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 eight years. During this time I have been involved in the preparation of cost of service studies of investor-owned utilities, rural electric cooperatives and municipal systems and have participated in wholesale rate and retail electric 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 and Virginia. I have also testified before the Federal Power Commission in proceedings involving the <u>Mississippi Power Company</u>, FPC Docket No. E-7625; <u>Central Vermont Public Service Corporation</u>, FPC Docket No. E-7685; <u>Appalachian Power Company</u>, FPC Docket No. E-7775; <u>Duke Power Company</u>, FPC Docket No. E-7994; <u>Gulf States Utilities Company</u>, FPC Docket No. E-8121; and <u>Gulf Power Company</u>, FPC Docket No. E-8911; and <u>Appalachian Power Company</u>, FPC Docket No. E-9101.

Q. BY WHOM IS SOUTHERN ENGINEERING COMPANY RETAINED IN THIS PROCEEDING?

A. By Arizona Electric Power Cooperative, Inc. (AEPCO) and Papago Tribal Utility Authority (PTU).

Q. WHAT WAS YOUR PERSONAL ASSIGNMENT IN THIS PROCEEDING?

A. I was to determine whether Arizona Public Service Company's (APSC) proposed corrected revised fuel adjustment clause for service to AEPCO and PTU is proper. I was also to determine the reasonableness of APSC's allowance for working capital as a component of rate base. I was also to determine whether certain revenue and expense items are proper, just and reasonable as developed by APSC. I was to furnish my determinations to Witness Chayavadhanangkur.

Q. WILL YOU PLEASE SUMMARIZE THE RESULTS OF YOUR STUDIES.

A. Yes, my studies show the following:

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(1) ASPC's proposed corrected revised fuel adjustment clause, when applied along with the contract demand, energy, local facilities and transmission charges to AEPCO's and PTU's monthly demand and energy usage in the test period, results in excessive revenues charged these customers.

(2) APSC's proposed corrected revised fuel adjustment clause is deficient in the following ways:

(a) The failure to include nuclear fuel in the fuel cost determination; and

(b) The use of average resale losses to adjust sales at the transmission resale level.

(3) APSC's proposed corrected revised fuel adjustment clause applicable to AEPCO and PTU should be altered in order to separately adjust for change in the cost of fuel used in base load units and for changes in the cost of fuel used in intermediate and peak load units, as determined by Witness Chayavadhanangkur.

(4) APSC improperly included in its rate base provisions for compensating cash balance requirements as a component of its working capital requirements.

(5) APSC improperly increased its operating expenses by:

(a) Normalizing wage increases and the corresponding increase in FICA payroll taxes; and

(b) Normalizing increases in property taxes.

Q. MR. GROSS, PLEASE DESCRIBE APSC'S PROPOSED CORRECTED REVISED FUEL ADJUSTMENT CLAUSE.

A. APSC proposes to adjust the base monthly energy charge by the following:

<u>CORRECTED REVISED FUEL CLAUSE</u>

Plus or minus 0.0001 cents per kWh billed during the billing month for each 0.0001 cents per kWh by which the fuel cost per kWh for that month exceeds or is less than the base fuel cost of 0.1822 cents per kWh multiplied by the ratio of fossil fuel generation kWh to delivered kWh of the billing month, as determined by the formula:

$$\frac{100\ Fm}{Gm} - .1822 \qquad \frac{Gm}{Dm} = \text{Adjustment in cents per kWh}$$

Where:

Fm = Expense to Company during the billing month of fossil fuel (excluding fuel consumed for Company's specific deliveries* for which fuel costs can be determined) consumed in electric generating plants owned by Company and/or supplying energy to Company. (Fm to be expressed in Dollars.)

The fuel expense included in Fm shall include no items other than those allowable in Account 151 of the Federal Power Commission's Uniform System of Accounts for Public Utilities and Licensees.

Gm = Net fossil fueled generation input to Company's system from units whose fuel costs are included in Fm. (Gm to be expressed in kilowatt hours.) Intent of this definition is to match Gm kWh with Fm dollars.

Dm = Total kWh input to Company's system for unaccounted for losses, Company use and delivered kWh, exclusive of those specific delivered kWh* for which fuel costs were excluded in Fm and Gm, all multiplied by 1 minus resale loss factor. The resale loss factor is to be expressed in decimal form and will be estimated when not available in the normal course of business.

*Specific deliveries are intended to include all kWh (and associated fuel expenses) out of Company's system for all Interchange (including economy, deviation from schedule and banked energy) plus deliveries for which the rate is tied to fuel costs of specific plants or units.

Billing under this clause will preliminarily be based on the billing months' sales multiplied by the adjustment factor determined from a preceding month (not greater than three months preceding the billing month). The billing thus determined will be corrected to the adjustment factor determined from the billing month. Such correction will be made not later than three months after the preliminary billing.

This fuel clause calculates the adjustment per kWh from the ¢/kWh cost of fossil fuel generation in the current month less the base fuel cost of 0.1822¢/kWh multiplied by a factor to adjust for the generation mix and for resale losses. The base cost of fuel of 0.1822¢/kWh is the unit cost of fossil fuel generation for calendar year 1969 less the then existing fuel adjustment level. Fuel expenses include the fossil fuel expenses credited to Account 151.

Q. MR. GROSS, HAVE YOU FORMED AN OPINION AS TO THE CORRECTNESS OF APSC'S PROPOSED CORRECTED REVISED FUEL ADJUSTMENT CLAUSE TO REPRESENT ONLY THE VARIATION IN CURRENT FUEL COST FROM BASE FUEL COST?

A. Yes. I will answer this question only in terms of the operation of this fuel adjustment clause as a formula. The corrected revised fuel adjustment clause proposed by APSC is an "efficiency type" clause since it adjusts for changes in fuel cost per kilowatt-hour from the base period. I agree with the use of this method of determination because it takes into account changes in system heat rate, thereby passing on to the customer the effects of changes in generating efficiency. I therefore have no objection to this portion of the basic formula as would be used in determining the fuel adjustment factor for the typical resale customer purchasing all of its power requirements from APSC. I do, however, disagree with APSC's application of this formula, specifically in relation to their definitions of the variables Fm, Gm and Dm.

In defining Fm, the current monthly fuel expenses, APSC has used only fossil fuel costs, those allowed in Account 151, in collecting charges for its fuel cost adjustment calculation. This does not conform with FPC Order No. 517 which defines fuel cost as both fossil and nuclear fuel cost. I am aware that APSC does not at present have nuclear generating facilities; it does however, have such facilities scheduled, and presently purchases power from utilities that do have nuclear generating facilities. By including nuclear fuel expenses in the fuel cost determination, the definition of Gm, which is the current monthly generation, should also be altered to include nuclear generation.

In defining Dm as the total kWh input to Company's system, ASPC has made an adjustment to correct for resale losses. This adjustment is designed to properly apportion losses between retail and resale customers. On the same basis, the resale losses should be properly apportioned among the different levels of resale customers, namely transmission, subtransmission, distribution and other. The transmission resale customers, for which APSC experiences lower losses than the subtransmission and distribution resale customers, should not have to pay for losses incurred to deliver energy at the subtransmission and distribution resale levels. Therefore, when applying this corrected revised fuel adjustment clause to transmission resale customers, Dm or the total kWh input to Company's system should only be adjusted for losses at the transmission level. The proper level of losses recognizing deliveries to the transmission resale customer is shown on Exhibit ___(BPH-12), Statement M, Page 33 to be 4.3782%. This is compared with an overall wholesale class loss factor of 5.8552%. Since AEPCO and PTU take service respectively at 115 kV and 230 kV, the smaller loss factor accurately reflects operating conditions and does not burden these high voltage wholesale customers with the cost of higher losses associated with distribution facilities.

ASPC's proposed corrected revised fuel adjustment clause, with my above mentioned changes included, will conform with FPC Order No. 517 and be an acceptable fuel adjustment clause for the typical resale customer; such customer being one that purchases all its power requirements from the Company.

Q. MR. GROSS, HAVE YOU FORMED AN OPINION CONCERNING THE FORM OF AN ACCEPTABLE FUEL ADJUSTMENT CLAUSE FOR AEPCO AND PTU?

A. Yes. An acceptable fuel clause for AEPCO and PTU is shown in Exhibit ____(RMG-1). This fuel adjustment clause makes two changes to APSC's proposed corrected revised fuel adjustment clause.

Firstly, this clause differentiates between customers using primarily base load facilities and customers whose load is responsible for the peak load. Thus, this fuel adjustment clause calculates an adjustment factor weighted toward changes in the cost of fuel consumed in base load units. As seen in Exhibit ___(RMG-1), the formula used to calculate the adjustment factor has two components; one to calculate the change in the cost of fuel consumed in base load units and one to calculate the change in the cost of fuel consumed in all other units. The adjustment factor is weighted toward changes in the cost of fuel consumed in base load units by the factor R which is the ratio of the actual kilowatt-hours generated in the base load units to the normal kilowatt-hours generated in the same units. Secondly, this fuel adjustment clause assigns to AEPCO and PTU only the actual loss incurred in serving them.

This fuel clause will properly adjust for the changes in those fuel expenses associated with the energy purchased by AEPCO and PTU, base load energy, rather than the change in total fuel expense.

Q. MR. GROSS, DO YOU AGREE WITH APSC'S DEVELOPMENT OF ITS WORKING CAPITAL REQUIREMENTS?

A. No. APSC overstated its working capital requirements and therefore its rate base by the inclusion of $12,260,000 in average bank balances as a component of its cash needs. This Commission has historically and consistantly disallowed such balances. See the following Commission orders: Michigan-Wisconsin Pipeline Company, 13 FPC 326 at 365 (1954), Panhandle Eastern Pipeline Company Vs. FPC, 235 FPC 2D606, 611 (1956), Knoxville Utilities Board, et al. Vs. East Tennessee Natural Gas Company, 35 FPC 534, 553, 554, (1966), Union Electric Company, 47 FPC 144, (1972). In explaining Statement F, the schedule of working capital, Mr. Forsberg in his direct testimony offers no justification or explanation for the inclusion of average cash balance requirements. Therefore, based on Commission precedents and since APSC does not justify their inclusion, average cash balances must be deleted from APSC's rate base for cost of service determination purposes.

Q MR. GROSS, AS SHOWN ON EXHIBIT___(RMG-2), ENTITLED "ARIZONA PUBLIC SERVICE COMPANY -- DELETION OF CERTAIN OPERATION AND MAINTENANCE EXPENSE NORMALIZATION ADJUSTMENTS MADE BY APSC -- YEAR ENDED JUNE 30, 1974", APSC HAS INCREASED ITS OPERATING EXPENSES TO NORMALIZE FOR WAGE AND SALARY INCREASES, AND INCREASES IN PAYROLL TAXES AND PROPERTY TAXES. DO YOU AGREE WITH THESE ADJUSTMENTS?

A No. APSC increased its operating expenses by $1,019,000 to normalize wage increases in the test period and by $56,000 to correspondingly normalize increases in FICA payroll taxes associated with the wage increases. As also shown, APSC increases operating expenses by $1,840,000 to normalize increases in property taxes due to the increase in assessed value, which were effective beginning in 1974. These normalization adjustments should not be allowed.

Q MR. GROSS, WHY SHOULD THE NORMALIZATION OF WAGE AND SALARY INCREASES AND PAYROLL TAX INCREASES NOT BE ALLOWED?

A The adjustment to normalize wage and salary increases and the related adjustment for increased FICA payroll taxes should be deleted from APSC's cost of service because the long-term trend of wage and salary costs per kilowatt-hour sold by APSC has remained relatively constant even though wages and salaries have been increasing. Exhibit____(RMG-3), entitled "Arizona Public Service Company -- Analysis of Salaries and Wages -- 1965 - 1974", shows on Line 24 the total operation and maintenance expense associated with wages and salaries, expressed in mills per kilowatt-hour , has only experienced an average annual increase of 0.64% for the ten-year period. The wage and salary costs per kilowatt-hour sold was 2.2410 mills in 1965 compared to 2.3669 mills in 1974, with both increasing and decreasing costs per kilowatt-hour experienced during the ten-year period. Therefore, APSC has experienced over the last ten years relatively constant wage and salary costs per kilowatt-hour sold. Furthermore, Column (1), Line 1 of this Exhibit shows the energy sold by APSC has increased at an annual compound rate of 8.98%. The rate of increases in energy sold exceeded the rate of increases in wage and salary. In my opinion the revenues collected from energy sold will more than offset the wage and salary increases, therefore APSC's wage and salary and FICA payroll tax adjustments should not be allowed.

Q MR. GROSS, WHY SHOULD THE NORMALIZATION OF PROPERTY TAX INCREASES NOT BE ALLOWED?

A As shown in Exhibit____(RMG-4), the wholesale power supply contracts of AEPCO and PTU, the base monthly local facilities charge and the base monthly demand charge to AEPCO and PTU are subject to adjustments.

These adjustments are intended, among other things, to reflect the effect on APSC's cost of service of changes in applicable state and federal income tax rates and property tax rates and/or assessment ratios. In other words, the rates charged to and the revenues received from these customers are automatically increased to adjust for increases in such items. Barring a one month lag in applying these adjustments, which has a minimal effect, the revenues and expenses of AEPCO and PTU are automatically matched via these adjustments. Therefore, in determining the cost to serve AEPCO and PTU for ratemaking purposes, the same criterion of matching revenues with expenses should be relied upon to disallow the normalizing adjustment for property tax increases made by APSC. Thus, APSC should not be allowed to normalize these expenses unless, and to the extent that, they exceed the increased revenues it will realize during a normalized test period for such items under the automatic adjustment clauses in its wholesale power supply contracts. Therefore, I have excluded the additional expense APSC creates by normalization of property tax increases.