much of the value of the index but provides a possibility of deliberate distortion and quoted as an example a substandard performance in the months of December and January balanced by a good reading in the month of February would average an overall acceptable level whereas the dial service rendered in that three-month period was only satisfactory in one of the three months. He further noted that General does not provide any weighting to compensate for uneven distribution of calls and that operators have the discretion to disregard certain types of calls which could result in an improperly trained operator giving erroneous results.

With respect to the trouble reports per 100 telephone index which is intended to reflect the calculation of the number of customer problems or complaints that relate to dissatisfaction with the telephone company-provided equipment and/or service, this witness testified that the results are inaccurate in that many major categories of customer problems are never included on trouble tickets as a result of the subscriber's preference to ask for operator assistance rather than dial 611 to report trouble. Another example of discrepancies in the reported trouble reports per 100 telephones are the trouble reports made at Phone Marts. The reporting practices are alleged to be not well enough defined to be able to measure how many customer problems are actually reported on trouble tickets. This witness further stated that the trouble reports per 100 telephone index is further misleading in that it is essentially based on the number of phones rather than the number of customers which would be more understandable to most parties concerned with the quality of service and notes that if the number of trouble reports in December 1980 was compared with the number of customers rather than the number of telephones, the trouble reports per 100 telephones would be 14.0, which he believes would be closer to the subjective rating of quality of service as reported in the various surveys.

SM recommends that the service indices currently contained in GO 133 be reexamined, and those that are outdated or no longer necessary should be eliminated and those that best measure trends and the actual level of service received by the consumer should be retained or expanded upon. According to SM, redefinition of key measurements such as the problems to be included in trouble reports must occur to ensure the definitions are broad enough to observe the results in the reporting of those problems actually being experienced.

In general, the participants in these hearings are in agreement that it would be desirable to review GO 133 standards with the participation of all respondent telephone companies to determine if new or revised standards are needed. Under a motion by the staff joined by CAUSE and other parties, presiding ALJ Johnson directed that General and interested parties meet and confer with discussions directed toward the necessity or desirability of revising GO 133.

The initial conference was held in Los Angeles on October 8, 1981. This was attended by representatives of the Commission staff, General, Pacific, CAUSE, Citizens Utilities Company of California (Citizens), Continental Telephone Company (Continental), and the University of California at Los Angeles (UCLA). A statewide GO 133 task force has been established and is currently looking at existing measurements, possible revisions, and parallel testing of existing and possible future measurements. Because of the complexity of the matters under consideration and in view of pending deregulation and its possible effects on any service measurement system, it is anticipated that concrete results from the GO 133 task force will not be forthcoming until well into 1982.

A written summary of the conference on October 6, 1981 was issued by staff member Strahl on October 16, 1981 and was distributed to all those attending the initial meeting. A conference call was scheduled for November 12, 1981 to discuss the results of the October 6, 1981 meeting. Participation in this conference call was by the Commission staff, General, UCLA, CAUSE, Continental, Pacific, University of California Systemwide Telcom Department (UC), Citizens, Roseville Telephone Company (Roseville), Volcano Telephone Company (Volcano), and the California Independent Telephone Company Association (CITA).

Because the statewide task force would not complete its project until well into 1982, it was necessary to establish a committee limited to General, the Commission staff, and parties to A.60340 to formulate a possible overlay of a value system on the existing GO 133 measurement system. A meeting of this limited committee was held on December 7, 1981 and was attended by the Commission staff, General, UCLA, County, and CAUSE. General presented for consideration such a value system relating to existing GO 133 indices and measurements.

Additional meetings of the limited committee were held on January 8 and 22, 1982 and on February 16, 1982. These meetings were generally devoted to the application of existing GO 133 indices to a dynamic rate-of-return procedure in connection with this instant proceeding. As subsequently discussed, we are not adopting a dynamic rate of return procedure at this time and it is, therefore, not necessary to detail the results of the limited committee's activities.

As will be explained, we are requiring the application of specific service measurement indices by General for use on a central-office-by-central-office penalty mechanism. This penalty mechanism is for General only and is not meant to slow progress toward the development of revised GO 133 standards to be applicable on a statewide basis. To provide an appropriate vehicle for the recommendations and proposals from the statewide task force, OII 88 will remain open. The order that follows provides for a prehearing conference to schedule further hearings on this matter in connection with the statewide task force.

D.92366 Service Indices

Appendix D of D.92366 provided 17 indices, including the six GO 133 indices for the measurement of the quality of service, to assist in the complex problem of evaluating service levels. Also included were service level objectives to be met by year-end 1980, 1981, and 1982.

It is obvious from the record that these 17 indices do not provide objective standards that correlate with the standard of service as perceived by General's customers. Some of the shortcomings of these indices were discussed on the record by staff witness Strahl. According to his testimony, six of the measurements pertain to the adequacy of trunking with no mention of the quality of transmission on the trunks, just the ability to handle calls, and notes that successful call completions are currently indicated in dial service measurement. On this basis he recommends that basic dial service measurement be redefined to make it more valid and

eliminate the necessity of the additional reporting indices ordered by D.92366. He further testified that the same considerations apply to director performance and director conversion to electronics measurements and should therefore be eliminated. One additional measurement index measures the conversion of all pay phones to single-slot coin telephones. General has indicated that such conversions will be completed by 1982 eliminating the necessity of this measure. This witness recommends the retention of the two remaining indices measuring the ratio of total lines in service to total lines installed and measuring the percentage conversion of step-by-step central offices to electronic central offices.

It is anticipated that all of the above-described indices required by D.92366 will be considered in the revision of GO 133. Until the decision revising and/or supplementing the present GO 133 issues, we will continue to require General to file the quarterly reports of these indices.

D.92366 Service Penalty

D.92366 imposed a reduction in the return on common equity of 0.5%, or $7.4 million, as a penalty for inadequate service. Under the terms of D.92366, this penalty could be removed no earlier than December 1, 1981 upon petition for modification of the order and a showing by General that the service measurement indices objectives set forth in Appendix D of D.92366 are met and that reporting units serving at least 90% of General's subscribers have dial service indices above the reporting level. The financial impact was originally calculated on an annual basis. It has now lasted four months in excess of one year, resulting in an additional $2.5 million penalty.

On November 6, 1981 General filed an application for the removal of the service penalty alleging that as of that date it was meeting or exceeding the December 1981 objectives for all of the specified measurements except for conversion of public telephones to single-slot coin telephones, and that it was anticipated that this last objective would be met by the end of the year. D.82-02-088 dated February 17, 1982 denied the application because the quality of service being provided by General, including the necessity or lack of necessity of a service penalty, was one of the issues that would be addressed in the forthcoming decision on this proceeding.

It is apparent that General has satisfied the requirements for the removal of the penalty imposed in D.92366. We commend General for this achievement, but we ruefully note that it has not eliminated the serious service problems in the areas which General serves. As stated above, we find that General's service is still far from satisfactory. Simply because General has met the objectives of D.92366 does not mean we should refrain from taking such additional steps as are necessary to ensure that General's service does improve in the areas where it is currently most deficient.

We are removing the penalty reducing General's authorized return on equity by one-half percent. We are, however, imposing in its place a central-office-by-central-office penalty mechanism. This penalty mechanism will provide each customer of a central office with inadequate service with a $1.40 credit on his monthly bill. The credit will be in force

for a three-month period, i.e., until submission of quarterly reports permits evaluation of whether the credit will be continued or discontinued for a particular central office.

Service Penalty

As subsequently discussed, the record fully supports the imposition of a central-office-by-central-office service penalty to both provide General additional incentive to improve service and to compensate the subscriber in some small measure for having to endure such inadequate service.

The number of user trouble reports for each 100 stations and the dial service index, a measure of the ability of the equipment to complete a customer-dialed call over the local and toll message network without encountering an equipment malfunction and/or all-paths-busy condition, are perhaps the two most critical service measurement indices contained in GO 133. It is obvious from this record that GO 133 is in need of revision including the above two indices. This will be done in connection with OII 88 which will remain open for this purpose. In the interim, however, we will use the trouble reports per 100 stations and the dial service indices as a basis for evaluating the service provided each central office. A penalty of $1.40 per line, in the form of a surcredit on each subscriber's bill, will be imposed for each line in each central office where inadequate service is being provided as indicated by both more than 8.0 trouble reports per month per 100 telephones and a dial service index of less than 97.0% at time of peak use. It should be noted that the 8.0 trouble reports per 100 telephones is the GO 133 reporting level for this index as compared to a standard for adequate service of 6.5 trouble reports per 100 telephones.

Similarly, a dial service index of 97% is the GO 133 reporting level as compared to the standard for adequate service of 98%. The dial service index data is presently obtained throughout most of the day. Consequently, most of the test calls are placed outside of the hours of peak use. In those cases where the facilities are adequate to meet the peak loads, the dial service index would be relatively unaffected by the call volume at the time the calls are placed. However, when the margins are insufficient to adequately meet the peak call volume loads, it is probable that the dial service index will deteriorate at that time. It is axiomatic that these are the facilities that need to be supplemented and/or replaced at an early date. For this reason, the order that follows requires that the dial service index for each central office be measured during the two-hour period when the call volume is greater than any other two-hour period during the day. It also provides that General is to begin compiling trouble reports per 100 telephones and the dial service index data as above-described on a central-office-by-central-office basis as of May 1, 1982.

It is anticipated that the revision of GO 133 might well encompass the reporting of trouble reports per 100 telephones on a central office entity basis and raise the standard level for both trouble reports per 100 telephones and dial service indices above present levels. Naturally, such revised GO 133 standards will evolve from the efforts of the statewide committee and be applicable to all telephone utilities on a statewide basis.

The precise application of the central-office-by-central office evaluation is to be based on quarterly reports to be filed with the Commission for review and evaluation. For each quarter commencing with May 1, 1982, the trouble reports per 100 telephones and the dial service indices are to be provided on a monthly basis for each central office. Such quarterly reports are to be submitted 30 days after the quarter ends.

For those central offices where the trouble reports per 100 telephones exceed 8.0 for two of the three months in the quarter and the dial service index at time of maximum use is less than 97% for two of the three months (not necessarily the same two months in the quarter), the Commission, by resolution, will impose a surcredit of $1.40 per line for each line in the central office. Such surcredit is to remain in effect until a subsequent quarterly report indicates an improvement in the service levels above the penalty criteria limits.

C. COMPETITIVE BIDDING

General's Position

Ordering Paragraph 6 of D.92366 states:

> "6. On or before July 1, 1981 General shall submit a complete plan to the Commission for Commission approval for acquiring central office equipment on a competitive bid basis. If General does not indicate that it is going to use competitive bidding for future purchases of central office equipment, General shall provide specific justification for not doing so." (Mimeo. page 169.)

In compliance with this provision of D.92366, General submitted to the Commission in June 1981 the study on the purchasing and procurement procedures used throughout the United States prepared for General by Management Analysis Center, Inc. (MAC). This study was admitted into evidence in this proceeding as Exhibit 145 and its principal author, Baesemann, testified to the methodology followed in researching, compiling, and producing the study and recommendations. Dr. Baesemann concluded that closed competitive bidding is not an effective procurement technique for equipment such as central office equipment and found that General's existing purchasing and procurement practices are in conformance with those advocated by experts, practiced by other industries, and followed by major telephone companies today. Baesemann did recommend

that General's procurement procedures be formalized and that a clear audit trail be established. According to General, these recommendations have been accepted and can be implemented.

In further support of this position Leenders testified that the type of competitive bidding recommended by staff witness Strahl is inappropriate for COSE and that a competitive inquiry method such as that used by General is more appropriate for private sector procurement as opposed to governmental sector procurement. He further testified that the procurement procedure recommended by Baesemann is the most appropriate procedure for the acquisition of central office equipment.

General further argues that it uses competitive bidding for the procurement of standard fungible goods where first price is the appropriate criterion for purchasing decisions as contrasted to the procurement of high technology capital acquisitions. At the oral argument held before the Commission en banc, General's president Anderson stated that to the best of his knowledge no major telephone company in this country serving a metropolitan area uses a competitive bidding procedure for COSE.

Commission Staff's Position

Staff witness Strahl recommends that General be directed to adopt competitive bidding for the selection of COSE because with competitive bidding General would have the motivation to purchase the best available and least costly switching equipment for its system, thereby rectifying a considerable number of service problems and decreasing the requirement for large amounts of construction capital.

He further testified that in response to a recurring question from General's managers why he was singling out General with this issue when Pacific follows the same practices of buying switching equipment from an AT&T subsidiary, he noted that:

1. Pacific has good service in California where General does not.
2. Pacific, years ago, converted a considerable number of step-by-step central offices to crossbar whereas General's supplier, AE, did not develop crossbar technology.
3. Pacific has gone heavily into electronic switching specifically the ESS-1A machine which he believes to be the best electronic analog machine in the industry whereas AE has not produced anything comparable.
4. The Bell System, cognizant of the fact that its digital switch ESS-5 will not be in service for awhile, approached independent manufacturers about supplying digital switches to meet the needs of the operating companies.
5. From 1981 to 1985 approximately 39 Northern Telecom DMS10s are planned for service in Pacific's service area as well as 3 DMS200 toll switches.

This witness further testified that Continental, Roseville, Central Telephone Company of Nevada, Citizens, United Telephone, and all the small telephone companies throughout the United States which depend upon the Rural Electrification Administration (REA) use switching equipment from several different manufacturers as contrasted with General's reliance primarily on AE output.

He noted that GTE invests moneys in General for the purpose of promoting improvement projects; General shifts the funds to AE for the purpose of COSE and AE returns the funds to GTE through an array of conduits. This is essentially the same relationship between Pacific, AT&T, and Western Electric (WE) with the notable exception that WE produces state-of-the-art switches which can perform their task for many years without significant changes or modifications whereas AE COSE are not state of the art and do not at times meet the needs of the customers requiring their replacement or augmentation. Witness Strahl then proceeded to recite details of the lack of ability of AE to provide equipment necessary for General's operations which, according to this witness, derived from the fact that AE felt no need to modernize the technology of its COSE offerings in the early 1950s because aside from General, which serves a growing metropolitan area of LA, all other companies served areas with relatively low population density and low call volumes.

General has established certain basic criteria as minimum standards to be met before a particular manufacturer's digital switching equipment would be included in any comparative study. These criteria were: (a) available capacity of 30,000 lines or more, (b) custom-calling features in addition to basic service features, (c) EBSS Centrex features as an available option, (d) remote switching unit capabilities, and (e) a 1983 in-service date capability. Based on these limiting criteria General concluded that only two of the six digital switching systems which it considered qualified would be included in the study. The two were AE's GTD-5 and

Northern Telecom's DMS-100. Witness Hodges indicated that it was difficult to understand why General did not include the Nippon NEAX-61, SC DCO System Century, and the ITT-North DSS-1210 in the study in view of the fact that they apparently met the criteria described above. Based on his review of the results of these studies of these two switching systems, witness Hodges indicated that the selection decision to select the AEGDT-5 digital switching system over the NTDMS-100 digital switching system was a reasonable decision and presented an acceptable basis for justifying General's current near-term plans for using the AEGDT-5 as a standard digital switch in its Class 5 central office modernization program. Witness Hodges further testified that he was not convinced that the study has developed any substantial justification for using the GDT-5 as the ultimate or only company standard, installing the GTD-5 in central offices which have less than 30,000 lines and have no Centrex or remote switching requirements, or purchasing only GDT-5 switches for all central office installations after 1983. He believes that because of the significant and tremendous impact on future costs and operations of a decision of this nature, General should perform another more encompassing study which includes most, if not all, presently and soon to be available digital switches as well as more sample alternative serving arrangements indicative of General's varied franchised service area in the State of California.

With respect to competitive bidding, CD's witness Strahl recommended as follows:

"a. That General be directed to prepare and adopt competitive bidding procedures for its COSE within four weeks after the date of the order in this proceeding.

"b. That such procedures be thereafter submitted for review and approval by the Commission.

"c. That such procedures in a above must contain (1) common bid specifications which may not favor any particular manufacturer, (2) clauses in the solicitation which will protect General (and its ratepayers) against delays in delivery, installation and cutover, and improper operation of the purchased machine, and (3) firm price quotes on the basic equipment and price ceiling quotes for line additions.

"d. That any bid evaluation should be fully documented, conducted without any pressure by any manufacturer and done on the basis of selecting what is best for the ratepayers.

"e. That the Commission's engineers and auditors, as well as all interested outside parties, be allowed to review the bid evaluation documents, after the award of each bid.

"f. That this Commission put General on notice that any Class 5 or 4/5 COSE, which were contracted for installations and cutover after January 1, 1984, will be disallowed for rate-making purposes. This is to prevent General from contracting out to AE all of its COSE requirement well into the future prior to any decision on this issue."

As further support for his position of requiring competitive bidding, witness Strahl noted that during 1979 at the request of Canadian Telecommunications Commission (CTC) the British Columbia Telephone Company (BCTC) (a sister company of General) filed a notice stating that henceforth it would select all available equipment costing over $50,000 on the basis of competitive bidding. Under these circumstances, all COSE purchased by BCTC will be subject to competitive bidding.

According to the record, it is BCTC's practice to standardize on a particular product until such time as the price differential of a competitive product is sufficient to offset the embedded benefits of the use of one standard. Under these circumstances, it would appear that the successful bidder would receive orders for blocks of specific equipment which would tend to mitigate the problem of the utility's having to stockpile spare parts and materials and supplies for a wide variety of COSEs.

Discussion

In general, the staff recommendations establishing the parameters for a competitive bidding procedure appear to be well-reasoned. There are, however, certain aspects of the staff's proposal that require special attention in order that the primary purpose of obtaining the best available equipment at the cheapest price not be defeated. One such area of concern is the requirement that the bidding procedure must contain common bid specifications which may not favor any particular manufacturer. Different manufacturers use different design parameters and care must be exercised that the common specifications are not so rigid as to eliminate competitive bids

being made by manufacturers who have equivalent equipment that may adequately perform the required functions but for some technicality the equipment specifications fall outside the design criteria set forth in the common bid specifications. Another possibly troublesome requirement is the recommendation that the Commission's engineers and auditors as well as all interested outside parties be allowed to review the bid evaluation documents after the award of the bid. Such a requirement might very well result in prospective bidders who are adverse to having their system design features open to public perusal declining to submit bids.

One of the bases for General's opposition to the solicitation of bids from various manufacturers for specific switching machines is that such a procedure could lead to a wide variety of various types of switching equipment scattered throughout the company in unpatterned groupings. Such a variety of COSE could, according to General, lead to increased costs for the training of maintenance and support personnel and for the stocking of the spare parts required to service such variety of machinery. The effect of such increased costs can be mitigated if the solicitation of bids is limited to groups of equipment rather than individual items.

After reviewing General's procurement procedures, MAC made two recommendations: (1) the procurement procedure be formalized, and (2) a clear audit trail be established. The formalization of the procurement procedure would be accomplished by the establishment of an assessment committee that would be responsible for reviewing and reporting on all significant developments regarding central office equipment.

Such a committee would, according to MAC, ensure continuous consideration of new equipment by a group of experts and thereby maximize General's use of valuable skills as well as promote coordinated decision-making. MAC further recommended this committee maintain a qualified vendor list and effect a formal step-by-step procedure for soliciting technical and pricing proposals from vendors. Such a procedure would include requesting technical proposals from all qualified vendors, meeting with all vendors who respond, selecting suitable candidates, performing an economic evaluation, and allowing vendors to contribute additional information using cost minimization as a criterion to select as a standard those switches which are superior subject to the consideration of the advantage of standardization and negotiating the price of individual switches whenever specific quotes do not conform closely to the submitted pricing information. According to MAC, such a formalized and detailed procedure would assure that all qualified vendors receive equitable treatment during the selection process because their technical proposals and pricing information would all be subject to the same procedures. According to MAC's witness, such a procedure would make it obvious that General's primary objective is cost minimization over the life of the equipment.

MAC further recommends that General review its economic evaluation methods and consider adopting aspects of the "life-cycle-costing" procedures developed in the defense and aerospace industries. Theoretically, such a formalized and detailed program should result in cost minimization over the life of the plant and eliminate any advantage to GTE's subsidiaries. However, it is noted that comparable equipment is not evaluated simultaneously but rather over varying periods of time dependent on when a specific item is noticed by the committee. It would appear that only through a competitive bidding procedure will equitable, simultaneous evaluation of COSE occur. We are persuaded that such equitable, simultaneous evaluation of COSE is necessary for General to obtain the best equipment at a reasonable cost. Consequently, the order that follows will require General to establish a competitive bidding procedure.

D. SELECTION OF COSE

General's switch selection process, which resulted in the selection of AE's GTD-5 digital central office switch as an initial company standard, was discussed by staff witness Hodges. He concluded that the selection of AE GTD-5 digital switching system was a reasonable decision in that it presented an acceptable basis for justifying General's current near-term plans for using it as a standard digital switch in its Class 5 central office modernization program. He noted, however, that the study may not have developed substantial justification for using the GTD-5 as the ultimate or only company standard, for installing it in central offices which have less than 30,000 lines and have no Centrex or remote switching requirements, or purchasing only GTD-5 switches for

all central office installations after 1983. He therefore recommended that General perform another more encompassing study which includes presently and soon to be available digital switches, as well as more sample alternative serving arrangements indicative of General's varied franchised service areas.

It is anticipated that the competitive bidding procedure required by this decision will produce such comprehensive studies in the evaluation of the bids received from the various manufacturers. Consequently, it is unnecessary for us to require such studies as recommended by the staff.

E. MAINTENANCE OF MARGINS

Staff witness Strahl recommended that this Commission order General to maintain the industry standard of two-year margins in step-by-step switching offices in both this proceeding and in A.59132. With respect to this recommendation, we stated in D.92366 as follows:

> "According to General, such a shorter period is necessary because of the unavailability of sufficient step-by-step central office equipment to provide for a two-year planning period. Such equipment is unavailable because it is not obtained from manufacturers but, rather, is a reuse of step-by-step equipment which has been replaced by electronic equipment. In those instances where planned conversion to electronic switching at an early date is scheduled, an even shorter design period is used. General's position appears reasonable and we will permit utilization of such a design criterion for purposes of this proceeding." (Mimeo. page 145.)

Such a statement is as valid today as it was on October 22, 1980, the date of issue of D.92366. In addition, General notes that reserve margins in mid-year 1981 were at 88.7% fill or substantially below D.92366 goals of 94.1% year end 1981 and 93.3% year end 1982. For the above reasons we will not require General to increase its step-by-step central office equipment margins.

F. MANAGEMENT COMPENSATION PLAN

CD's witness Strahl testified that service quality should be one of the crucial factors by which management's performance is measured and recommended this Commission direct General within six months from the date of the order in this proceeding to set up a new salary structure for all management personnel whose work impacts upon service quality. He further stated that there should be monetary recognition for good service quality that should take into consideration the span of responsibility for service. He noted that the practice of rewarding ultimate performance is quite common in nonregulated private industries and sees no reason why similar practices should not be adopted by General. This recommendation is opposed by both General and SM. General's witness Greene testified that General's program of salary administration recognizes individual performance as the basis for granting periodic merit increases for management employees. General believes that its existing salary administration plan adequately recognizes the individual's contribution to service quality and that exclusive focus on a service goal as a single meaningful component of managerial evaluation for compensation is not feasible.

SM opposes the concept of a salary structure designed to reward management for service improvements that it should seek anyway.

We are persuaded that a managerial salary incentive program based on service provided in the area of manager's responsibilities is inappropriate at this time and consequently such a plan will not be authorized.

G. DYNAMIC RATE OF RETURN

In A.59132, staff witness Strahl proposed the addition of a dynamic rate of return factor to be superimposed upon the rate of return figure found fair and reasonable. According to his testimony in that proceeding, this new factor will allow for dynamic annual variations in the authorized rate of return that are dependent upon the quality of service being rendered by General. According to this witness, such a dynamic rate of return factor will result in rigorous self-regulations and the rates will not be impacted directly because (a) General will adjust its level of expenses and capital investment consistent with the service posture, to fit it to the authorized rate of return; (b) the dynamic rate of return will be recognized by the financial community with the resulting rating of General's financial instruments, thereby giving General the incentive to provide a better service; (c) General will feel overly exposed if it is authorized to earn less than what its rates generate; and (d) General will have all the incentives to find and implement cost-cutting measures should its actual rate of return be below the authorized rate of return. D.92366 did not provide for a dynamic rate of return factor so in this proceeding witness Strahl resubmitted the same recommendation with the

understanding that it should be based on previously discussed staff-recommended service indices. At the request of the presiding ALJ, General, the staff, and intervenors submitted proposals on how to implement a variable rate of return if such a rating mechanism were to be adopted by this Commission.

The specific staff proposal would use GO 133 indices as they now exist or are subsequently revised. These indices will be used to develop an average overall index for General ranging from zero to 10, with 5 being average service. The overall indices minus 5 and divided by 5 will be applied to a rate of return variation allowance to yield a rate of return variation. The dynamic rate of return would equal the authorized rate of return plus the rate of return variation. The rate of return variation allowance as developed by financial examiner Mowrey would be set at 0.20% which would equate to a maximum possible movement in return on equity of approximately plus or minus 50 basis points. According to the staff, such a penalty is comparable to the penalty imposed in D.92366.

General opposes the imposition of a dynamic rate of return factor because there are many forces influencing service levels which are outside the control of General's management, there are constitutional limitations on the ability of the Commission to reduce rates below the minimum amount which will enable General to operate successfully to maintain its financial integrity and to compensate its investors for risks assumed which must be observed, and that in today's financial climate investors may well perceive an increased risk to their investment if a variable rate of return might be used to keep

cost of service to consumers as low as possible rather than at a fair and reasonable level. In the event the Commission should adopt the dynamic rate of return concept, General proposes the use of a weighted companywide index for each service measure of GO 133.

According to General, this Commission should then establish a minimum and maximum rate of return range beyond which rate adjustments would not be permitted with the minimum set at a level high enough to attract the external capital needed to meet General's financing requirements. The rate of return range would be divided into an odd number of increments with a surcharge or surcredit associated with each increment and the central increment would have a zero surcharge. Standard quality of service index range would be equated to the zero surcharge increment with variations above and below the standard range associated with a surcredit or surcharge and General would be required to file an advice letter each six months to establish an appropriate surcharge or surcredit for subsequent six-months' periods commencing 30 days after the advice letter filing.

CAUSE proposes the use of a dynamic service quality adjustment (SQA) to directly apply substantive penalties and incentives that will have a positive influence on the quality of telephone service. The net result would be a substantial decrease or increase in the earning rate of return while the authorized rate of return would remain stable. According to CAUSE, the selection of any technique intended to influence the quality of service provided by General must provide some

immediate short-term improvements which can be readily perceived or measured by General's customers, especially after a period of inadequate service and it must provide incentives for General to improve the quality of telephone service to a specified level of adequacy and to at least maintain that level or make further improvements. CAUSE further proposes a subjective questionnaire survey be taken on a regular basis and used to measure the adequacy of service as perceived by General's customers. Subsequently a correlation should be obtained between the objective and subjective measurements to provide validation for each type of index.

Cities appreciate the underlying philosophy of the staff proposal but believe that the traditional ratemaking principle which requires the Commission to set a fixed overall rate of return is the best method. According to Cities, it is a more stable method in that the utility will know exactly what amount of revenues it is allowed to earn and should be able to rely on a relatively certain amount of revenues for planning purposes. Also, a utility should not be rewarded for providing good service as "adequate, efficient, just, and reasonable service" is required by Public Utilities Code Section 451. While rejecting the dynamic rate of return concept Cities urge a 1% reduction in the authorized return on equity to become effective one year after the date of the decision in this proceeding if service quality has not improved to a reasonable level by such time. Cities further propose that if the level of service for a central office falls below the reporting level, affected ratepayers in such service area must receive relief in a form of an automatic rate reduction to compensate for such poor service.

SM recommends that such a reduction remain in effect until the service is brought up to an acceptable level. SM also recommends that any authorized rate increase for SM must be preceded or accompanied by a demonstrable improvement in the quality of service being provided by General in SM. The basis for this recommendation is that the record is replete with evidence that SM has long suffered totally inadequate telephone service. It therefore recommends that for those Santa Monicans currently experiencing substandard service any general rate increase be offset by a negative billing surcharge until such time as the quality of service reaches an acceptable level. SM specifically recommends that 25% of the monthly service charge be automatically credited to the bill of a subscriber suffering inadequate service to compensate for poor service and to provide an incentive to General to remedy the service problem.

Discussion

The basic premise underlying the dynamic rate of return concept is that a utility should receive a penalty if it provides inadequate service and a bonus or reward if it provides adequate service. When consideration is given to the fact that Public Utilities Code Section 451 states, in part:

> "Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."

it becomes obvious that the application of such a dynamic rate of return would result in the extraction of additional revenues from the ratepayer to reward the utility for performing in the manner required by the Public Utilities Code. Consequently, such a procedure would place an unreasonable and unwarranted burden on the ratepayer and will not be adopted.

The imposition of a penalty for inadequate service, however, is an entirely different matter. Such a penalty not only provides an incentive for the improvement of service but provides the customer a small measure of compensation for having to endure such substandard service. Consequently, the order that follows will provide for a $1.40 surcredit on the basic exchange rate for those serving areas where the measuring indices indicate service at an unacceptable level.

H. CITIZENS UTILITY BOARD

Cities recommend that this Commission should authorize the establishment, on an experimental basis, of a citizens utility board (CUB), consisting of an independent, privately funded, nongovernmental body to represent Santa Monica and West Los Angeles telephone consumers in their dealings with General and before the Public Utilities Commission. Cities further recommend that this Commission provide a system by which a subjective evaluation of telephone service can be collected on a regular and frequent basis. According to Cities, a citizens utility board organization could perform the administrative and investigative functions related to such subjective evaluation of telephone services and thereby relieve the Commission of the responsibility of such service evaluations.

Such an independent, privately funded, nongovernmental body could possibly serve a useful function with respect to the subscribers in Santa Monica and West Los Angeles areas by providing a central point for the receipt of reports of unsatisfactory service conditions by the residents of these areas and thereby concentrate and compound the effect of such reports. However, Commission approval for the formation per se of such a group is unnecessary inasmuch as such a voluntary organization could be formed at any time. It is uncertain from Cities' proposal how a CUB would be funded or whether Commission action to provide a mechanism for funding through utility bills is contemplated. Commission authorization for such an activity lies completely outside the scope of our regulatory powers as contained in the Constitution and Public Utilities Code. Cities suggest that

the Commission provide a system by which subjective evaluations of telephone service can be collected on a regular and frequent basis with a CUB performing the administrative and investigative functions relating to these evaluations. Such approval might possibly be interpreted by such CUB as a delegation of some portion of this Commission's regulatory powers. For these reasons, our approval or authorization of a CUB will not be forthcoming.

Such a board, if formed, will be free to participate in accordance with our Rules of Practice and Procedure and the Public Utilities Code as a party in any proceeding before the Commission. We note with interest that there are several currently pending legislative measures which provide for establishment of a CUB. The Commission has taken a neutral position on these measures and it would be inappropriate for us to depart from that position by adopting Cities' recommendation.

IX. FINDINGS AND CONCLUSIONS

Findings of Fact

1. General is in need of additional revenues, but the requested increase of $296 million (21.96%) at the estimated test year 1982 level of sales is excessive.

2. General's projected capital structure at December 31, 1981 as set forth in its A.60990 of 52.3% debt, 7.4% preferred stock, and 40.3% common equity closely approximates the Commission staff's recommended capital structure, is reasonable, and should be adopted.

3. The Commission staff's projection of an embedded cost of long-term debt of 10.40% appears reasonable and should be adopted.

4. The cost of preferred stock as computed by General, the Commission staff, and LA is 8.33% and should be adopted.

5. After carefully considering all the recorded evidence in this case and arguments advanced by the various parties, we should adopt as reasonable a return on common equity of 16.5% assuming General provides adequate telephone service.

6. The rate of return computed using the above adopted capital ratios and cost factors is 12.71% and will provide an after-tax coverage of 2.34 times, a pre-tax coverage of 3.55 times, and an internal generation of funds of 71%.

7. The above factors are high in the range of coverages used by S&P for "A"-rated companies and should go a long way toward restoring General's bond rating for future issues.

8. A rate of return of 12.71% applied to our adopted intrastate rate base of $2.273 billion would yield $10.42 million[3/] increase in revenues after settlements and uncollectible effects and the effects of D.93255, Resolution T-10451, and D.93367.

9. The authorized rate of return on rate base and return on common equity (resulting in the increased revenue requirement found necessary herein) is expressly authorized in recognition of the next earliest test year to be used in establishing General's revenue requirement being 1984. Accordingly, the rates found reasonable herein are reasonable only if 1984 is the next earliest test year used to set rates for General.

10. An attrition allowance is necessary to reflect increasing costs in the second year of the rate life outside General's control.

11. The request for the specific attrition allowance will be in the form of an advice letter to be submitted on October 1, 1982 for staff review and Commission determination as follows:

a. Financial attrition allowance based on a projected embedded cost of long-term debt of 10.95% on an average year basis.

b. Operational attrition allowance of as developed in this decision and as modified to reflect updated plant-in-service and revenue figures.

c. A capital attrition allowance reflecting the estimated effect of 1983 changes in General's composite depreciation rate.

3/ (Authorized rate of return-present rate of return) times rate base times net-to-gross multiplier equals net revenue increase requirement (.1271 - .1247) x $2,272,512,000 x 1.91 = $10,417,000.

The effective date of the attrition allowance should be January 1, 1983 and it should be implemented by a change in the billing surcharge subject to authorization by Commission resolution.

12. The Commission staff's affiliate investigation team's estimate of $19,203,000 for the 1982 test year for Account 674-General Services and Licenses increased $325,000 to $19,528,000 to reflect additional direct and primary benefits to the ratepayer from GTE Labs' operations as discussed at pages 33 through 35a is reasonable and should be adopted.

13. As discussed on pages 35a and 36, a downward adjustment of $1,091,000 for expenses and $8,465,000 for AE is reasonable and should be adopted.

14. A downward adjustment to Directory Company expenses of $3,881,000 reflecting our adopted rate of return of 12.71% as discussed on page 36 is reasonable.

15. A GTEDS adjustment of a negative $877,000 in expenses and a negative $100,000 in rate base as discussed on page 38 is reasonable and should be adopted.

15.a. The adopted estimates previously discussed of operating revenues, operating expenses, and rate base for test year 1982 reasonably indicate the results of General's operations in the future. Specific findings are as follows:

(1) The total operating revenues for company operations are $1,866,341,000 and for intrastate operations are $1,483,263,000.

(2) Total maintenance expense for the company operations is $388,550,000 and for General's intrastate operations is $306,488,000.

(3) The total traffic expenses for General's company operations are $97,731,000 and intrastate traffic expenses are $82,003,000.

(4) Commercial expenses for the company's operations as a whole are $171,199,000 and General's intrastate commercial expenses are $148,124,000.

(5) The general and other operating expenses for the company's operations as a whole are $228,615,000 and for intrastate operations are $190,197,000.

(6) The property and other taxes for General's operations as a whole are $75,154,000 of which $60,524,000 are for intrastate operations.

(7) As set forth in the summary of earnings table, the total company depreciated rate base is $2,891,871,000 of which $2,272,512,000 is rate base for General's intrastate operations. The above adopted rate base includes $42,200,000 for materials and supplies and a negative $125,153,000 for working cash.

(8) The adopted 1982 test year rate of return is 12.77% for the company as a whole and 12.47% for its California intrastate operations.

16. Because maintenance expenditures over and under the authorized level are promptly noted and reflected in presentations at the hearings on biannual rate increase applications, it is unnecessary to establish a balancing account to assure that savings from authorized traffic and commercial expenses either be used for service improvements above and beyond the original maintenance expense allowance, be refunded to ratepayers, or be recorded in a balancing account requiring Commission authorization on how it would be used.

17. The increases in internal source of funds that flow from this and others of our recent decisions are sufficient to obviate the necessity of imposing on the ratepayers the additional revenue requirement resulting from normalization of the book tax timing differences.

18. The Economic Recovery Tax Act of 1981 results in a reduction of General's intrastate revenue requirement of $7,077,000 for 1982 and $13,189,000 for 1983. The former should be included in our adopted summary of earnings and the latter in our computations of the 1983 operational attrition allowance.

19. The inclusion of CWIP in rate base is not warranted in this proceeding because the resulting improvement in earnings would have little, if any, impact on either General's stock prices or bond ratings; the increase in cash flow above that resulting from our decision is not required and would unnecessarily burden the ratepayers; when measured on a present value basis in the present financial market, the addition of AFDC to rate base might possibly impact the ratepayer less than CWIP in rate base; and AFDC income is presently correctly evaluated by the financial community.

20. Public witness statements, correspondence, and questionnaires indicate a large portion of General's customers are dissatisfied with the quality of service provided by General.

21. The Walker Research, Incorporated (Tel-Cel) survey showed customer satisfaction levels ranging from 83% to 93% for service order installation, repair service, Phone Mart, and dial service-local and direct distance dialing.

22. The Field Research Corporation's survey showed that companywide 59.3% of General's one-party residential customers expressed satisfaction with the service provided by General; that in the Santa Monica division 57.1% of the subscribers were dissatisfied with the level of service; that in the Monrovia Exchange 51.2% of the subscribers were dissatisfied with General's overall service; that companywide 70.0% of all customers contacted who made a call during the previous 24-hour period from their residential telephone reported that they had experienced one or more of the following nine telephone service problems: no dial tone, reached wrong number when number dialed correctly, received false busy signal, call did not complete, cross-talk on line, static or noise on line, voices fading in and out during conversation, difficulty with low volume, and being cut off while on the line; and that the overall incidence of customers experiencing the following problems at least once during the preceding 24 hours was as follows: static or noise, 47%; call did not go through, 43.5%; other voices on the line, 24.1%; dial tone problems, 23.7%; faulty busy signal, 17.1%; low volume, 12.9%; voices fading in and out, 12.2%; faulty wrong number, 11.9%; and line cutoff, 7.2%.

23. With in excess of 35% of customers contacted expressing dissatisfaction with the quality of service being rendered and with 70% of the customers contacted having experienced service problems within the previous 24-hour period, General's overall quality of service is inadequate.

24. In spite of having met the service level objectives set forth in D.92366, General's service is still inadequate.

25. The quality of service provided by General as perceived by the subscriber differs from the quality of service as measured by existing indices indicating the necessity for review and possible revision of existing measuring indices.

26. It is desirable to review GO 133 standards with the participation of all respondent telephone companies and other parties to the proceeding who wish to participate in the revision of GO 133.

27. OII 88 should remain open for the purpose of resolving the matter of establishing proper and adequate measurement standard indices for all California telephone utilities.

28. General should replace its present practice regarding the purchase and supply of switching equipment with nonbiased competitive bid solicitation and evaluation practices.

29. General should solicit competitive bids for groups of five or more switches rather than for single switches. General's bid evaluations should be made available for review by the Commission staff.

30. General should adopt a competitive bidding procedure for its COSE and submit such a procedure for review and approval by the Commission. Such procedure must contain (a) common bid specifications which may not favor any particular manufacturer; (b) clauses which will adequately protect General against delays, deliveries, installations, and cutover and a proper operation of the purchased machine; and (c) firm price quotes on the basic equipment and price ceiling for additions.

31. The cost of AE-manufactured Class 5 or Class 4/5 COSE cutover after three years from the effective date of this order should be disallowed for ratemaking purposes unless it can be shown that the selection of the equipment resulted from valid competitive bids.

32. General's present practice of maintaining margins in its step-by-step switching offices based on the availability of usable step-by-step central office equipment is reasonable.

33. A managerial salary incentive program based on service provided in the area of a manager's responsibility is inappropriate at this time.

34. The imposition of a dynamic rate of return procedure would result in the extraction of additional revenues from ratepayers to reward a utility for performing in the manner required by the Public Utilities Code and, therefore, such a procedure should not be authorized.

35. A penalty for inadequate service provides an incentive to the utility for the improvement of service and provides the customer a small measure of compensation for having to endure such substandard service.

36. To evaluate service levels for the assessment of a penalty for inadequate service, it is reasonable to use customer trouble reports per 100 telephones and the dial service index at time of maximum call volumes on a central-office-by-central-office basis.

37. Commencing May 1, 1982 General should collect data of the trouble reports per 100 telephones and the dial service index during the two-hour daily period of maximum call volume on a central-office-by-central-office basis.

38. The data collected, as described in Finding 37, should be forwarded on a quarterly basis for Commission staff review and evaluation within 30 days from the last day of the quarter.

39. A surcredit of $1.40 a line for each line in a central office should be imposed for each of those central offices where in two of the three months of the quarter the trouble reports per 100 telephones exceeds 8.0 and in two of the three months (not necessarily the same two months) the dial service index at time of maximum call volume is below 97%.

40. The surcredit thus imposed should remain in effect until a quarterly report indicates improvement in one or both of the indices to the acceptable level.

40a. For this interim decision an increase in the billing surcharge is an appropriate method for recovering the revenue requirement authorized by this decision.

41. Commission authority for the establishment of a CUB to participate in regulatory matters before this Commission is not necessary.

42. General's rates can and should be authorized subject to refund on further order of the Commission after completion of litigation with the IRS concerning the AAA and AA methods. It is the Commission's intent, as expressed in D.87838, that eligibility be preserved.

43. If at any time General is not making a good faith effort in seeking to retain its eligibility for accelerated depreciation and the investment tax credit, the Commission shall consider current rate-setting under AAA and AA before a final ruling on the eligibility question.

Conclusions of Law

1. The Commission concludes that the application should be granted to the extent set forth in the order that follows.

2. A surcharge of 10.48% to be applied to General's Rate Schedules A-1 through A-40 is reasonable. Any other rates applied after this surcharge is in effect are unjust and unreasonable.

3. General should submit for Commission review a comprehensive plan for competitive bidding for the purchase of central office switching equipment to be implemented 30 days after Commission approval.

4. The cost of AE-manufactured Class 5 or Class 4/5 COSE cutover after three years from the effective date of this order should be disallowed for ratemaking purposes unless it can be shown that the selection of the equipment resulted from valid competitive bids.

4a. General and staff should submit plans for a quarterly filing imposing or removing surcredits on a central-office-by-central-office basis in accordance with the level of service being provided as indicated by the level of the customer reports per 100 telephones and the dial service index during the two-hour daily period of maximum call volume.

5. General should continue to file the quarterly reports on service quality ordered by Ordering Paragraph 3 of D.92366 until revised measurement indices have been authorized by this Commission.

6. OII 88 should remain open for the purpose of receiving evidence on the revision of GO 133 and/or the establishment of service measurement indices.

7. The imposition of a $1.40 per line surcredit is reasonable for those service areas where both the customer trouble reports per 100 stations exceeds 8.0 and the dial service index falls below 97.0% measured at peak hours in any two out of three months.

8. General should make an advice letter filing on October 1, 1982, setting forth an appropriate attrition allowance for the year 1983 reflecting our adopted financial attrition allowance, our adopted operational attrition allowance as modified by updated revenue and plan-in-service data, and a depreciation attrition allowance reflecting the 1983 composite attrition allowance.

9. General is now four months into its 1982 test year and since there is an immediate need for rate relief, this order should be effective today.

INTERIM ORDER

IT IS ORDERED that:

1. Five days after the effective date of this order, General Telephone Company of California (General) is authorized to file tariff schedules imposing a surcharge of 10.48% for Schedules A-1 through A-40. Such filing shall comply with General Order 96-A. The effective date of the revised schedules shall be not less than 5 days after the date of filing. Revised schedules shall apply only to service rendered on or after the effective date. These rates shall be subject to refund pending further

Commission action on the treatment of accelerated depreciation and investment tax credit for ratemaking income tax expense purposes and on further hearings on the appropriate levels of intrastate toll revenues.

2. Within 60 days of the effective date of this order, General shall submit for Commission review a comprehensive plan for competitive bidding for the purchase of central office switching equipment. Such a plan is to be implemented 30 days after Commission approval. The cost of AE-manufactured Class 5 or Class 4/5 COSE cutover after three years from the effective date of this order shall be disallowed for ratemaking purposes unless it can be shown that the selection of the equipment resulted from valid competitive bids.

3. General shall continue to file the quarterly reports on service quality ordered by Ordering Paragraph 3 of Decision 92366 until revised service measurement indices have been authorized by this Commission.

4. A prehearing conference is scheduled for 10:00 a.m., Thursday, April 22, 1982, in the Commission Courtroom, State Office Building, 107 South Broadway, Los Angeles, California, before ALJ Johnson, for the purpose of determining the nature of and times and places for future hearings on OII 88 in connection with modifying, adding to, supplementing, and/or deleting portions of this Commission's General Order 133, Rules Governing Telephone Service.

5. General is authorized to file on October 1, 1982 an advice letter for an attrition allowance to be effective January 1, 1983. Such an attrition allowance shall include financial attrition, operational attrition as modified by updated 1983 estimated revenues and plant in service, and a depreciation attrition allowance to compensate for the increase in the composite depreciation rate for the year 1983 over 1982 as discussed in this decision. The attrition allowance shall be implemented by a change in the billing surchange set forth in Schedule Cal. PUC No. A-38 subject to authorization by Commission resolution.

6. General shall present a report, within 60 days, on the feasibility and cost of converting within 6 months its dial service measurement system to a fully automated system capable of taking and tabulating measurements during peak hours without the attendance or intervention of manual operators.

7. Commencing May 1, 1982 General shall commence collecting data on customer trouble reports per 100 telephones and dial service indices during the daily two-hour period of maximum call volume on a central-office-by-central-office basis.

8. The data collected in accordance with Ordering Paragraph 7 is to be submitted for Commission review and evaluation on a quarterly basis within 15 days of the last day of the quarter.

9. A surcredit of $1.40 a line shall be imposed for each line in a central office where in two of the three months of the quarter the customer trouble reports per 100 telephones exceeds 8.0 and in two of the three months of the quarter (not necessarily the same two months) the dial service index during the daily two-hour period of maximum call volume is less than 97%.

10. The surcredit imposed by Ordering Paragraph 9 shall remain in effect until a subsequent quarterly report indicates improvement in one or both of the indices to the acceptable level.

11. Communications Division is directed to monitor, on a random basis, General's measurement of the trouble report index and the dial service index to be used for imposition of the surcredit in those central office areas which fail to meet the standards for any two out of three months.

12. General and staff shall submit a plan within 60 days for a quarterly filing imposing or removing surcredits on a central office by central office basis in accordance with the level of service being provided as indicated by the level of customer trouble reports per 100 telephones and the dial service index during the two-hour daily period of maximum call volume.

This order is effective today.

Dated April 6, 1982, at San Francisco, California.

JOHN E. BRYSON
President
RICHARD D. GRAVELLE
LEONARD M. GRIMES, JR.
VICTOR CALVO
PRISCILLA C. GREW
Commissioners

I CERTIFY THAT THIS DECISION WAS APPROVED BY THE ABOVE COMMISSIONERS TODAY.

Joseph E. Bodovitz, Executive Director

APPENDIX A

LIST OF APPEARANCES

Applicant: A. M. Hart, H. Ralph Snyder, Jr., Dale W. Johnson, and Kathleen S. Blunt, Attorneys at Law, for General Telephone Company of California.

Interested Parties: George W. Tice, Director, Los Angeles County Department of Communications, by James M. Nelson III, for Los Angeles County; Stanley Sackin, for himself; Sarah Shirley, Attorney at Law (Texas), Consumer Affairs Specialist, Office of the City Attorney, for the City of Santa Monica; James S. Hamasaki and Daniel J. McCarthy, Attorneys at Law, for The Pacific Telephone and Telegraph Company; Sylvia Siegel and Mike Florio, Attorney at Law, for TURN, Consumer Federation of California, Gray Panthers, California Legislative Council of Older Americans and Consumer Cooperative; Ira Reiner, City Attorney, by Ed Perez, Deputy City Attorney, for the City of Los Angeles; James C. Dycus, for himself; A. John Terrell, Carl Dewey, and Alan Donnell, for Regents of the University of California; Ruth Benson, Attorney at Law, for Communications Workers of America, District 11; Morrison & Foerster, by James P. Bennett and Elwood R. Sturtevant, Attorneys at Law, and Scott W. Flournoy, for Telephone Answering Services of California, Inc.; and Marvin J. Kaitz, Brian Kiely, and Susan B. Jacoby, for CAUSE West.

Commission Staff: Rufus G. Thayer and Edward W. O'Neill, Attorneys at Law, Harry Strahl, and Robert L. Howard.

GLOSSARY

A.	Application
ACRS	Accelerated cost recovery system
ADR	Asset depreciation range
AE	GTE Automatic Electric, Incorporated
AFDC	Allowance for funds used during construction
ALJ	Administrative Law Judge
APS	Accounts payable system
AT&T	American Telephone and Telegraph Company
BCTC	British Telephone Company
CAUSE	CAUSE West
CCFT	California Corporation Franchise Tax
CCS	Customer calling service
CD	Communications Division
CITA	California Independent Telephone Company Association
Cities	Los Angeles and Santa Monica
Citizens	Citizens Utilities Company of California
COE	Central office equipment
Continental	Continental Telephone Company
COSE	Central office switching equipment
County	County of Los Angeles
CTC	Canadian Telecommunications Commission
CUB	Citizens utility board
CWBM	Companywide budget model
CWIP	Construction work in progress
D.	Decision
D.A.	District areas
DAS/C	Directory assistance system computer
DCF	Discounted cash flow
DID	Direct inward dialing
Directory Company	General Telephone Directory Company
DOD	Direct outward dialing

GLOSSARY
(Continued)

EAS	Extended area service
EBSS	Electronic business system service
ECAC	Energy cost adjustment clause
ELG	Equal life group
ERTA	Economic Recovery Tax Act of 1981
FCC	Federal Communications Commission
FERC	Federal Energy Regulatory Commission
FEX	Foreign exchange
FIT	Federal income taxes
General	General Telephone Company of California
GNP	Gross national product
GO	General Order
GTE	General Telephone & Electronics Corporation
GTEDS	GTE Data Services, Incorporated
GTE Labs	GTE Laboratories, Incorporated
GTESC	GTE Service Corporation
IDC	Interest during construction
ITC	Investment tax credit
LA	City of Los Angeles
LC-06	Labor class 06
1FTK	Business flat rate trunk line
Los Gatos	Town of Los Gatos
LPC	Late payment charge
MAC	Management Analysis Center, Inc.
MMU	Multimessage units
MORE	Measured optional residence extended service
M&S	Materials and supplies
OCMS	Optional calling measured service
OII	Order Instituting Investigation
ORTS	Optional residence telephone service
Pacific	The Pacific Telephone and Telegraph Company

GLOSSARY
(Continued)

RC	Responsibility center
REA	Rural Electrification Administration
Roseville	Roseville Telephone Company
RRD	Revenue Requirements Division
SL	Secretarial lines
SLVG	Straight-line vintage group
SM	Santa Monica
S&P	Standard and Poor
SQA	Service quality adjustment
SRA	Special rate area
TAEQ	Telephone answering service equipment
TAS	Telephone answering services
TASC	Telephone Answering Service of California
Team	Affiliate investigation team
Tel-Cel	Walker Research, Incorporated
Telcos	Telephone operating companies
TSPS	Traffic service position systems
UC	University of California Systemwide Telcom Department
UCLA	University of California at Los Angeles
Volcano	Volcano Telephone Company
WATS	Wide-area toll service
WE	Western Electric
ZUM	Zone Usage Measurement