



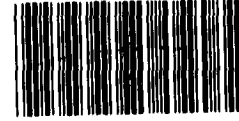
UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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ENERGY AND MINERALS
DIVISION

JANUARY 14, 1980

B-197332



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The Honorable James R. Sasser
United States Senate

Dear Senator Sasser:

AGC00108 AGC00024

Subject: [TVA's Clean Air Settlement with EPA]
(EMD-80-49)

On December 5, 1979, we briefed your staff on the Tennessee Valley Authority's (TVA's) clean air settlement with the Environmental Protection Agency (EPA). In that briefing your staff asked us to explain information pertaining to

- our \$6 billion estimate for the total cost of the Consent Decree,
- the \$19 million already spent on the Cumberland steam plant, and
- the amount of money obligated to carry out the capital cost of the clean air agreement.

\$6 BILLION ESTIMATE

The \$6.063 billion (see table 1) represents our estimate of the total cost of all Consent Decree compliance costs in 1982 present value dollars. These costs are a result of the clean air initiatives that TVA agreed to undertake in order to comply with EPA's clean air standards. They represent the total individual costs of compliance for 10 steam plants through their expected life computed from 1982 forward.

The capital costs were computed by using TVA's latest estimate of total capital outlay for scrubbers, electrostatic precipitators and coal washing facilities as of 1982 (see table 2). These costs represent about 14 percent of the \$6.063 billion.

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Table 1

GAO's Estimate Of
Total Cost Of Consent Decree
Over Life Of Projects
Present Worth - 1982 Dollars

<u>Plant</u>	<u>Compliance Method</u>	<u>Millions</u>
Allen	Medium Sulfur Coal	\$ 115.72
Colbert	Medium Sulfur Coal	226.47
Cumberland	Coal Washing Electrostatic Precipitators	785.62
Gallatin	Medium Sulfur Coal Electrostatic Precipitators	179.85
Johnsonville	Medium Sulfur Coal	472.14
Kingston	Low Sulfur Coal	429.32
Paradise Unit 3	Coal Washing and Partial Scrubbing Electrostatic Precipitators	1,584.02
Shawnee	Low Sulfur Coal, Baghouses	1,181.28
Watts Bar	Medium Sulfur Coal	
Widows Creek Units 1-6	Low Sulfur Coal	240.45
Units 7-8	Scrubbing and Medium Sulfur Coal	<u>848.55</u>
Total		<u>a/b/\$6,063.43</u>

a/The \$6.063 billion represents about 21 percent of the total capital and operating cost of the 10 plants mentioned in the Consent Decree (present value, 1982 dollars).

b/The \$6.063 billion is comprised of (1) \$862 million or 14 percent in capital costs which does include Widows Creek Unit 8 scrubber cost of \$54 million, (2) \$1.82 billion in operating and maintenance costs or 30 percent, and (3) \$3,380 billion in incremental fuel costs or 56 percent.

Table 2

TVA's Current Estimate
Of Capital Cost Of
Consent Decree Facilities

<u>Plant</u>	<u>Compliance Method</u>	<u>Millions</u>
Allen	Medium Sulfur Coal	\$ -
Colbert	Medium Sulfur Coal	-
Cumberland	Coal Washing Electrostatic Precipitators	184
Gallatin	Medium Sulfur Coal Electrostatic Precipitators	37
Johnsonville	Medium Sulfur Coal and Scrubbers	162
Kingston	Low Sulfur Coal	
Paradise Unit #3	Coal Washing and Partial Scrubbing Electrostatic Precipitators	299
Shawnee	Low Sulfur Coal, Baghouses	76
Watts Bar	Medium Sulfur Coal	-
Widows Creek Units 1-6	Low Sulfur Coal	
Units 7-8	Scrubbing and Medium Sulfur Coal	<u>a/48</u>
 Total		 <u>\$ 806</u>

a/Widows Creek Unit 8 scrubber cost \$54 million and is excluded because they were built prior to the Consent Decree. However, TVA recognizes Unit 8's annual costs in the Consent Decree annual cost.

About 56 percent of the \$6.063 billion represents the additional money TVA will spend for the higher quality coal needed to reduce the emission of pollutants at the individual steam plants. This was computed by factoring the incremental fuel cost per million British thermal units (Btu's) in cents for each facility, times the total estimated burn requirement in Btu's over the remaining individual plant life from 1982.

The operating and maintenance costs were computed by multiplying the individual estimated operating and maintenance costs for 1982 times the remaining years life for each plant. These individual costs were then totaled to summarize the operating and maintenance costs. This total represents about 30 percent of the \$6.063 billion.

\$19 MILLION/CUMBERLAND'S INVESTMENT

In July of 1979, TVA announced it had discovered errors in the air quality dispersion model that had formed the basis for the decision to install scrubbers at Cumberland steam plant. As a result, the scrubbers were not necessary and the project was cancelled.

In designing the Cumberland precipitators, TVA made provisions for the installation of air pollution control equipment, such as scrubbers. These provisions included more switch gears, additional ductwork, and more excavation. Without these steps to leave space for additional control equipment the future installation of the scrubbers would have been unfeasible from an engineering standpoint.

When the scrubber project was cancelled, TVA reanalyzed the precipitator project to determine if any cost savings could be realized. The analysis showed that almost \$19 million had already been invested at Cumberland. According to TVA, redesign of the project without scrubbers would result in an increase in the project cost as well as a delay in the completion of the precipitators. Therefore, as the situation presently exists, this \$19 million capital outlay is unrecoverable. However, it must be pointed out that TVA does anticipate the future installation of scrubbers at the Cumberland plant to accommodate future industrial growth.

Table 3

Consent Decree
Air Quality Status
As Of 11-20-79

<u>Project</u>	<u>Construction Complete)</u> (percent)	Cost Of Obligation				Percent of total est. (3)÷(4) (5)
		<u>Procurement obligated by contract</u> (1)	<u>OEDC expd'd other</u> (2)	<u>Total of (1) & (2)</u> (3)	<u>Total cost est.</u> (4)	
						(millions)
Gallatin	100	\$ 30	\$ 4	\$ 34	\$ 37	92
Paradise #3 ESP	75	24	2	26	28	93
Paradise Coal Wash and Handling	30	60	16	76	123	62
9 Paradise 1-2 Scrubbers	4	108	1	109	148	74
Widows Creek & Scrubber	25	32	2	34	48	71
Shawnee 1-10 Baghouses	35	58	3	61	76	80
Cumberland 1-2 ESP	10	65	7	72	a/ b/131	55
Johnsonville 1-10 Scrubbers	7	<u>20</u>	<u>6</u>	<u>26</u>	<u>162</u>	16
Total		\$ <u>397</u>	\$ <u>41</u>	\$ <u>438</u>	\$ <u>753</u>	<u>58</u>

a/ Includes \$19 million for provisions for scrubbers even though scrubbers will not be built at this time.

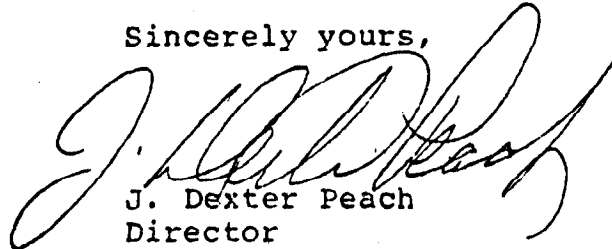
b/ Excludes the cost of the coal washing plant under construction at an estimated cost of about \$53 million.

PERCENTAGE OF CAPITAL COST WORK COMPLETE

Even though the agreement is still being litigated, TVA believes it must move ahead with actions to comply with the agreement or face penalties and fines. As a result, TVA has obligated 58 percent of the capital cost estimates for the clean air agreement (see table 3). The 58 percent represents the amount of the contracts entered into on the projects plus the overhead for design and construction experienced by the TVA Office of Engineering Design and Construction.

In effect, over half the moneys required to be obligated due to the Consent Decree will be spent even if the case is won. We trust this material answers your questions concerning the TVA-EPA clean air settlement. If we can be of any further assistance, please let us know.

Sincerely yours,

A large, stylized handwritten signature in black ink, appearing to read 'J. Dexter Peach', is written over the typed name and title.

J. Dexter Peach
Director