DOCKET NO. 1517

PREPARED TESTIMONY OF ROBERT M. GROSS, JR.

Q PLEASE STATE YOUR NAME AND ADDRESS.

A My name is Robert M. Gross, Jr. My business address is 1000 Crescent Avenue, N.E., Atlanta, Georgia 30309.

Q WHAT IS YOUR EDUCATIONAL BACKGROUND?

A I graduated from Georgia Institute of Technology in 1965, receiving the degree of Bachelor of Industrial Engineering. I also attended Georgia State University and in 1971 received the degree of Master of Business Administration, majoring in finance.

Q PLEASE STATE YOUR PROFESSIONAL EXPERIENCE.

A I have been employed by Southern Engineering Company of Georgia for approximately ten years. During this time I have been involved in the preparation of cost of service studies of Class A and B investor-owned utilities, rural electric cooperatives and municipal electric systems and have participated in wholesale and retail electric rate consulting assignments in 23 states. I am a registered professional engineer in the State of Georgia.

Q HAVE YOU EVER TESTIFIED IN OTHER COMMISSION PROCEEDINGS?

A Yes, I have testified as a rate expert and cost of service witness before the State Commissions of Kentucky, Indiana, Michigan, Vermont Virginia, and Arizona. I have also testified before the Federal Power Commission (now Federal Energy Regulatory Commission) in proceedings involving Mississippi Power Company, Appalachian Power Company, Duke Power Company, Gulf States Utilities Company, Gulf Power Company, Virginia Electric & Power Company, Arizona Public Service Company, Public Service Company of Indiana, Inc., Carolina Power and Light,

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1 Southern California Edison Company.

2 Q WHAT WAS YOUR ASSIGNMENT IN THIS PROCEEDING?

3 A My assignment was in two areas. I was to determine if the
4 methods employed by Texas Power & Light Company to establish
5 the proposed wholesale rate design for the REA class of service
6 were just, reasonable and consistant with sound rate making
7 procedures.

8 Secondly, I was to review the Company's adjustments to its
9 test year ending September 30, 1977, particularly the adjustments
10 for annualizing the anticipated costs of Martin Lake Unit #2 and
11 Monticello Unit #3 and for attrition, in order to determine the
12 overall validity of Texas Power and Light's system revenue require-
13 ment.

14 Q WITH RESPECT TO THE FIRST ASPECT OF YOUR TESTIMONY WOULD YOU PLEASE
15 SUMMARIZE TEX-LA'S POSITION WITH REGARD TO THE PROPOSED REA
16 WHOLESALE RATE STRUCTURE FILED BY TP&L IN THIS PROCEEDING?

17 A The rate design proposed by the Company in this proceeding with
18 respect to its service to REA wholesale customers appears reasonable
19 except for the Transmission Service Credit of 30 cents per kilowatt
20 of demand. I find that the credit of 30 cents per kilowatt of
21 demand does not properly recognize the cost difference between
22 transmission service and service at distribution voltages for REA
23 Wholesale Customers. The appropriate credit for transmission
24 service applicable to the REA class should be 70 cents per
25 kilowatt instead of the company's credit of 30 cents per kilowatt.

1 Q WOULD YOU PLEASE EXPLAIN WHY IT IS NECESSARY TO INCLUDE A TRANSMISSION
2 CREDIT IN A WHOLESALE RATE STRUCTURE.
3 A Typically some wholesale customers take service at transmission
4 voltages and others take service at distribution levels. A
5 wholesale rate which is uniform for the wholesale classification
6 should recognize the cost differential between service off the
7 power supply transmission system versus service at lower voltages
8 within the distribution system. Without an appropriately designed
9 transmission service credit, one group of wholesale customers,
10 taking service at a transmission voltage, would have to support part
11 of the distribution costs incurred in serving wholesale deliveries
12 at distribution voltages.
13 Furthermore, in situations where wholesale customers can
14 upgrade their own distribution systems by building transmission
15 facilities and substations, a transmission credit in the wholesale
16 rate provides an economic incentive for the wholesale customer
17 to make an orderly transition from taking service at distribution
18 voltages by accommodating its system to the wholesale supplier's
19 transmission network. This of course, is beneficial to the
20 wholesale supplier since it would be relieved of the responsibility
21 of providing distribution service to its wholesale customers. The
22 wholesale supplier would thereby have additional distribution
23 capacity, or possibly capital, to apply to the supplier's retail
24 customers requirements.
25 Q DO TP&L'S REA WHOLESALE CUSTOMERS TAKE SERVICE AT PREDOMINANTLY

1 DISTRIBUTION OR TRANSMISSION VOLTAGES?

2 A REA customers presently take service from the Company at predominantly
3 distribution voltages. In recent years several of the Company's
4 REA cooperative customers have begun to construct the necessary
5 facilities to take service from the Company at transmission
6 voltages. I believe presently the Company provides transmission
7 service at approximately 8 REA delivery points. Also, I have been
8 advised that many of TP&L's REA wholesale customers are planning to
9 convert their systems to higher distribution, sub-transmission,
10 or even transmission voltages. During this transition the REA
11 Cooperatives plan to accommodate their systems to take service from
12 the Company at negotiated transmission points of delivery and
13 gradually phase out the necessity of the Company having to provide
14 service to these customers at distribution voltages. I believe
15 this would be in the interest of both Texas Power & Light and the
16 wholesale customers. Of course, the Transmission Service Credit
17 contained in the REA rate should be established at a level that
18 properly reflects the difference in the cost of service to REA
19 delivery points at a transmission voltage versus service to REA
20 points of delivery at a distribution voltage.

21 Q WOULD YOU PLEASE EXPLAIN HOW YOU DERIVED THE REA TRANSMISSION
22 SERVICE CREDIT OF 70 CENTS PER KILOWATT AS COMPARED TO THE
23 COMPANY'S FILED CREDIT OF 30 CENTS PER KILOWATT?

24 A Volume IV of the Company's filing contains Texas Power & Light Company's
25 calculated Cost of Service applicable by class of customer. This Cost

of Service Study shows TP&L's estimate of the cost of providing service to the REA wholesale classification. A close review of this Cost of Service Study shows that the Company presently experiences a significant amount of distribution costs in providing service to the REA classification since most REA delivery points are at a distribution voltage and must support an allocation of distribution costs. The Cost of Service Study reveals that the 30 cent per kilowatt REA Transmission Service Credit proposed by the Company does not reflect the level of the distribution cost incurred by TP&L in serving the typical REA distribution voltage delivery point. The Company has derived the 30 cent per kilowatt Transmission Service Credit based upon typical transformer investments for certain LP-10,000 customers (See response to TEX-LA date of request #J-3). This method is incorrect because the LP-10,000 customers do not have the same service or cost characteristics as the REA class. LP-10,000 customers are required to take service at transmission (60,000 volts or higher) whereas REA customers take service at voltage levels requiring a wide spectrum of distribution facilities.

Q HAVE YOU PREPARED AN EXHIBIT WHICH SHOWS THE CALCULATION OF THE 70 CENT TRANSMISSION CREDIT THAT YOU PROPOSE?

A Yes, Exhibit No.__(RMG-1) shows the derivation of the 70 cent per kilowatt credit. Line 1 shows a figure of $7,818,269 representing the amount of distribution plant related rate base (less meter investment) that TP&L has allocated to REA service through its

1 Cost of Service Study contained in Volume IV of the filing. This
2 amount represents an average investment in distribution plant
3 required to serve the REA class amounting to $3.22 per kilowatt
4 of billing demand. Applying the Company's derived fixed charge
5 rate of 25.6% (which includes a component for return, taxes,
6 and other fixed charges) produces a potential credit of 82.5
7 cents per kilowatt of billing demand. I have reduced that figure
8 to 70 cents per kilowatt in order to establish a Transmission
9 Service Credit consistent with the over-all revenue requirement
10 established by TP&L for the REA class.
11 Q IS YOUR PROPOSED TRANSMISSION SERVICE CREDIT CALCULATED IN A MANNER
12 COMPARABLE TO THE DEVELOPMENT OF THE PROPOSED REA DEMAND CHARGE?
13 A Yes, both the Demand Charge and the Transmission Service Credit
14 are based on the Company Cost of Service Study and are products
15 of average cost pricing.
16 Q MR. GROSS, IF THE TRANSMISSION CREDIT IS INCREASED FROM 30 CENTS
17 PER KILOWATT TO 70 CENTS PER KILOWATT AS YOU HAVE PROPOSED, WOULD
18 THERE BE A CORRESPONDING UPWARD ADJUSTMENT IN THE DEMAND CHARGE
19 REQUIRED IN ORDER TO SATISFY THE OVERALL REVENUE REQUIREMENT OF
20 THE CLASS?
21 A Yes. The overall demand charge, as approved by the Commission
22 for the REA class, would have to be increased 7 cents per kilowatt
23 in order to off-set the revenue impact of an increase in the
24 credit from 30 cents per kilowatt to 70 cents per kilowatt. This
25 calculation is shown on footnote 4 of Exhibit No.__(RMG-1) page 1.

1 Q WITH RESPECT TO THE SECOND PHASE OF YOUR TESTIMONY MR. GROSS,
2 WOULD YOU PLEASE DESCRIBE YOUR ANALYSIS OF THE COMPANY'S TEST
3 YEAR INCLUDING YOUR EVALUATION OF THE ADJUSTMENTS MADE BY TP&L
4 TO ESTABLISH THEIR OVERALL SYSTEM REVENUE REQUIREMENT?
5 A From Company's testimony it appears that TP&L is attempting to
6 set rates which will recover its cost of operations and produce
7 an allowed return on capital based on future operations. The
8 test year of 12 months ending September 30, 1977 has been adjusted
9 in numerous ways to accomplish this end. The Company has made
10 adjustments to all of its expenses for year-end conditions and
11 has annualized its labor expenses for the impact caused by labor
12 contracts in effect subsequent to the end of the test year. The
13 largest adjustment, however, made by the Company concerns the
14 increase in test year investment and expenses caused by the
15 annualization of the Martin Lake Unit #2 and Monticello Unit #3
16 which are estimated to be commercial by the Spring of 1978. Even
17 with this substantial adjustment to the test year for units which
18 will not be commercial until 6 to 8 months after the end of the
19 test year, the Company also inserts an attrition factor in its cost
20 of capital which it states is needed in order to prevent a decline
21 in earnings that will likely occur in the immediate future due
22 to a whole myriad of different cost factors.
23 In reviewing the Company's testimony and exhibits concerning
24 the justification for the attrition factor, I can find no actual
25 data showing that this Company is now experiencing attrition.

1 Certainly if an attrition adjustment is necessary, then the
2 burden of proof should be on the Company to show that it is
3 indeed experiencing attrition under the rates approved by the
4 Commission last year. TP&L, as of June 1977, was allowed rates
5 to be placed in effect producing, on a test year basis, 58.2
6 million dollars in increased revenues. Since actual evidence is
7 not available from TP&L's filing, I have prepared Exhibit__(RMG-2)
8 to determine if TP&L is suffering any decline in the level of its
9 earnings under present rates.
10 Q WOULD YOU PLEASE DESCRIBE EXHIBIT___(RMG-2)?
11 A Using the Company's monthly operating statements for the period
12 December 1976 through November 1977, I have calculated by month
13 the 12 month net income amounts earned by TP&L adjusted for the
14 rate increase effective July 1977. Line 3 of Exhibit __(RMG-2)
15 shows that the Company has experienced an increase in annualized
16 earnings of a substantial amount during this period of time. More
17 importantly, the twelve month adjusted income earnings when divided
18 by the monthly capitalization balances of TP&L, show that the
19 earnings per dollar of invested capital increases during this
20 period from 8.7% in December 1976 to 9.2% by November 1977.
21 This shows that under the present rates, TP&L's operations
22 produce a trend of increased earnings, both in magnitude and in
23 percent of invested capital, rather than an earnings decline.
24 Historically speaking then TP&L's recent operations show no
25 evidence of attrition under the present rate structure.

1 Q DO YOU HAVE AN OPINION AS TO WHY THE COMPANY HAS NOT EXPERIENCED
2 ATTRITION DURING THE PERIOD THAT YOU ANALYZED?
3 A Yes. I think first of all the Company's rate structure is so
4 designed that as system kWh sales increase, revenues are produced
5 which tend to offset the increase in the cost of providing service.
6 Although during this period of time TP&L brought on line substantial
7 generating capacity, experienced increases in cost of operations,
8 and went to the capital market, the earnings of the Company continue
9 to increase because of increased monthly kWh sales.
10 Q WOULD THE COMPANY'S ARGUEMENTS CONCERNING WEATHER ABNORMALITIES
11 DURING THE SUMMER OF 1977 HAVE AN IMPACT ON THE RESULT OF THE
12 ANALYSIS OF EARNINGS SHOWN ON EXHIBIT___(RMG-2)?
13 A As covered in the testimony of other TEX-LA witnesses, the weather
14 adjustment made by the Company is incorrect for a number of
15 different reasons. However, even if we take the weather adjustment
16 at TP&L's computed value and appropriately adjust the earnings
17 shown on Exhibit NO___(RMG-2) for the period studied, I find that
18 the resulting earnings per dollar of capitalization still do not
19 decline. Attrition therefore is not evidenced during this period
20 even under the extreme assumption that the weather adjustment is
21 necessary and properly computed.
22 Q MR. GROSS, LOOKING INTO THE FUTURE DO YOU SEE ANY SIGNIFICANT CHANGES
23 IN THE COMPANY'S OPERATIONS THAT WOULD WARRANT THE IMPLEMENTATION
24 OF AN ATTRITION FACTOR?
25 A The most substantial change in the Company's operations in the
26 immediate future will occur with the commercialization of the Martin

1 Lake #2 and Monticello #3 units which the Company estimates to be
2 commercial prior to the 1978 summer peak. These units will indeed
3 change the operations of the Company by raising the cost of providing
4 service to the Company's customers. TP&L, however, in adjusting its
5 test year, includes most of the cost which will be experienced
6 once these units become commercial. Although I disagree with the
7 manner in which the Company has made the Martin Lake and Monticello
8 adjustment to the test year, I do believe that when the test
9 year is properly adjusted for the addition of these units, TP&L
10 will have a most comprehensive hedge against future dilution in
11 the return earned on their invested capital. Other witnesses
12 for TEX-LA have additional comments concerning the appropriateness
13 of this attrition adjustment given other factors of TP&L's operations.
14 Q IN THIS SAME REGARD HAVE YOU REVIEWED THE RESULT OF TP&L WITNESS
15 SWIGER'S STUDY SHOWN IN EXHIBIT SSS-17 "COMPUTATION OF EXPECTED
16 ATTRITION."
17 A Yes.
18 Q DO YOU BELIEVE THAT THIS IS A VALID STUDY?
19 A No I do not.
20 Q WOULD YOU PLEASE EXPLAIN WHY?
21 A Mr. Swiger's study is based entirely upon a forecast of the
22 relationship between incremental revenues per customer and
23 incremental costs per customer as such are projected to increase
24 over the next two years. The study relies upon projections of
25 number of customers, customer sales, plant in service, invested

capital, operating expenses, depreciation expenses, other tax expense, and finally capital cost including appropriate income taxes. Mr. Swiger, in an attempt to justify an attrition factor, has tried to project operations of TP&L through 1979. Of course, these projections are not based upon known and measurable events to the extent that such would satisfy the Commission's rules and regulations.

Other than the fact that the whole study is predicated upon estimates, the one item that appears most questionable in Mr. Swiger's study is the projected level of kWh sales per customer for 1978 and 1979. In trying to come up with the increase in the level of revenues per customer, Mr. Swiger uses a compound annual growth factor of 1.98% to estimate kilowatt hour sales per customer in 1979. A quick review of TP&L Exhibit SSS-13, page 2, shows that TP&L has been experiencing a considerably higher compound growth rate in this category covering any period since 1971. The projection of kilowatt hour sales per customer has a substantial impact on the results of the "Attrition Study." I have prepared Exhibit No.___(RMG-3) which shows both the actual annual growth in kilowatt hour sales per customer from year to year since 1971 (page 1) and the compound rate of growth in kilowatt sales per customer for the period 1971 through 1977 (page 2). This exhibit shows that TP&L has experienced an average annual rate of growth of 4.60% per year even with 1977 adjusted for TP&L's weather adjustment. On a compound annual growth basis, TP&L's kWh sales per customer have increased 4.56% from 1971 through 1977 also based upon the adjusted 1977 consumption per customer. This points out that TP&L's use of

of 1.98% as the growth factor in kilowatt hour sales per customer is absurd. Furthermore a quick application of any growth percentage in this category above approximately 3.75% to Mr. Swiger's attrition calculation shows that TP&L's attrition adjustment is reduced to a negative value because the resulting incremental increase in revenues per customer, as a result of the higher growth rate, more than exceeds incremental cost including TP&L's claimed return on invested capital.

Q MR. GROSS, YOU INDICATE THAT YOU ARE IN DISAGREEMENT WITH THE MANNER IN WHICH THE COMPANY HAS ADJUSTED THE TEST YEAR FOR THE ADDITION OF THESE TWO NEW UNITS TO BE COMMERCIAL NEXT YEAR. WOULD YOU PLEASE EXPLAIN IN MORE DETAIL?

A Yes. If Texas Power and Light Company were essentially a static company with the little expected growth in sales, I would be in agreement with the manner in which the company has adjusted its test year Plant in Service and expenses for the addition of these two units. I find however, that TP&L is not in a static situation. It will be experiencing, as evidenced by its own load projections, considerable kWh sales growth. With sales growth, TP&L under properly designed rates, will be generating additional base revenues substantially in excess of the level reflected in the test year. The increase in base revenues will act to absorb much of the additional expenses and return on investment that will be incurred when these two new units become commercial.

Q TP&L MAINTAINS THAT MOST OF THE CAPACITY THAT THEY WILL BE ADDING

IS FOR CONVERSION PURPOSES AND THEREFORE IS NON-REVENUE PRODUCING. DO YOU HAVE A RESPONSE TO THIS POSITION?

A Yes. I find that TP&L has and will be adding generating plant capability for both load growth and conversion purposes. It seems, however, that for the next three to four years, TP&L will be experiencing load growth equal to the amount of capacity that it adds to its system. I have prepared Exhibit__(RMG-4) which shows TP&L expects its System peak load to grow by approximately 800 megawatts during the three year period 1978 through 1980. If a 20% reserve criteria is assigned to each kilowatt of load growth, then approximately 1000 megawatts of additional generating capacity is necessary to match load growth. TP&L is adding 924 (net) megawatts of generating capability or slightly less than the amount required for load growth. TP&L Exhibit___(RKC-8) shows reserves of the Company to decrease from 1978 through 1980 from 50% down to 37.4%.

All of this indicates that TP&L seems to be reversing the trend that it has experienced in the past which has been to add more generating capability than load growth. The present rates approved by the Commission in the last TP&L rate filing are based upon a test year including system reserves of approximately 45%. TP&L's projections show that its reserves will decline signficantly to a level in the lower to mid 30's in the early 1980's.

I believe that for rate making purposes if an adjustment can be made to the current test year for the higher unit cost that will

be attendant with the new generating unit additions coming on line in the immediate future, then growth in TP&L's sales coupled with the proper rate design should offset TP&L's cost of operations during the next several years. I have approached the Martin Lake and Monticello adjustments to the test year on this basis.

Q WOULD YOU PLEASE EXPLAIN HOW YOU HAVE ADJUSTED THE TEST YEAR FOR THE MARTIN LAKE AND MONTICELLO ADDITIONS?

A Exhibit No.__(RMG-5) Schedule 1, summarizes the adjustments that I have made to the test year for Martin Lake Unit #2, Monticello Unit #3 and also Martin Lake Unit #3, in those areas where I differed with the Company's approach. I have included Martin Lake #3 in my calculation so as to be sure to include, as fully as possible, the impact that all new generating unit additions will have on the average unit cost of Texas Power and Light during the immediately forseeable future. These are the only generating additions that TP&L projects to be commercial during the next three years.

As shown on Exhibit__(RMG-5) Schedule 1, I have changed the adjustment for Electric Plant in Service, depreciation expense and production operations and maintenance expense less fuel from the amount derived by TP&L. The method I have used to calculate the adjustment is comparable for all three cost categories. I have first determined the unit cost per kilowatt of production capability experienced during the test year and then compared that value with the unit cost resulting after the addition of the Martin Lake #2,

1 Martin Lake #3, and Monticello #3 units. For instance, on
2 Schedule 2 of Exhibit No.__(RMG-4), I show that presently TP&L's
3 embedded investment cost per kilowatt of production capability
4 is $98.14 per kilowatt. With the addition of Martin Lake #2 & 3
5 and Monticello #3 the average investment cost per kilowatt will
6 increase to $125.87. I have taken the difference between these
7 two unit cost figures and multiplied that times the generating
8 capability of the Company during the test year in order to
9 derive a Plant in Service adjustment of $169,358,607. Once this
10 amount is added to Production Plant in Service, the test year is
11 then adjusted for the higher unit investment cost that TP&L
12 will be experiencing through 1980. With this component built
13 into the test year rate base, the additional growth in sales
14 coupled with an appropriate rate design will produce revenues
15 for the Company that should match its cost of providing service
16 since the unit cost that goes into the base rates will be at least
17 equal to the unit cost experienced by the Company over this
18 period of time.
19 The adjustment to depreciation expense and production operation
20 and maintenance expense is made on the same basis.
21 I should add that the mechanics of this series of adjustments
22 are comparable to TP&L's Plant in Service adjustment for Martin
23 Lake Unit #1 allowed by the Commission in the last rate case.
24 Q DOES THAT CONCLUDE YOUR TESTIMONY?
25 A Yes.