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REPORT TO THE CONGRESS



Examination Of Financial Statements Of The Tennessee Valley Authority For Fiscal Year 1970 B-114850

AGC00108

BY THE COMPTROLLER GENERAL
OF THE UNITED STATES

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B- 114850

To the President of the Senate and the
Speaker of the House of Representatives

This is our report on the examination of the financial statements of the Tennessee Valley Authority for fiscal year 1970, made pursuant to the Government Corporation Control Act (31 U.S.C. 841). We have included as an appendix to this report a description of TVA's retirement system together with financial statements and the certified public accounting firm's opinion thereon.

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretary of the Treasury; and the Chairman of the Board of Directors of the Tennessee Valley Authority.

A handwritten signature in black ink that reads "James B. Peets".

Comptroller General
of the United States

D I G E S T

WHY THE EXAMINATION WAS MADE

The Government Corporation Control Act requires the Comptroller General to audit the Tennessee Valley Authority annually.

FINDINGS AND CONCLUSIONS

In the opinion of the General Accounting Office, the Authority's financial statements present fairly its financial position at June 30, 1970, and the results of its operations and the source and disposition of its funds for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year and with applicable Federal laws. (See p. 20.)

Net income from power operations for fiscal year 1970 was \$74.6 million, \$24 million more than for fiscal year 1969. (See p. 6.) Of the \$74.6 million, \$57.6 million was paid into the U.S. Treasury as a return on the Government's investment in power facilities (see p. 8) and \$15 million was paid into the U.S. Treasury as a partial repayment of the Government's investment (see p. 8) as required by section 15d of the Tennessee Valley Authority Act and the remaining \$2 million increased proprietary capital.

Operating expenses and interest charges increased during fiscal year 1970 over comparable fiscal year 1969 amounts by 13 and 35 percent, respectively. As a result, the Authority increased power rates in August and October 1970. (See p. 7.)

On October 14, 1970, Public Law 91-446 was enacted, which increased the amount of bonds, notes, and other evidence of indebtedness which the Authority may have outstanding at any one time from \$1.75 billion to \$5 billion. (See p. 9.)

During fiscal year 1970, power-revenue bond sales of \$300 million were made at effective interest rates ranging from 8.3 to 9.3 percent. (See p. 9.)

The aggregate net power income for the latest 5 fiscal years was about \$2 million less than required under the Basic Bond Resolution to enable the Authority to increase the amount of bonds outstanding. As

a result, the Authority may issue only short-term securities during fiscal year 1971. (See pp. 9 and 10.)

The third Paradise steam unit in western Kentucky began commercial operation in February 1970. (See p. 12.)

The Authority now expects to begin operating its first nuclear power generating unit at Browns Ferry, Alabama, in April 1972, although originally planned for operation in fiscal year 1970. (See p. 12.)

Construction was started during the year on a new pumped-storage plant. During off-peak power usage periods, water will be pumped into a mountaintop reservoir. Electricity generated when the water is released will help meet peak-period loads. (See p. 12.)

The quantity of coal available in the Authority's supply area declined to an all-time low and prices reached an all-time high in fiscal year 1970. The Authority's efforts to ensure adequate coal supplies included visiting coalfields to seek new sources of supply and obtaining advance deliveries of coal. (See pp. 12 to 14.)

Pollution control and abatement activities during fiscal year 1970 cost \$30.3 million. TVA estimates that these activities will cost \$38 million during fiscal year 1971. This program is concentrated largely on problems caused by the Authority's operations, such as emissions from steam plant stacks and warmwater discharges from steam plant cooling systems. (See pp. 15 to 18.)

RECOMMENDATIONS OR SUGGESTIONS

None.

AGENCY ACTIONS AND UNRESOLVED ISSUES

None.

MATTERS FOR CONSIDERATION BY THE CONGRESS

This report contains no recommendations or suggestions requiring action by the Congress. It is submitted to the Congress, as required by the Government Corporation Control Act, to disclose the results of the annual audit of the Authority's financial statements and such other information deemed necessary to keep the Congress informed of the operations and financial conditions of the Authority.

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ABBREVIATIONS

B.t.u	British thermal unit
TVA	Tennessee Valley Authority

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CHAPTER 1

INTRODUCTION

The General Accounting Office has examined the financial statements of the Tennessee Valley Authority (TVA) for the fiscal year ended June 30, 1970.

A description of TVA's retirement system, together with related financial statements and the certified public accounting firm's opinion thereon, is included in the appendix.

The Tennessee Valley Authority Act of May 18, 1933 (48 Stat. 58; 16 U.S.C. 831) created TVA, a Government corporation, to provide for the unified development of the Tennessee River system. TVA's functions include both the power program and nonpower programs, such as flood control, navigation, and fertilizer and munitions development.

TVA expects that increasing power demands in the Tennessee Valley region will require a doubling of capacity in the next decade. During fiscal year 1970, 19.4 million kilowatts of generating capacity were in service and 10 million kilowatts of capacity were under construction. Increasing construction and operating costs, coal shortages, and construction slippages hampered the power program during the year, and TVA expects these problems to continue.

At the end of fiscal year 1970, TVA had about 22,200 employees--an increase of about 2,700 over the previous year. According to TVA, the increase resulted primarily from the accelerated power construction program.

A three-man Board of Directors manages TVA. Members are appointed to 9-year terms, which expire at 3-year intervals, by the President of the United States with the advice and consent of the Senate. Board members at June 30, 1970, and the expiration dates of their terms are:

Aubrey J. Wagner, Chairman	May 18, 1978
Frank E. Smith, Director	" " 1972
Don McBride, Director	" " 1975

CHAPTER 2

GENERAL COMMENTS

In addition to providing for our examination of the financial statements, the Government Corporation Control Act (31 U.S.C. 841) provides for the Comptroller General to include in his annual report on the audit of each Government corporation such other information and comments as may be appropriate to keep the Congress informed of the financial condition and operations of each such corporation. Therefore we are including in the following sections of this report, information and comments on matters which we believe may be of interest to the Congress.

POWER OPERATIONS

TVA supplies power, at wholesale, to 160 municipal and cooperative electric systems and one small privately owned system, which distribute power to more than two million customers in parts of seven States. Power is also sold directly to 46 industrial power consumers having large or unusual power requirements and to several Federal atomic, aerospace, and military installations.

Section 14 of the TVA Act requires that power accounts be kept in accordance with the uniform system prescribed for electric utilities by the Federal Power Commission. Operating results of the power program for fiscal year 1970 are shown in exhibit II of the financial statements. The results are summarized and compared with those of fiscal year 1969, as follows:

	<u>1970</u>	<u>1969</u>	<u>Percent in- crease</u>
Operating revenues:			
Sales of electric energy	\$461,477,970	\$388,099,883	19
Rents and other revenues	<u>18,137,729</u>	<u>15,181,053</u>	19
Total operating revenues	479,615,699	403,280,936	19
Operating expenses	<u>374,214,625</u>	<u>329,822,456</u>	13
Operating income	105,401,074	73,458,480	43
Interest income	<u>15,360^a</u>	-	
Total income	105,416,434	73,458,480	44
Interest charges	<u>30,799,564</u>	<u>22,768,320</u>	35
Net income	74,616,870	50,690,160	47
Payment of return on appropriation investment	<u>57,648,798</u>	<u>53,082,238</u>	9
Increase or decrease(-) in retained earnings	<u>\$ 16,968,072</u>	<u>\$ -2,392,078</u>	

^aIncome on temporary investments.

Substantially greater revenues were realized in fiscal year 1970 than in fiscal year 1969, because (1) more electricity was sold during 1970 and (2) the average rate charged for electricity was higher during 1970. In March 1969 TVA increased the rates charged to consumers to help meet higher costs. Automatic adjustment provisions to cover increases in TVA's cost of fuel and borrowing money were put into effect in August 1969.

Operating and interest costs during 1970, however, were significantly higher than during 1969. TVA informed us that these costs were greater than anticipated. Also TVA bought more electrical power from other power producers than it sold to power producers during the year at a net cost of \$9.6 million.

FISCAL YEAR 1971 RATE INCREASES

The act requires that TVA sell power at rates as low as feasible and yet adequate to maintain the financial soundness of the power program. Operating expenses and interest charges increased during fiscal year 1970 over comparable fiscal year 1969 amounts by 13 and 35 percent, respectively. According to TVA, these cost increases necessitated rate increases in fiscal year 1971.

The rate increases, which TVA expects will provide an increase in revenue of about 23 percent, were effective in two increments--on August 1 and October 2, 1970. The August increase was based on existing rate schedules which provided that higher rates be effective automatically on August 1, 1970, in response to rises in the cost of fuel and money.

Since the automatic August adjustment failed to provide revenues sufficient to cover the rapid increases in TVA operating costs, it had to be supplemented by a substantial increase in power rates on October 1 to obtain the additional revenues needed to meet rising costs. TVA and the distributors agreed at that time to substitute a quarterly review procedure for the automatic annual adjustment.

Under the new procedure TVA's prospective power revenues and expenses are reviewed at the end of each 3-month period by a committee representing the distributors. The TVA Board then determines whether a rate adjustment--upward or downward--will be needed.

PROPRIETARY CAPITAL AND PAYMENTS TO
THE TREASURY OF THE UNITED STATES

From the inception of TVA in 1933 to June 30, 1970, the United States made available to TVA \$2,567 million in proprietary capital through appropriations, bond purchases, and property transfers. During the same period, TVA repaid \$417 million to the U.S. Treasury, retained earnings of \$661 million from its power program, and incurred net expenses of \$454 million on its other programs. At June 30, 1970, the Government's proprietary capital in TVA was \$2,358 million.

Under section 15d of the TVA Act, as added by Public Law 86-137 on August 6, 1959, TVA is required to repay each year into the Treasury part of the net appropriation investment in power facilities and pay a return on the outstanding investment. Beginning with fiscal year 1961, repayments to the Treasury are required, as follows: \$10 million annually for the first 5 years, \$15 million annually for the next 5 years, and \$20 million annually thereafter until a total of \$1 billion has been repaid. Although the Board of Directors may defer the payments for 2 years, this option has not been exercised. TVA had repaid \$125 million to the Treasury under this provision at June 30, 1970, and about \$292 million prior to fiscal year 1961.

The required payment to the Treasury of an annual return on the net appropriation investment in power facilities is based on the average interest rate payable by the Treasury on its total marketable public obligations at the beginning of the fiscal year and on the unrepaid appropriation investment as of the same time. The 10 annual payments of the return on the appropriation investment that had been made as of June 30, 1970, amounted to \$448.2 million and included a payment of \$57.6 million in fiscal year 1970.

During fiscal year 1971, TVA will be required to pay into the Treasury from power proceeds \$20 million as a repayment of the appropriation investment and \$65.1 million as a return on the investment. Computation of the return was based on the unrepaid appropriation investment of \$1,088 million at July 1, 1970, and on the average Treasury interest rate of 5.986 percent at that date.

BORROWING AUTHORITY

TVA is authorized, under section 15d of the act, to issue and sell bonds, notes, and other evidence of indebtedness to assist in financing its power program. Prior to the enactment of Public Law 91-446 on October 14, 1970, the amount outstanding at any one time was not to exceed \$1.75 billion. Public Law 91-446 increased this limit to \$5 billion.

Section 15d provides that the time of issuance and maximum interest rates to be borne by the obligations are subject to approval by the Secretary of the Treasury, who is authorized to purchase TVA interim obligations up to \$150 million outstanding at any one time. Debt service on these obligations is payable solely from TVA's net power proceeds and has precedence over repayments of the appropriation investment and payments of a return on investment made to the Treasury. Bond sales, which began in 1960, totaled \$675 million as of June 30, 1970. Of this amount, power-revenue bond sales of \$300 million were made in fiscal year 1970 at effective interest rates ranging from 8.3 to 9.3 percent.

Short-term power notes, generally maturing in about 4 months, were sold on a competitive-bid basis during the fiscal year to various underwriters at an average interest rate of 8.172 percent. At June 30, 1970, TVA had short-term notes outstanding of \$321 million, a decrease of \$31.7 million from the amount outstanding at the beginning of the fiscal year.

Advances from the Treasury, under provisions of section 15d of the act, were obtained at an average interest rate of 7.303 percent for the year. TVA had advances outstanding of \$100 million from the Treasury at June 30, 1970.

FISCAL YEAR 1971 SECURITY SALES

Under section 3.4 of the Basic Tennessee Valley Authority Power Bond Resolution, adopted October 6, 1960, TVA's net power income for the latest 5 fiscal years must have aggregated at least \$200 million before the amount of bonds outstanding might be increased. Moreover, that minimum requirement is increased by \$15 million for each one quarter

of 1 percent (or major fraction thereof) by which the average interest rate that TVA is required to use in calculating the annual return on the net appropriation investment in power has exceeded 3-1/4 percent during those 5 years.

TVA failed to meet this requirement for the 5-year period ended June 30, 1970, as shown below, and, as a result may issue only short-term securities during fiscal year 1971.

	<u>Amount</u>	
		(000 omitted)
Required aggregate income:		
Minimum	\$200,000	
Additional requirement	<u>75,000^a</u>	
		<u>\$275,000</u>
Net power income:		
Fiscal year:		
1966	\$ 47,889	
1967	40,746	
1968	59,082	
1969	50,690	
1970	<u>74,617</u>	
		<u>\$273,024</u>

^aThe applicable interest rate was 4.418. Therefore the additional requirement was 5 times \$15 million, or \$75 million.

CONSTRUCTION PROGRAM

At June 30, 1970, TVA's gross investment in fixed assets for all programs--including construction and investigations in progress--was \$4,423 million. During fiscal year 1970, additions to construction in progress amounted to \$357.5 million and transfers to completed plant amounted to \$253.5 million. A summary of additions to construction in progress during the year follows.

Direct power:		
Generating facilities:		
Nuclear plants:		
Browns Ferry--3 units	\$116,183,736	
Sequoyah--2 units	<u>18,427,474</u>	\$134,611,210
Coal-fired steam plants:		
Paradise--1 unit (in commercial operation)	14,277,420	
Cumberland--2 units	<u>100,613,282</u>	114,890,702
Pumped-storage plant:		
Raccoon Mountain--4 units		3,170,247
Transmission lines, substations, and other facilities		<u>76,644,465</u>
Total direct power		329,316,624
Multipurpose facilities:		
Tellico Dam and Reservoir	6,090,303	
Tims Ford Dam and Reservoir	9,591,653	
Upper French Broad water control system	45,381	
Bear Creek water control system	448,258	
Other	<u>609,355</u>	16,784,950
Chemical plant		2,925,078
Land Between the Lakes and other recreation and educational facilities		3,296,427
Navigation facilities		418,733
General plant and equipment		<u>4,827,015</u>
Total additions to construction in progress in fiscal year 1970		357,568,827
Less reduction due to write-off of prior-year costs of flood control facilities		<u>-44,542</u>
Net additions to construction in progress in fiscal year 1970		<u>\$357,524,285</u>

According to TVA's original plans, one or more of the eight nuclear and coal-fired units were scheduled to go into operation in each of the 5 succeeding years beginning with 1970. In February 1970, the third Paradise steam unit in western Kentucky began commercial operation. The first of the nuclear units at Browns Ferry was scheduled to begin operation in 1970, the second in 1971, and the third in 1972. The units are now scheduled to go into operation in April 1972, January 1973, and October 1973, respectively.

According to TVA, construction at the Cumberland steam plant is on schedule and the units are expected to be in operation in July 1972 and April 1973. The two Sequoyah nuclear units are scheduled for operation in April and December 1974. Construction continued on the Tims Ford Dam which is scheduled for operation in 1971.

In addition to expansion of extra-high-voltage transmission lines and substations to facilitate increased power interchange and effect peak-load economies, TVA started construction of the Raccoon Mountain pumped-storage plant. During off-peak power usage periods, water will be pumped from the Tennessee River into a mountaintop reservoir. Electricity generated when the water is released will help meet peak-period loads.

Also gas turbines to be installed at the Allen steam plant had been ordered, as of the end of fiscal year 1970, for use during periods of peak power demands and emergency conditions. TVA expects these to be operational by the summer of 1971.

Because of limited funds, construction on the Tellico Dam and Reservoir was limited primarily to land acquisition and road and bridge relocation. Modernization of chemical facilities and construction of facilities for the recreation project, Land Between the Lakes, were continued during fiscal year 1970.

COAL PROCUREMENT

TVA officials advised us that the quantity of coal available in TVA's supply area declined to an all-time low

and prices reached an all-time high in fiscal year 1970. Stockpiles decreased from 4.4 million tons on June 30, 1969, to 2.9 million tons on June 30, 1970. On January 21, 1971, 4.4 million tons of coal were stockpiled. Over 32 million tons of coal were burned during the fiscal year.

To provide for its coal needs, TVA makes term, spot, and emergency purchases of coal. Term purchases are made under normal bidding procedures, and contracts for such purchases call for regular deliveries over periods of at least 6 months and usually longer than 1 year. Spot purchases are similar to term purchases except that the delivery period may not exceed 4 weeks. For emergency purchases contracts are negotiated, rather than advertised, and usually the delivery period is 6 months or less. TVA considers an emergency to exist when the coal stockpiled at any one steam plant is insufficient for 60 days of continuous operation.

Because of the decline in coal stockpiles and because of poor response to invitations to bid on term purchases, TVA negotiated 42 contracts for emergency purchases during fiscal year 1970 compared with six contracts for emergency purchases in fiscal year 1969. The statistics on the method of coal procurement under contracts awarded in fiscal years 1969 and 1970 for power operations are shown below.

<u>Method</u>	<u>Tons (millions)</u>	<u>Percent</u>
	<u>1969</u>	
Term	158.0	98.9
Emergency	0.9	0.6
Spot	<u>0.8</u>	<u>0.5</u>
Total	<u>159.7</u>	<u>100.0</u>
	<u>1970</u>	
Term	46.1	91.3
Emergency	3.8	7.5
Spot	<u>0.6</u>	<u>1.2</u>
Total	<u>50.5</u>	<u>100.0</u>

TVA indicates that there is a coal supply shortage caused by such factors as the coal industry's not developing new coal mines to meet increased demands for coal, increased competition for the available coal supply, shortage of railroad coal cars and trained miners, wildcat strikes, equipment breakdowns, and adverse mining conditions. According to TVA, the coal supply shortage resulted in rapidly increasing prices. In addition, TVA pointed out that price increases under escalation provisions of existing contracts and increases in transportation costs also contributed to higher coal costs.

Most of TVA's contracts for term purchases provide for price escalation based on the Bureau of Labor Statistics Index of Wholesale Prices, All Commodities. During fiscal year 1970, the value of the index increased 3.4 percent. Consequently, prices for coal purchased under these contracts increased about \$56,000.

Several of TVA's coal suppliers have made claims for price increase adjustments under the gross inequities clause, the renegotiation clause, or other clauses of their contracts. During fiscal year 1970, TVA reached agreement with several suppliers for price increases ranging from 9 cents to \$1.69 a ton. Usually TVA was able to negotiate amendments to contracts and to reschedule excusable delivery deficiencies when otherwise the coal would not have been delivered because of cancellation of the contracts.

TVA's efforts to ensure adequate coal supplies included visiting coalfields to seek new sources of supply and obtaining advance deliveries of coal. In addition, TVA negotiated a contract with a coal producer for the mining of about 1.5 million tons of coal from TVA-owned reserves. Also TVA entered into two long-term contracts under which it guaranteed payments on the producers' capital investments. In return for TVA's guarantee of principal and interest on notes of \$25 million, TVA received liens on the producers' equipment. The contracts call for the delivery of 2.35 million tons of coal a year for 17 years.

ENVIRONMENTAL QUALITY ACTIVITIES

Research, monitoring, and surveillance of environmental quality of the Tennessee Valley are coordinated with programs of Federal and State pollution control agencies. TVA's program, however, is concentrated largely on problems caused by its own operations, such as emissions from steam plant stacks and warmwater discharges from steam plant cooling systems.

TVA's pollution control and abatement activities, during fiscal year 1970, cost \$30.3 million. TVA estimates that these activities will cost \$38 million during fiscal year 1971. The nature and cost of such activities and the source of funds used during fiscal year 1970 are as follows:

Remedial action to control pollution at TVA facilities (largely electrostatic precipitators, see p. 16)	\$25,676,000
Research, development, and demonstra- tions	3,122,000
Monitoring and surveillance of pollution sources	1,155,000
Assistance to State, local, and interstate agencies	316,000
Laboratory equipment and facilities	<u>75,000</u>
Total	<u>\$30,344,000</u>
Source of funds:	
Power program	\$26,158,000
Appropriations	1,855,000
Reimbursements from others	<u>2,331,000</u>
Total	<u>\$30,344,000</u>

Air quality

All 11 coal-fired power plants in TVA's power system are equipped either with cyclone furnaces which discharge about 30 percent of the ash produced during combustion as fly ash or with pulverized fuel furnaces which discharge over half of the ash produced as fly ash. The remaining ash stays in the furnaces as bottom slag.

TVA plants built in the 1950's had mechanical fly ash collectors capable of removing about two thirds of the fly ash produced. This equipment met prevailing air-quality standards at the time of construction, but the rapid growth of power generation and the advent of more stringent State air-quality standards required better ash collection methods. In 1960, TVA began adding more efficient electrostatic precipitators at an estimated cost of \$100 million. TVA estimated that, of 3.2 million tons of fly ash generated at its power plants in 1969, about 0.6 million tons were released into the atmosphere, an ash removal efficiency of 81 percent. TVA estimates that by 1975 only 2 percent of the fly ash generated will be released into the atmosphere, if all equipment being installed meets specifications.

In addition to producing fly ash, the burning of coal produces significant quantities of gaseous sulfur dioxide. TVA estimates that in 1969 its power plants released 1.8 million tons of sulfur dioxide into the atmosphere. Pending the development and application of more effective processes, high stacks have been used to disperse the gas and thus limit its concentration at ground level.

With few exceptions the use of tall stacks has been effective in preventing significant vegetation damage, but the construction of larger units and the trend toward more stringent air-quality standards have led to long-range plans for developing sulfur dioxide removal systems. TVA plans to install a research and demonstration wet limestone scrubber system for sulfur dioxide removal on a unit at the Widows Creek steam plant at a projected cost for the unit of more than \$10 million.

In addition to its programs, TVA for several years has been carrying out studies and tests of sulfur dioxide removal processes under the sponsorship of the National Air Pollution Control Administration. Full-scale tests at the Shawnee steam plant of a dry limestone injection process and additional research are expected to cost \$7.3 million over a 3-year period. TVA hopes to incorporate advances in technology resulting from the studies and tests at Shawnee into the wet limestone scrubber unit planned for the Widows Creek plant.

Water quality

Steam plant electric power production involves the disposal of large amounts of waste heat into cool water circulating through heat exchangers. For each kilowatt-hour of electrical energy produced in a modern coal-fired plant, about two thirds of the heat from the coal is waste heat, most of which must be dissipated in cool water. Nuclear plants are expected to produce about 40 percent more waste heat than coal-fired plants.

Since 1955 TVA has been studying the distribution of heated-water discharges into streams and reservoirs from its coal-fired plants. The first plants presented few problems since their discharges were relatively small compared with the size of receiving streams. Larger discharges of waste heat evolved with the increased production of electricity and the use of larger generating units. For example, the Watts Bar plant, placed in operation during the 1940's, has a generating capacity of 240,000 kilowatts and uses 280,800 gallons of cooling water a minute to dissipate the 24.7 million B.t.u.'s¹ of waste heat a minute. In contrast, the Browns Ferry nuclear plant will have a generating capacity of 3.5 million kilowatts and will use 1.8 million gallons of cooling water a minute to dissipate 370 million B.t.u.'s of waste heat a minute.

TVA advised us that the standards for stream temperature for the design of water-cooling equipment at the Browns Ferry nuclear plant and subsequent plants used by TVA are predicated to some extent on the standards which the Federal Water Quality Administration approved for the State of Georgia in 1967. In 1969, according to TVA, the Administration approved more stringent standards for two other States--Virginia and North Carolina. TVA has no thermal power plants in these three States where water temperature standards have

¹A British thermal unit is the amount of heat required to raise the temperature of 1 pound of water 1° F. at or near its point of maximum density.

been approved. A TVA official has informed us that TVA will, in every case, do what is required to meet applicable State standards when they are formally established.

The Federal Water Quality Administration and TVA are planning a \$2.4 million research project at the Browns Ferry nuclear plant to study thermal pollution effects on aquatic life. Eight naturalistic stream channels are planned, each varying in depth from 1 to 4 feet. Two channels will serve as biological controls, and the other six channels will contain water at temperatures above that in the control channels. TVA officials stated that results from this project should contribute greatly to the knowledge of actual effects of heated discharges on aquatic life.

TVA also conducts projects and sponsors research at various schools on methods of controlling aquatic plants. The luxuriant growth of aquatic plants sometimes forms dense mats of plants in shallow water, which block small boats and swimmers, clog water intakes at steam plants, and create habitats for mosquito breeding.

TVA began a program on environmental radioactivity monitoring at Browns Ferry early in 1968. This program will provide a continuing check on the effectiveness of controls incorporated into the plant's design and operation in controlling the levels of radioactivity in the atmosphere, earth, and aquatic environments.

CHAPTER 3

SCOPE OF EXAMINATION

Our examination of TVA's balance sheet as of June 30, 1970, and the related statements of power and nonpower programs and of source and disposition of funds for the year then ended was made in accordance with generally accepted auditing standards and included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As provided by section 15d(c) of the TVA Act, TVA employs a firm of certified public accountants to audit its accounts and financial statements for each fiscal year, to facilitate TVA's issuance and sale of revenue bonds. The audit does not take the place of that required of our Office under the Government Corporation Control Act. Our audit included observations and tests of the firm's audit work.

CHAPTER 4

OPINION OF THE FINANCIAL STATEMENTS

The financial statements (exhibit I through IV and schedules A through F) were prepared by TVA. In our opinion, these financial statements present fairly TVA's financial position at June 30, 1970, and the results of its operations and the sources and disposition of its funds for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year and with applicable Federal laws.

The public accounting firm's opinion on the financial statements follows.

LYBRAND, ROSS BROS. & MONTGOMERY

CERTIFIED PUBLIC ACCOUNTANTS

COOPERS & LYBRAND
IN PRINCIPAL AREAS
OF THE WORLD

To the Board of Directors of
Tennessee Valley Authority:

We have examined the accompanying financial statements of TENNESSEE VALLEY AUTHORITY at June 30, 1970 and 1969 and for the years then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, Exhibits I, II, III and IV of the aforementioned financial statements present fairly:

- (1) the financial position of the Authority at June 30, 1970 and 1969, and the results of operations and source and disposition of funds of its several programs for the years then ended; and
- (2) the assets and liabilities of the Authority at June 30, 1970 and 1969, relating to the power program, and the results of operations and source and disposition of funds of that program for the years then ended,

all in conformity with generally accepted accounting principles applied on a consistent basis.

The supplemental information appearing in Schedules A to F, inclusive, which has been subjected to audit procedures applied in the examination of the basic financial statements, is, in our opinion, fairly stated in relation to the basic financial statements taken as a whole.

Lybrand, Ross Bros. & Montgomery

New York, August 28, 1970.

FINANCIAL STATEMENTS

TENNESSEE VALLEY AUTHORITY

(A CORPORATION WHOLLY OWNED BY THE UNITED STATES OF AMERICA)
BALANCE SHEETS JUNE 30, 1970 AND 1969

A S S E T S

	Power program		All programs	
	1970	1969	1970	1969

(Thousands)

PROPERTY, PLANT, AND EQUIPMENT,
substantially all at original cost

Completed plant; schedule A				
Multipurpose dams; note 1	\$ 478,167	\$ 477,324	\$ 961,970	\$ 955,403
Single-purpose dams	62,891	61,204	62,891	61,204
Steam production plants	1,686,930	1,516,730	1,686,930	1,516,730
Other electric plant	974,870	922,046	974,870	922,046
Other plant	-	-	161,851	155,079
	3,202,858	2,977,304	3,848,512	3,610,462
Less accumulated depreciation; note 2	924,447	855,979	1,044,610	970,978
	2,278,411	2,121,325	2,803,902	2,639,484
Construction and investigations in progress; schedule B and note 3	481,918	386,354	549,557	445,264
Nuclear fuel in process of fabrication; note 4	24,807	13,230	24,807	13,230
Total property, plant, and equipment	2,785,136	2,520,909	3,378,266	3,097,978
CURRENT ASSETS				
Cash	42,384	23,275	64,210	44,928
U. S. Treasury bills, at cost (approximates market)	15,982	-	15,982	-
Total cash and investments	58,366	23,275	80,192	44,928
Accounts receivable	45,853	36,519	50,562	41,295
Inventories, principally at average cost; note 4	37,507	44,214	43,044	50,541
Total current assets	141,726	104,008	173,798	136,764
DEFERRED CHARGES				
Unamortized debt discount and expense	7,078	7,063	7,078	7,063
Total assets	\$2,933,940	\$2,631,980	\$3,559,142	\$3,241,805

Notes 1 through 8 following the exhibits are an integral part of the financial statements.

*Deduct

EXHIBIT I

L I A B I L I T I E S

	Power program		All programs	
	1970	1969	1970	1969
	(Thousands)			
PROPRIETARY CAPITAL				
Appropriation investment; note 5				
Total congressional appropriations	\$1,377,545	\$1,376,237	\$2,449,944	\$2,399,344
Transfers of property from other Federal agencies	<u>20,829</u>	<u>20,672</u>	<u>52,438</u>	<u>50,497</u>
	1,398,374	1,396,909	2,502,382	2,449,841
Less repayments to General Fund of the U. S. Treasury; note 6	<u>310,059</u>	<u>295,059</u>	<u>351,601</u>	<u>336,593</u>
Appropriation investment	1,088,315	1,101,850	2,150,781	2,113,248
Retained earnings of power program; exhibit II	660,879	643,911	660,879	643,911
Accumulated net expense of nonpower programs; exhibit III	<u>-</u>	<u>-</u>	<u>454,026*</u>	<u>418,020*</u>
Total proprietary capital	<u>1,749,194</u>	<u>1,745,761</u>	<u>2,357,634</u>	<u>2,339,139</u>
LONG-TERM DEBT; note 7	<u>675,000</u>	<u>375,000</u>	<u>675,000</u>	<u>375,000</u>
SHORT-TERM NOTES; note 7	<u>421,000</u>	<u>452,655</u>	<u>421,000</u>	<u>452,655</u>
OTHER CURRENT LIABILITIES				
Accounts payable	68,268	43,980	76,251	52,262
Employees' accrued leave	7,641	7,510	15,370	15,015
Payrolls accrued	3,531	2,323	4,581	2,983
Interest accrued	<u>8,244</u>	<u>3,819</u>	<u>8,244</u>	<u>3,819</u>
Total other current liabilities	<u>87,684</u>	<u>57,632</u>	<u>104,446</u>	<u>74,079</u>
DEFERRED CREDITS				
Unamortized debt premium	<u>303</u>	<u>183</u>	<u>303</u>	<u>183</u>
CONTRIBUTIONS IN AID OF CONSTRUCTION	<u>759</u>	<u>749</u>	<u>759</u>	<u>749</u>
COMMITMENTS; note 3				
Total liabilities	<u>\$2,933,940</u>	<u>\$2,631,980</u>	<u>\$3,559,142</u>	<u>\$3,241,805</u>

TENNESSEE VALLEY AUTHORITY
POWER PROGRAM
NET INCOME AND RETAINED EARNINGS
FOR THE YEARS ENDED JUNE 30, 1970 AND 1969

	1970		1969	
	Kwh	Amount	Kwh	Amount
	(Thousands)			
OPERATING REVENUES				
Sales of electric energy				
Municipalities and cooperatives	53,692,918	\$285,483	49,008,196	\$222,235
Federal agencies	13,069,614	59,426	14,826,909	63,570
Industries	22,012,611	105,995	20,568,110	92,239
Electric utilities	<u>1,273,680</u>	<u>7,541</u>	<u>1,300,494</u>	<u>7,304</u>
Total outside sales	90,048,823	458,445	85,703,709	385,348
Interdivisional	673,535	3,033	670,222	2,752
Total sales of electric energy	<u>90,722,358</u>	<u>461,478</u>	<u>86,373,931</u>	<u>388,100</u>
Rents		18,138		15,181
Total operating revenues		<u>479,616</u>		<u>403,281</u>
OPERATING EXPENSES; schedule C				
Production		246,071		210,304
Transmission		15,085		14,262
Customer accounts		335		304
Demonstration of power use		1,060		1,022
Administrative and general		18,043		15,551
Payments in lieu of taxes		16,098		14,510
Social security taxes		2,456		2,198
Provision for depreciation		<u>75,067</u>		<u>71,672</u>
Total operating expenses		<u>374,215</u>		<u>329,823</u>
Operating income		105,401		73,458
INTEREST INCOME				
Total income		<u>15</u>		-
		105,416		73,458
INTEREST CHARGES				
Interest on long-term debt		30,721		14,797
Other interest expense		31,559		23,924
Amortization of long-term debt discount, premium, and expense, net		71		83
Interest charged to construction and nuclear fuel; note 4		<u>31,552*</u>		<u>16,036*</u>
Total interest charges		<u>30,799</u>		<u>22,768</u>
Net income		74,617		50,690
Payment of return on appropriation investment; note 6		<u>57,649</u>		<u>53,082</u>
Increase or decrease* in retained earnings		16,968		2,392*
Retained earnings at beginning of period		<u>643,911</u>		<u>646,303</u>
Retained earnings at end of period		<u>\$660,879</u>		<u>\$643,911</u>

Notes 1 through 8 following the exhibits are an integral part of the financial statements.

*Deduct

EXHIBIT III
Page 1

TENNESSEE VALLEY AUTHORITY
NONPOWER PROGRAMS
NET EXPENSE AND ACCUMULATED NET EXPENSE
FOR THE YEARS ENDED JUNE 30, 1970 AND 1969

	1970	1969
	(Thousands)	
WATER RESOURCES DEVELOPMENT		
Navigation operations		
Studies and investigations	\$ 878	\$ 896
Operation and maintenance of facilities	2,116	2,102
Provision for depreciation	<u>2,751</u>	<u>2,723</u>
Total expense of navigation operations	<u>5,745</u>	<u>5,721</u>
Flood control operations		
Studies and investigations	699	700
Operation and maintenance of facilities	2,198	2,181
Local flood control improvements	906	331
Provision for depreciation	<u>1,264</u>	<u>1,240</u>
Total expense of flood control operations	<u>5,067</u>	<u>4,452</u>
Regional water quality management	1,389	1,277
Fish and wildlife development	306	287
Surveys and general studies for river development	785	868
Recreation projects	<u>645</u>	<u>506</u>
Total expense of water resources development	<u>13,937</u>	<u>13,111</u>
FERTILIZER AND MUNITIONS DEVELOPMENT		
Developmental production		
Cost of products distributed, including depreciation and depletion of \$1,843,000 in 1970, \$1,674,000 in 1969	<u>22,912</u>	<u>20,643</u>
General expenses		
Retirements of manufacturing plant and equipment	677	2,469
Other general expenses	<u>926</u>	<u>917</u>
Total general expenses	<u>1,603</u>	<u>3,386</u>
Total production expense	<u>24,515</u>	<u>24,029</u>
Less transfers and sales of products		
Transfers to TVA programs, at market prices		
Fertilizer industry demonstrations	14,877	12,990
Farm test demonstrations	423	410
Agricultural projects	453	508
Other	<u>38</u>	<u>50</u>
Total transfers and sales	<u>15,791</u>	<u>13,958</u>
Direct sales	<u>1,433</u>	<u>2,288</u>
Total transfers and sales	<u>17,224</u>	<u>16,246</u>
Net expense of developmental production	<u>7,291</u>	<u>7,783</u>
Fertilizer introduction		
Fertilizer industry demonstrations		
Fertilizers used	14,877	12,990
Educational distribution expense	<u>1,147</u>	<u>1,123</u>
Total industry payments for fertilizer	<u>16,024</u>	<u>14,113</u>
Less industry payments for fertilizer	<u>14,206</u>	<u>12,451</u>
Net expense of fertilizer introduction	<u>1,818</u>	<u>1,662</u>

TENNESSEE VALLEY AUTHORITY
NONPOWER PROGRAMS
NET EXPENSE AND ACCUMULATED NET EXPENSE
FOR THE YEARS ENDED JUNE 30, 1970 AND 1969

	<u>1970</u>	<u>1969</u>
	(Thousands)	
FERTILIZER AND MUNITIONS DEVELOPMENT - continued		
Fertilizer introduction - continued		
Farm test demonstrations outside the Valley		
Fertilizers used	\$ 423	\$ 410
Planning and supervision	509	510
	<u>932</u>	<u>920</u>
Less farmer payments for fertilizer	253	303
	<u>679</u>	<u>617</u>
Net expense of fertilizer introduction	<u>2,497</u>	<u>2,279</u>
Research and development	4,674	4,468
Net expense of fertilizer and munitions development	<u>14,462</u>	<u>14,530</u>
GENERAL RESOURCES DEVELOPMENT		
Agricultural projects		
Fertilizers used	453	508
Planning and supervision	817	969
	<u>1,270</u>	<u>1,477</u>
Less farmer payments for fertilizer	251	293
	<u>1,019</u>	<u>1,184</u>
Development investigations and general expenses	327	304
Net expense of agricultural projects	<u>1,346</u>	<u>1,488</u>
Forestry projects	995	987
Tributary area development	1,362	1,175
Regional development planning	896	299
Demonstrations in education and manpower development	730	40
Minerals projects	168	162
Environmental quality projects	215	167
Net expense of general resources development	<u>5,712</u>	<u>4,318</u>
LAND BETWEEN THE LAKES OPERATIONS	<u>1,449</u>	<u>1,272</u>
TOPOGRAPHIC MAPPING	<u>405</u>	<u>374</u>
OTHER EXPENSE, NET	<u>41</u>	<u>22</u>
Net expense; schedule D	36,006	33,627
Accumulated net expense at beginning of period	418,020	384,393
Accumulated net expense at end of period	<u>\$454,026</u>	<u>\$418,020</u>

Notes 1 through 8 following the exhibits are an integral part of the financial statements.

EXHIBIT IV

TENNESSEE VALLEY AUTHORITY
SOURCE AND DISPOSITION OF FUNDS
FOR THE YEARS ENDED JUNE 30, 1970 AND 1969

	Power program		All programs	
	1970	1969	1970	1969
	(Thousands)			
SOURCE				
Net power proceeds				
Power operations; exhibit II				
Operating revenues	\$479,616	\$403,281	\$479,616	\$403,281
Interest income	15	-	15	-
	479,631	403,281	479,631	403,281
Deduct operating expenses, less noncash charges; note below	299,146	258,151	299,146	258,151
	180,485	145,130	180,485	145,130
Sale of power facilities	474	553	474	553
Total net power proceeds	180,959	145,683	180,959	145,683
Gross proceeds from nonpower programs				
Sales of fertilizer; exhibit III				
Industry payments			14,206	12,451
Farmer payments			504	596
Direct sales			1,433	2,288
			16,143	15,335
Recoveries of operating expense			574	501
			16,717	15,836
Sale of nonpower facilities			737	618
Total nonpower proceeds	-	-	17,454	16,454
Sale of long-term bonds	299,241	100,227	299,241	100,227
Increase in short-term notes	-	102,655	-	102,655
Congressional appropriations	1,308	862	50,600	50,250
Property transfers	157	112	1,941	230
Contributions in aid of construction	10	9	10	9
Total source	\$481,675	\$349,548	\$550,205	\$415,508
DISPOSITION				
Expended for plant and equipment, excluding capitalized interest; note 4	\$311,382	\$252,272	\$337,809	\$281,760
Less salvage from plant transfers, and depreciation charged to construction and clearing accounts	3,164	2,827	5,643	5,183
	308,218	249,445	332,166	276,577
Payments to U. S. Treasury; note 6				
Return on appropriation investment	57,649	53,082	57,649	53,082
Repayment of appropriation investment	15,000	15,000	15,008	15,002
	72,649	68,082	72,657	68,084
Expense of nonpower programs, less noncash charges; note below	-	-	45,573	40,729
Interest	62,280	38,721	62,280	38,721
Deferred debt expense, net	793*	2,071	793*	2,071
Decrease in short-term notes	31,655	-	31,655	-
Increase or decrease* in current assets less other current liabilities; note 4	7,666	8,771*	6,667	10,674*
Total disposition	\$481,675	\$349,548	\$550,205	\$415,508
	Power	Nonpower		
Note: Noncash charges consist of:				
Provisions for depreciation	\$ 75,067	\$ 71,672	\$ 6,457	\$ 6,250
Provisions for depletion	2	-	16	15
Retirements of fertilizer manufacturing facilities	-	-	677	2,469
	\$ 75,069	\$ 71,672	\$ 7,150	\$ 8,734

Notes 1 through 8 following the exhibits are an integral part of the financial statements.

*Deduct

TENNESSEE VALLEY AUTHORITY
NOTES TO FINANCIAL STATEMENTS

1. Allocation of cost of multipurpose projects--Section 14 of the TVA Act requires TVA's Board of Directors to allocate the cost of completed multipurpose projects, subject to the approval of the President of the United States. The cost of facilities installed exclusively for a single purpose is assigned directly to that purpose; the cost of multiple-use facilities is allocated among the various purposes served.

The total investment of \$961,970,000 in completed multipurpose dams at June 30, 1970, is classified as follows:

	Investment		
	Direct	Multiple-use	Total
	(Thousands)		
Power	\$302,683	\$175,484	\$478,167
Navigation	150,473	137,309	287,782
Flood control	59,662	128,516	188,178
Tributary area development	19	7,824	7,843
Total	\$512,837	\$449,133	\$961,970

2. Depreciation policy--Straight-line depreciation is provided for substantially on a composite basis. Rates of depreciation are derived from engineering studies of useful life and are reviewed each year.

3. Estimates of cost to complete major construction projects, and commitments--The cost to complete the major power projects (including nuclear fuel) under construction or authorized for construction at June 30, 1970, is estimated to be \$1,614,210,000, including commitments of \$858,686,000 for materials and services contracted for and not delivered. The corresponding estimate for multipurpose and nonpower projects is \$233,140,000, including commitments of \$5,204,000. Additional contractual commitments of \$5,742,000 for multipurpose and nonpower projects had been entered into at June 30, 1970, on which TVA's obligation is limited by the availability of funds from congressional appropriations for succeeding fiscal periods.

TVA and the City of Memphis, Tennessee, have entered into agreements under which (1) TVA sells to the City all the power and energy requirements of its electric distribution system, and (2) the City leases to TVA the Thomas H. Allen steam-electric generating plant with an installed capacity of 990,000 kilowatts; each agreement is for a term of 20 years, beginning January 1, 1965. The lease agreement provides for annual rental payments of \$6,900,000 and grants TVA an option to buy the plant for \$2,000,000 at the end of the lease term.

4. Nuclear fuel--Nuclear fuel has been reclassified from inventories to property, plant, and equipment, and includes interest of \$1,944,000 recorded during the year ended June 30, 1970, of which \$475,000 relates to the prior year.

TENNESSEE VALLEY AUTHORITY

NOTES - CONTINUED

5. Appropriation investment--Changes in appropriation investment during the years ended June 30, 1970 and 1969, were as follows:

	Power program		All programs	
	1970	1969	1970	1969
	(Thousands)			
Congressional appropriations	\$ 1,308	\$ 862	\$ 50,600	\$ 50,250
Transfers of property from other Federal agencies	157	112	1,941	230
	1,465	974	52,541	50,480
Less repayments to General Fund of the U. S. Treasury	15,000	15,000	15,008	15,002
Increase or decrease* for the period	13,535*	14,026*	37,533	35,478
Balance, beginning of period	1,101,850	1,115,876	2,113,248	2,077,770
Balance, end of period	\$1,088,315	\$1,101,850	\$2,150,781	\$2,113,248

Action on a request for an additional appropriation of \$50,080,000 to become available as of July 1, 1970, is pending in the Congress.

6. Payments to the U. S. Treasury--Section 15d of the TVA Act requires the payment from power proceeds of a return on the net appropriation investment in power facilities plus repayments of such investment, beginning with fiscal year 1961. The amount of return payable during each fiscal year is based on the appropriation investment as of the beginning of that fiscal year and the computed average interest rate payable by the U. S. Treasury on its total marketable public obligations as of the same date. The repayment schedule calls for payment of not less than \$10 million for each of the first five fiscal years (1961-1965), \$15 million for each of the next five years (1966-1970), and \$20 million for each year thereafter until a total of \$1 billion shall have been repaid. The payments required by Section 15d may be deferred under certain circumstances for not more than two years.

Required payments have been made as follows:

	Return	Repayment	Total
	(Thousands)		
Total to June 30, 1969	\$390,597	\$110,000	\$500,597
Fiscal year 1970	57,649	15,000	72,649
	\$448,246	\$125,000	\$573,246

For fiscal year 1971 the required payments will be \$65,147,000 as a return and \$20,000,000 as a repayment, a total of \$85,147,000.

TENNESSEE VALLEY AUTHORITY

NOTES - CONTINUED

In addition to the payments from power proceeds, \$8,000 of nonpower proceeds was paid to the U. S. Treasury in fiscal year 1970 under the provisions of Section 26 of the TVA Act. This brought the total payments from nonpower proceeds to \$41,542,000.

Prior to 1961, under then existing legislation, TVA paid to the Treasury \$185,059,000 of power proceeds. In addition, \$65,072,000 of bonds sold to the Treasury and Reconstruction Finance Corporation in fiscal years 1939-1941 have been fully repaid from power proceeds. Section 26 of the TVA Act provides for annual payments to the Treasury of any power or nonpower proceeds not needed for the operation of dams and reservoirs, the conduct of the power program, and the manufacture and distribution of fertilizers.

7. Borrowing authority--Section 15d of the TVA Act authorizes TVA to issue bonds, notes, and other evidences of indebtedness up to a total of \$1,750 million outstanding at any one time to assist in financing its power program. Action is pending in the Congress on an increase in this borrowing authority from \$1,750 million to \$5 billion. Debt service on these obligations, which is payable solely from TVA's net power proceeds, has precedence over the payments to the U. S. Treasury described in note 6.

Evidences of indebtedness issued under Section 15d and outstanding on June 30, 1970, consist of the following:

	(Thousands)
Long-term debt	
4.40% Power Bonds 1960 Series A, due November 15, 1985	\$ 50,000
4-5/8% Power Bonds 1961 Series A, due July 1, 1986	50,000
4-1/2% Power Bonds 1962 Series A, due February 1, 1987	45,000
5.70% Power Bonds 1967 Series A, due May 15, 1992	70,000
6-3/8% Power Bonds 1967 Series B, due November 1, 1992	60,000
8% Power Bonds 1969 Series A, due June 1, 1974	100,000
8-1/4% Power Bonds 1969 Series B, due October 15, 1994	100,000
9% Power Bonds 1970 Series A, due March 15, 1995	100,000
9-1/4% Power Bonds 1970 Series B, due June 15, 1995	50,000
8-3/4% Power Bonds 1970 Series C, due June 15, 1975	<u>50,000</u>
Total long-term debt	<u>675,000</u>
Short-term notes	
Payable to U. S. Treasury	100,000
Payable to public	<u>321,000</u>
Total short-term notes	<u>421,000</u>
	<u>\$1,096,000</u>

8. Retirement plan--TVA has a contributory retirement plan which covers substantially all of its salaried employees. The cost of currently accruing benefits is funded currently, and the unfunded prior service cost is being amortized and funded over a period of 36 years from July 1, 1969. The cost of the plan to TVA for the fiscal years ended June 30, 1970 and 1969, was \$12,355,000 and \$10,593,000, respectively.

SCHEDULES

SCHEDULE A

TENNESSEE VALLEY AUTHORITY
COMPLETED PLANT
JUNE 30, 1970

	Assets	Depreciation	
		Provision year ended June 30, 1970	Accumulated balance June 30, 1970
Power			
Multipurpose dams; note a	\$ 478,167,051	\$ 6,575,118	\$ 144,109,178
Single-purpose dams	62,891,043	795,899	23,160,906
Steam production plants	1,686,929,790	43,966,106	500,628,515
Other electric plant	974,870,528	23,731,228	256,548,807
Total power	<u>3,202,858,412</u>	<u>75,068,351</u>	<u>924,447,406</u>
Navigation			
Multipurpose dams; note a	<u>287,781,773</u>	<u>2,751,020</u>	<u>43,985,631</u>
Flood control			
Multipurpose dams; note a	181,243,572	1,198,515	31,794,539
Multipurpose dams; note b	6,934,238	52,433	185,220
Bristol flood control plant	<u>2,072,966</u>	<u>13,573</u>	<u>65,490</u>
Total flood control	<u>190,250,776</u>	<u>1,264,521</u>	<u>32,045,249</u>
Tributary area development			
Multipurpose dams; note b	<u>7,843,170</u>	<u>48,921</u>	<u>151,209</u>
Recreation and conservation education			
Land between the lakes	44,241,556	270,991	947,517
Other	<u>395,502</u>	<u>9,858</u>	<u>9,488</u>
Total recreation and conservation education	<u>44,637,058</u>	<u>280,849</u>	<u>957,005</u>
Chemical	<u>68,057,556</u>	<u>2,094,219</u>	<u>25,865,802</u>
General	<u>47,083,366</u>	<u>2,585,796</u>	<u>17,158,080</u>
Total	<u>\$3,848,512,111</u>	<u>\$84,093,677</u>	<u>\$1,044,610,382</u>
Total completed plant			
Multipurpose dams	\$ 961,969,804	\$10,626,007	\$ 220,225,777
Single-purpose dams	62,891,043	795,899	23,160,906
Steam production plants	1,686,929,790	43,966,106	500,628,515
Other electric plant	974,870,528	23,731,228	256,548,807
Other plant	<u>161,850,946</u>	<u>4,974,437</u>	<u>44,046,377</u>
Total	<u>\$3,848,512,111</u>	<u>\$84,093,677</u>	<u>\$1,044,610,382</u>

GAO Notes:

- a. Common to power, navigation and flood control.
- b. Beech River and Bear Creek water control projects.

SCHEDULE B

TENNESSEE VALLEY AUTHORITY
CONSTRUCTION AND INVESTIGATIONS IN PROGRESS
 JUNE 30, 1970

	<u>Power program</u>	<u>All programs</u>
Construction in progress		
Generating facilities		
Browns Ferry Nuclear Plant	\$245,459,468	\$245,459,468
Sequoyah Nuclear Plant	23,349,159	23,349,159
Paradise Steam Plant unit 3	2,508,804	2,508,804
Cumberland Steam Plant	144,379,695	144,379,695
Raccoon Mountain pumped storage project	4,231,464	4,231,464
Total generating facilities	<u>419,928,590</u>	<u>419,928,590</u>
Transmission lines, substations, and other additions to power facilities	<u>53,431,807</u>	<u>53,431,807</u>
Navigation facilities	<u>-</u>	<u>36,471*</u>
Flood control facilities	<u>-</u>	<u>687,756</u>
Multipurpose facilities		
Tellico Dam and Reservoir	-	21,679,065
Tims Ford Dam and Reservoir	7,534,054	37,937,494
Upper French Broad water control system	-	1,365,030
Bear Creek water control system	-	1,998,691
Other	135,329	560,372
Total multipurpose facilities	<u>7,669,383</u>	<u>63,540,652</u>
Chemical plant	<u>-</u>	<u>2,704,754</u>
Recreation and conservation education facilities		
Land between the lakes		1,196,950
Other		219,819
Total recreation and conservation education facilities	<u>-</u>	<u>1,416,769</u>
General plant		
General construction equipment and materials		2,643,207
Other additions to general plant		502,123
Total general plant	<u>-</u>	<u>3,145,330</u>
Total construction in progress	<u>481,029,780</u>	<u>544,819,187</u>
Investigations for future projects		
Power facilities	888,730	888,730
Navigation facilities	-	111,051
Flood control facilities	-	1,057,743
Multipurpose facilities	-	2,680,252
Total investigations for future projects	<u>888,730</u>	<u>4,737,776</u>
Total construction and investigations in progress	<u>\$481,918,510</u>	<u>\$549,556,963</u>

*Deduct

SCHEDULE C

TENNESSEE VALLEY AUTHORITY
 DETAILS OF POWER EXPENSE
 FOR THE YEAR ENDED JUNE 30, 1970

SUMMARY	Total	Provision for depreciation	Total before depreciation (exhibit II)	Operation	Maintenance	Other
Production						
Multipurpose dams						
Direct	\$ 10,364,470	\$ 5,346,359	\$ 5,018,111	\$ 2,914,503	\$ 2,103,608	\$ -
Multiple-use; schedule E	3,872,253	1,228,759	2,643,494	2,332,786	310,708	-
Single-purpose dams	2,036,146	795,899	1,240,247	745,034	495,213	-
Cumberland Basin projects; note a	5,961,095	-	5,961,095	-	-	5,961,095
Steam plants	257,665,081	43,966,106	213,698,975	184,224,049	29,474,926	-
Total generation	279,899,045	51,337,123	228,561,922	190,216,372	32,384,455	5,961,095
Purchased power	1,314,729	-	1,314,729	-	-	1,314,729
Interchange power received	17,880,895	-	17,880,895	-	-	17,880,895
Interchange power delivered	8,218,157*	-	8,218,157*	-	-	8,218,157*
System control and load dispatching	1,123,830	-	1,123,830	-	-	1,123,830
Other	5,408,128	-	5,408,128	-	-	5,408,128
Total production	297,408,470	51,337,123	246,071,347	190,216,372	32,384,455	23,470,520
Transmission	37,263,800	22,178,944	15,084,856	8,982,543	6,102,313	-
Customer accounts	335,123	-	335,123	335,123	-	-
Demonstration of power use	1,059,446	-	1,059,446	1,059,446	-	-
Payments in lieu of taxes; note b	16,098,464	-	16,098,464	-	-	16,098,464
Social security taxes	2,455,962	-	2,455,962	-	-	2,455,962
Administrative and general						
Direct	19,438,253	1,550,517	17,887,736	17,884,776	2,960	-
Multiple-use	155,107	-	155,107	155,107	-	-
Total operating expense	\$374,214,625	\$75,066,584	\$299,148,041	\$218,633,367	\$38,489,728	\$42,024,946

SYSTEM STATISTICS	Kwh generated less station use (thousands)	Production expense		Installed capacity at June 30, 1970 (kilowatts)	Ratio of average gross generation to installed capacity (percent)
		Total	Per kwh (mills)		
Generation					
Multipurpose dams					
Direct	11,265,995	\$ 10,364,470	.920	2,869,230	45.08
Multiple-use; schedule E	-	3,872,253	.344	-	-
Total multipurpose dams	11,265,995	14,236,723	1.264	2,869,230	45.08
Single-purpose dams	1,047,142	2,036,146	1.944	250,200	47.97
Cumberland Basin projects; note a	2,447,231	5,961,095	2.436	753,000	38.26
Alcoa dams; note c	1,779,291	-	-	423,715	48.07
Total hydro generation	16,539,659	-	-	4,296,145	44.37
Steam plants	76,144,641	257,665,081	3.384	15,126,335	62.45
Total generation; note d	92,684,300	-	-	19,422,480	58.30
Purchased power	459,218	1,314,729	-	-	-
Interchange power received	8,141,809	17,880,895	-	-	-
System control and load dispatching	-	1,123,830	-	-	-
Other	-	5,408,128	-	-	-
Total system input	101,285,327	-	-	-	-
Delivered under Alcoa agreement	1,847,490*	-	-	-	-
Interchange power delivered	5,379,676*	8,218,157*	-	-	-
Net energy supply	94,058,161	297,408,470	3.162	-	-
Shop and internal uses	6,917*	-	-	-	-
Transmission and transformation losses	3,328,886*	-	-	-	-
Total kwh sales and production expense	90,722,358	\$297,408,470	3.278	-	-

Notes:

- TVA purchases substantially all of the output of seven hydro plants in the Cumberland River Basin. In accordance with memorandums of understanding with the Corps of Engineers, Department of the Army, the Cumberland Basin projects are operated for optimum production of power in conjunction with TVA's power system, subject to flood control, navigation, and other operating requirements of the Army.
- Payments made to states and counties in which power operations are carried out. The basic amount is 5 percent of gross revenues from the sale of power to other than Federal agencies during the preceding year, with the provision of minimum payments under certain circumstances.
- Operation of twelve hydro plants of the Aluminum Company of America is coordinated with the operation of TVA's power plants under an arrangement whereby the storage and release of water from the Alcoa plants are carried out by the company under TVA's direction.
- Installed capacity increased 1,183,200 kilowatts during fiscal year 1970. Additions consisted of 1,150,200 kilowatts in a new unit at the Paradise Steam Plant, one 28,000 kilowatt unit at the new J. Percy Priest Dam in the Cumberland Basin, and 5,000 kilowatts from modifications to a generator.

*Deduct

SCHEDULE D

Page 1

TENNESSEE VALLEY AUTHORITY

DETAILS OF NONPOWER NET EXPENSE
FOR THE YEAR ENDED JUNE 30, 1970

WATER RESOURCES DEVELOPMENT	Direct	Multiple-use (schedule E)	Total
Navigation operations			
Studies and investigations			
Navigation engineering and investigations	\$ 806,688	\$ -	\$ 806,688
Administrative and general expenses; schedule F	<u>71,763</u>	<u>-</u>	<u>71,763</u>
	<u>878,451</u>	<u>-</u>	<u>878,451</u>
Operation and maintenance of facilities			
Operation	16,843	1,749,589	1,766,432
Maintenance	17,298	215,864	233,162
Administrative and general expenses	-	116,330	116,330
	<u>34,141</u>	<u>2,081,783</u>	<u>2,115,924</u>
Provision for depreciation	<u>1,811,060</u>	<u>939,960</u>	<u>2,751,020</u>
Total expense of navigation operations	<u>\$2,723,652</u>	<u>\$3,021,743</u>	<u>5,745,395</u>
Flood control operations			
Studies and investigations			
System studies and investigations	\$ 282,956	\$ -	282,956
Local flood studies and cooperation with other agencies	384,206	-	384,206
Administrative and general expenses; schedule F	<u>31,576</u>	<u>-</u>	<u>31,576</u>
	<u>698,738</u>	<u>-</u>	<u>698,738</u>
Operation and maintenance of facilities			
Operation	23,649	1,822,605	1,846,254
Maintenance	-	230,750	230,750
Administrative and general expenses	-	120,991	120,991
	<u>23,649</u>	<u>2,174,346</u>	<u>2,197,995</u>
Local flood control improvements	<u>905,521</u>	<u>-</u>	<u>905,521</u>
Provision for depreciation	<u>361,606</u>	<u>902,915</u>	<u>1,264,521</u>
Total expense of flood control operations	<u>\$1,989,514</u>	<u>\$3,077,261</u>	<u>5,066,775</u>
Regional water quality management			
Regional water quality management			1,346,385
Provision for depreciation			8,410
Administrative and general expenses; schedule F			<u>34,447</u>
Total expense of regional water quality management			<u>1,389,242</u>
Fish and wildlife development			
Fish and wildlife development			284,074
Provision for depreciation			6,576
Administrative and general expenses; schedule F			<u>15,310</u>
Total expense of fish and wildlife development			<u>305,960</u>
Surveys and general studies for river development			
Surveys and general studies for river development			747,780
Administrative and general expenses; schedule F			<u>36,888</u>
Total expense of surveys and general studies for river development			<u>784,668</u>
Recreation projects			
Recreation resources development			612,114
Provision for depreciation			9,858
Administrative and general expenses; schedule F			<u>22,964</u>
Total expense of recreation projects			<u>644,936</u>
Total expense of water resources development			<u>\$13,936,976</u>

TENNESSEE VALLEY AUTHORITY
DETAILS OF NONPOWER NET EXPENSE
FOR THE YEAR ENDED JUNE 30, 1970

FERTILIZER AND MUNITIONS DEVELOPMENT

Developmental production		
Cost of products distributed; note a		
Materials used		\$ 4,733,873
Direct manufacturing and shipping expense		13,615,813
Indirect manufacturing and shipping expense		2,564,511
Provisions for depreciation and depletion		1,842,528
Recoveries from byproducts and in-process materials		748,420*
In-process inventory changes		20,075
Finished inventory changes		883,801
Total cost of products distributed		<u>22,912,181</u>
General expenses		
Retirements of manufacturing plant and equipment		676,879
Other general expenses		
Administrative and general; schedule F	\$ 500,548	
Shipping order expense	168,103	
Provision for depreciation of idle manufacturing plant and equipment	166,586	
Other	90,815	
Total general expenses		<u>926,052</u>
Total production expense		<u>1,602,931</u>
		<u>24,515,112</u>
Less transfers and sales of products		
Transfers to TVA programs, at market prices		
Fertilizer industry demonstrations		14,877,723
Farm test demonstrations		422,603
Agricultural projects		453,595
Other		37,484
Total transfers		<u>15,791,405</u>
Direct sales		1,432,471
Total transfers and sales		<u>17,223,876</u>
Net expense of developmental production		<u>7,291,236</u>
Fertilizer introduction		
Fertilizer industry demonstrations		
Fertilizers used		14,877,723
Educational distribution expense	1,092,356	
Administrative and general expenses; schedule F	54,553	
		<u>1,146,909</u>
		<u>16,024,632</u>
Less industry payments for fertilizer; note b		<u>14,206,239</u>
		<u>1,818,393</u>
Farm test demonstrations outside the Valley		
Fertilizers used		422,603
Planning and supervision	480,108	
Administrative and general expenses; schedule F	28,712	
		<u>508,820</u>
		<u>931,423</u>
Less farmer payments for fertilizer		<u>252,815</u>
		<u>678,608</u>
Net expense of fertilizer introduction		<u>2,497,001</u>
Research and development		
Research and development of products and processes		
Applied research		812,523
Process engineering		1,131,958
General expenses		647,888
		<u>2,592,369</u>
*Deduct		

SCHEDULE D
Page 3

TENNESSEE VALLEY AUTHORITY
DETAILS OF NONPOWER NET EXPENSE
FOR THE YEAR ENDED JUNE 30, 1970

FERTILIZER AND MUNITIONS DEVELOPMENT - continued

Research and development - continued		
Research and development of processes for recovery of sulfur		\$ 185,621
Basic chemical and agronomic research		1,615,618
Provision for depreciation		81,685
Administrative and general expenses; schedule F		198,114
Total expense of research and development		<u>4,673,407</u>
Net expense of fertilizer and munitions development		<u>\$14,461,644</u>

GENERAL RESOURCES DEVELOPMENT

Agricultural projects		
Fertilizers used		
In specific tributary areas	\$119,744	
Outside specific tributary areas	<u>333,851</u>	\$ 453,595
Planning and supervision		
In specific tributary areas	261,769	
Outside specific tributary areas	<u>555,359</u>	817,128
		<u>1,270,723</u>
Less farmer payments for fertilizer		
In specific tributary areas	63,728	
Outside specific tributary areas	<u>187,651</u>	251,379
		<u>1,019,344</u>
Agribusiness development	63,471	
Preliminary investigations in tributary watersheds	39,710	
Program planning and analysis	51,841	
Research on forage fertilization and utilization	58,331	
Alleviation of rural poverty	29,445	
Tenure and land use adjustment	17,291	
Tennessee Valley rural life conferences	9,550	
Provision for depreciation	3,420	
Administrative and general expenses; schedule F	<u>53,596</u>	326,655
Net expense of agricultural projects		<u>1,345,999</u>
Forestry projects		
Use of Valley forests		410,726
Development of Valley forests		504,939
Investigation of forest influences		29,408
Provision for depreciation		13,348
Administrative and general expenses; schedule F		<u>36,360</u>
Total expense of forestry projects		<u>994,781</u>
Tributary area development		
Basic investigations		67,990
Development assistance in specific tributary areas		1,038,078
Development assistance outside specific tributary areas		41,285
Provision for depreciation		194
Multiple-use operating expenses; schedule E		134,338
Administrative and general expenses; schedule F		<u>80,374</u>
Total expense of tributary area development		<u>1,362,259</u>
Regional development planning		
Regional development planning		859,741
Administrative and general expenses; schedule F		<u>36,540</u>
Total expense of regional development planning		<u>896,281</u>
Demonstrations in education and manpower development		
Demonstrations in education and manpower development		722,090
Administrative and general expenses; schedule F		<u>7,655</u>
Total expense of demonstrations in education and manpower development		<u>729,745</u>

TENNESSEE VALLEY AUTHORITY
DETAILS OF NONPOWER NET EXPENSE
FOR THE YEAR ENDED JUNE 30, 1970

GENERAL RESOURCES DEVELOPMENT - continued

Minerals projects	
Mineral resources investigations	\$ 162,034
Administrative and general expenses; schedule F	5,741
Total expense of minerals projects	<u>167,775</u>
Environmental quality projects	
Reservoir shoreline cleanup	63,816
Regional air quality management	34,787
Strip mine reclamation	84,292
Research on disposal of solid wastes	20,907
Administrative and general expenses; schedule F	11,482
Total expense of environmental quality projects	<u>215,284</u>
Net expense of general resources development	<u>\$ 5,712,124</u>
LAND BETWEEN THE LAKES OPERATIONS	
Land between the lakes operations	\$ 1,142,750
Provision for depreciation	270,991
Administrative and general expenses; schedule F	35,403
Total expense of land between the lakes operations	<u>\$ 1,449,144</u>
TOPOGRAPHIC MAPPING	
Topographic mapping	\$ 385,853
Provision for depreciation	5,974
Administrative and general expenses; schedule F	13,044
Total expense of topographic mapping	<u>\$ 404,871</u>
OTHER EXPENSE OR INCOME*	
Emergency preparedness	\$ 7,063
Maintenance of bridges financed by others on TVA dams	55,901
Interest income from receivables	21,592*
Other expense, net	<u>\$ 41,372</u>
Net expense	<u>\$36,006,131</u>

Notes:

- a. In the discharge of its obligations under Section 5 of the TVA Act, TVA operates plants for the manufacture of products for agricultural and military purposes; conducts research and pilot plant development of new or improved processes for the production of new or existing fertilizers and munitions; and tests the fertilizers produced and demonstrates their effectiveness. Production is carried out on an experimental basis, and costs are consequently affected by the developmental nature of the manufacturing operations.

Research on products and processes is not scaled to TVA's production operations. Its scope is determined by opportunities to render service in the public interest; findings are made available to the public through technical publications, answers to correspondence, and discussions with technical visitors to the laboratories and plants. For these reasons, the cost of such research is accounted for under a separate program rather than as a part of production operations.

- b. Sales of fertilizer materials are not on a commercial basis, but are made to organizations collaborating in an educational program aimed at improving the manufacture, distribution, and use of fertilizers.

SCHEDULE E

TENNESSEE VALLEY AUTHORITY
OPERATING EXPENSES OF MULTIPLE-USE FACILITIES
FOR THE YEAR ENDED JUNE 30, 1970

	<u>Total</u>	<u>Distributed to</u>			
		<u>Power operations</u>	<u>Navigation operations</u>	<u>Flood control operations</u>	<u>Tributary area development</u>
Common to power, navigation, and flood control					
Operation					
Water dispatching	\$ 1,130,122				
Water control investigations	125,898				
Investigations and control of reservoir ecology	1,153,577				
Plant protection and services to visitors	1,364,319				
Operation and upkeep of dam reservations	888,492				
Reservoir land management	1,083,160				
Other expense	86,396				
Total operation	5,831,964	\$2,332,786	\$1,749,589	\$1,749,589	\$ -
Administrative and general expenses; schedule F	387,767	155,107	116,330	116,330	-
Maintenance	752,404	310,708	215,864	225,832	-
Provision for depreciation	3,044,645	1,228,759	939,960	875,926	-
Total common to power, navigation, and flood control	10,016,780	4,027,360	3,021,743	2,967,677	-
Other projects					
Beech River water control system					
Operation	96,580	-	-	48,290	48,290
Maintenance	4,325	-	-	1,081	3,244
Provision for depreciation	35,417	-	-	8,855	26,562
Total	136,322	-	-	58,226	78,096
Bear Creek water control system					
Operation	49,452	-	-	24,726	24,726
Maintenance	8,526	-	-	3,837	4,689
Provision for depreciation	40,299	-	-	18,134	22,165
Total	98,277	-	-	46,697	51,580
Administrative and general expenses; schedule F	9,323	-	-	4,661	4,662
Total other projects	243,922	-	-	109,584	134,338
Total	\$10,260,702	\$4,027,360	\$3,021,743	\$3,077,261	\$134,338
Total expenses					
Operation	\$ 5,977,996	\$2,332,786	\$1,749,589	\$1,822,605	\$ 73,016
Administrative and general	397,090	155,107	116,330	120,991	4,662
Maintenance	765,255	310,708	215,864	230,750	7,933
Depreciation	3,120,361	1,228,759	939,960	902,915	48,727
Total	\$10,260,702	\$4,027,360	\$3,021,743	\$3,077,261	\$134,338

SCHEDULE F

TENNESSEE VALLEY AUTHORITY
ADMINISTRATIVE AND GENERAL EXPENSES
FOR THE YEAR ENDED JUNE 30, 1970

Expenses	
Board of directors	\$ 228,905
Office of the general manager	267,482
Budget staff	272,546
Washington office	77,199
Information office, including technical library service	693,102
Division of personnel	2,179,443
Division of finance	2,724,054
Division of law	788,695
Division of property and supply	1,375,561
Medical and safety services	1,020,352
Other administrative and general	89,997
Total	<u>\$9,717,336</u>

	<u>Amount</u>	<u>Percent of total</u>
Distribution		
Construction	\$4,170,261	42.92
Recovered through services billed to others at cost	147,021	1.51
Expense of programs		
Power	3,727,894	38.36
Water resources development		
Navigation	71,763	.74
Flood control	31,576	.32
Regional water quality management	34,447	.35
Fish and wildlife development	15,310	.16
Surveys and general studies for river development	36,888	.38
Recreation projects	22,964	.24
Multiple-use operations		
Common to power, navigation, and flood control	387,767	3.99
Other projects	9,323	.10
Fertilizer and munitions development		
Developmental production	500,548	5.15
Fertilizer industry demonstrations	54,553	.56
Farm test demonstrations	28,712	.30
Research and development	198,114	2.04
General resources development		
Agricultural projects	53,596	.55
Forestry projects	36,360	.37
Tributary area development	80,374	.83
Regional development planning	36,540	.38
Demonstrations in education and manpower development	7,655	.08
Minerals projects	5,741	.06
Environmental quality projects	11,482	.12
Land between the lakes operations	35,403	.36
Topographic mapping	13,044	.13
Total	<u>\$9,717,336</u>	<u>100.00</u>

APPENDIX

RETIREMENT SYSTEM OF THE TENNESSEE VALLEY AUTHORITY

The TVA retirement system was established in 1939 to provide a program of retirement, disability, and death benefits financed jointly by contributions of TVA and of its salaried employees. Administration of the system is vested in its own Board of Directors, and its funds are held and invested by two trustees. Of the seven members of the Board of Directors, three are appointed by TVA, three are elected by the participants, and the seventh is chosen by these six directors.

The operation of the retirement system is regarded as a Federal function in general and as a TVA function in particular. As authorized in section 301(b) of the Government Corporation Control Act (31 U.S.C. 866(b)) the General Accounting Office contracted with a firm of certified public accountants to make the audit of the system. Following are the balance sheet of the system at June 30, 1970, and the related statements of change in fund balances for the year then ended with respect to the Fixed Benefit, the Variable Annuity, the Supplement to Medicare Premium Reserve, and the Voluntary Retirement Savings and Investment Plan Funds, together with the auditors' opinion.

LYBRAND, ROSS BROS. & MONTGOMERY
CERTIFIED PUBLIC ACCOUNTANTS

COOPERS & LYBRAND
IN PRINCIPAL AREAS
OF THE WORLD

To the Comptroller General of the United States,
Washington, D. C.:

We have examined the balance sheet of the RETIREMENT SYSTEM of the TENNESSEE VALLEY AUTHORITY as of June 30, 1970 and the related statement of changes in fund balances for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included confirmations from the trustees and custodians of cash and investments held as of June 30, 1970 and such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of the Retirement System of the Tennessee Valley Authority at June 30, 1970, and the changes in fund balances for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Lybrand, Ross Bros. & Montgomery

New York, October 8, 1970.

RETIREMENT SYSTEM of the TENNESSEE VALLEY AUTHORITY
BALANCE SHEET, June 30, 1970

ASSETS:	<u>Fixed Benefit Fund</u>
Investments:	
Securities:	
Bonds and notes (details annexed):	
At amortized cost (current redemption values or market quotations, \$67,393,183)	\$ 91,016,350
At market (cost, \$2,966,000)	
Real estate mortgages (details annexed)	3,156,411
Preferred stocks (details annexed):	
At cost (market quotations, \$1,127,625)	2,198,483
At market (cost, \$708,885)	
Common stocks (details annexed):	
At cost (market quotations, \$133,765,461)	124,006,093
At market (cost, \$37,507,559)	
United States Government obligations, at cost (approximates market)	
	<u>220,377,337</u>
Fund shares:	
148,212 shares, at market, \$18.13 per share (cost, \$4,102,953)	
61,745 shares, at market, \$8.31 per share (cost, \$659,859)	
	<u>220,377,337</u>
Properties acquired under buy and leaseback agreements, at cost, less amortization of \$542,044	1,928,136
Real property:	
Land, at cost	627,000
Buildings, at cost, less allowance for depreciation of \$168,304	901,446
	<u>223,833,919</u>
Cash:	
Treasurer's fund	13,824
Trustee	317,624
Receivables:	
Contributions	677,984
Dividends, accrued interest, etc.	1,389,190
Securities sold	162,675
	<u>\$226,395,216</u>
LIABILITIES and FUNDS:	
Payables:	
Securities purchased	\$ 154,500
Other	186,231
Fund balances (statement annexed)	<u>226,054,485</u>
	<u>\$226,395,216</u>

The accompanying note is an integral part of these financial statements.

<u>Variable Annuity Fund</u>	<u>Voluntary Retirement Savings and Investment Plan</u>		<u>Supplement to Medicare - Premium Reserve Fund (Note)</u>
	<u>Fidelity Trend Fund</u>	<u>Puritan Fund</u>	
\$ 2,644,500			
485,450			
30,811,507			
<hr/>			<u>\$70,173</u>
33,941,457			70,173
	\$2,687,082		
<hr/>	<hr/>	<u>\$513,104</u>	<hr/>
33,941,457	2,687,082	513,104	70,173
<hr/>	<hr/>	<hr/>	<hr/>
33,941,457	2,687,082	513,104	70,173
22,942	78	51	
178,680			1,210
333,134	5	3	
66,176			1,147
<hr/>	<hr/>	<hr/>	<hr/>
<u>\$34,542,389</u>	<u>\$2,687,165</u>	<u>\$513,158</u>	<u>\$72,530</u>
\$ 270,187	\$ 98	\$ 100	
<u>34,272,202</u>	<u>2,687,067</u>	<u>513,058</u>	<u>\$72,530</u>
<u>\$34,542,389</u>	<u>\$2,687,165</u>	<u>\$513,158</u>	<u>\$72,530</u>

RETIREMENT SYSTEM of the TENNESSEE VALLEY AUTHORITY
INVESTMENTS in SECURITIES
June 30, 1970

FIXED BENEFIT FUND (at cost or amortized cost):			
Bonds and notes:			
Principal amount:			
Utility	\$22,885,000		
Industrial	26,130,765		
Financial	15,977,421		
Foreign	11,556,000		
Railroad	3,531,583		
Unamortized (discounts) and premiums, net		<u>(1,635,419)</u>	
	78,445,350		
Commercial paper	<u>12,571,000</u>	\$	91,016,350
Real estate mortgages:			
Veterans Administration	540,279		
Federal Housing Administration	546,706		
Commingled	1,550,035		
Other	<u>519,391</u>		3,156,411
Preferred stocks:			
Industrial			2,198,483
Common stocks:			
Industrial	88,408,090		
Utility	16,969,645		
Commingled	13,800,000		
Other	<u>4,828,358</u>		<u>124,006,093</u>
			<u>\$220,377,337</u>
VARIABLE ANNUITY FUND (at market):			
Bonds and notes:			
Industrial	1,078,500		
Financial	<u>1,566,000</u>	\$	2,644,500
Preferred stocks:			
Industrial			485,450
Common stocks:			
Industrial	29,502,497		
Utility	766,875		
Other	<u>542,135</u>		<u>30,811,507</u>
		\$	<u>33,941,457</u>

RETIREMENT SYSTEM of the TENNESSEE VALLEY AUTHORITY
STATEMENT of CHANGES in FUND BALANCES
for the year ended June 30, 1970

	Fixed Benefit Fund	
	Total	Annuity Savings Account
Contributions:		
Members	\$ 2,978,917	\$ 2,978,917
Tennessee Valley Authority	12,355,380	
Premiums retained		
Investment income:		
Interest	5,576,002	
Dividends	3,464,678	
Rents (less depreciation and amortization of \$93,651)	178,650	
Net realized gains (losses) on sales of investments	(1,419,599)	
Capital gains distribution		
Net unrealized appreciation (depreciation) of investments		
	23,134,028	2,978,917
Transfers:		
Interest		1,647,095
Accumulations	(2,063,693)	(4,490,917)
	\$ 21,070,335	\$ 135,095
Administrative expenses	\$ 470,964	
Withdrawals	358,022	\$ 353,520
Death benefits	1,032,508	186,716
Retirement benefits	6,029,655	
	\$ 7,891,149	\$ 540,236
Net increase (decrease)	\$ 13,179,186	(\$ 405,141)
Balances, June 30, 1969	212,875,299	42,396,913
Balances, June 30, 1970	\$226,054,485	\$41,991,772

The accompanying note is an integral part of these financial statements.

<u>Fixed Benefit Fund</u>		<u>Variable Annuity Fund</u>	<u>Voluntary Retirement Savings and Investment Plan</u>		<u>Supplement to Medicare Premium Reserve Fund (Note)</u>
<u>Pension Accumulation Account</u>	<u>Investment Reserve Account</u>		<u>Fidelity Trend Fund</u>	<u>Puritan Fund</u>	
		\$ 4,125,606	\$1,103,063	\$238,735	
\$ 12,355,380					\$71,897
5,576,002		288,239			633
3,464,678		658,677	71,784	22,897	
178,650					
560,523	(\$1,980,122)	(5,932,161)	98,600	14,302	
<u>22,135,233</u>	<u>(1,980,122)</u>	<u>(7,138,319)</u> <u>(7,997,958)</u>	<u>(1,039,178)</u> 234,269	<u>(125,586)</u> 150,348	<u>72,530</u>
(1,967,062)	319,967				
<u>2,427,224</u>		<u>2,063,693</u>	<u>(4,995)</u>	<u>4,995</u>	
<u>\$ 22,595,395</u>	<u>(\$1,660,155)</u>	<u>(\$ 5,934,265)</u>	<u>\$ 229,274</u>	<u>\$155,343</u>	<u>\$72,530</u>
\$ 470,964					
4,502		\$ 370,249	\$ 251,383	\$ 48,352	
845,792					
<u>6,029,655</u>		<u>299,092</u>			
<u>\$ 7,350,913</u>		<u>\$ 669,341</u>	<u>\$ 251,383</u>	<u>\$ 48,352</u>	
\$ 15,244,482	(\$1,660,155)	(\$ 6,603,606)	(\$ 22,109)	\$106,991	\$72,530
<u>161,598,284</u>	<u>8,880,102</u>	<u>40,875,808</u>	<u>2,709,176</u>	<u>406,067</u>	
<u>\$176,842,766</u>	<u>\$7,219,947</u>	<u>\$34,272,202</u>	<u>\$2,687,067</u>	<u>\$513,058</u>	<u>\$72,530</u>

NOTE to FINANCIAL STATEMENTS

During the year ended June 30, 1970, the Board of Directors approved an amendment, retroactive to July 1, 1966, to the "Supplement to Medicare" contract between the Retirement System of the Tennessee Valley Authority ("Retirement System") and Blue Cross - Blue Shield of Tennessee ("BCBST"). Under this amendment, if there is or will be an excess of funds over that considered necessary by BCBST to maintain adequate reserves under the contract, then monthly premiums (deducted from subscribers) may be retained by the Retirement System until it again becomes necessary to remit premiums to BCBST. Any such premiums retained are to be separately accounted for by Retirement System until the Board of Directors determines how they shall be used for additional benefits for subscribers, to reduce future increases in premium rates, to reduce existing premium rates or any combination thereof. For the year ended June 30, 1970, premiums retained by Retirement System under the contract amounted to \$71,897. Subsequent thereto, premiums totaling \$12,682 for the month of August, 1970 were not deducted from subscribers and that amount was paid from this fund to BCBST.