

PREPARED TESTIMONY

CHESTER G. SULLIVANT

Office of Accounting  
Missouri Public Service Commission

UNION ELECTRIC COMPANY  
Case Number ER 77-154

Q. Please state your name.

A. Chester G. Sullivan

Q. What is your address?

A. My business address is 100 East Capitol Avenue,  
Jefferson City, Missouri.

Q. What is your present occupation?

A. I am Chief Accountant of the Missouri Public Service  
Commission.

Q. Mr. Sullivan, Item No. 14 contained in the joint hearing  
memorandum relates to a proposed adjustment to amortize costs incurred  
over a 5 year period related to the cancellation of Rush Island coal-fired  
generation units 3 and 4. Would you please explain the staff's position  
on this matter?

A. Yes, sir. I will attempt to do this in 2 stages. Stage 1  
will contain the presentation of the basic facts and circumstances surround-  
ing this cancellation as I understand them. Stage 2 will contain the staff  
inferences and conclusions drawn from the facts and circumstances described  
in Stage 1.

Staff Exhibit No. 6  
Date 10/25/77 Case No. ER-77-154  
Reporter O. Bealman

Stage 1 - Presentation of Basic Facts and Circumstances:

Union Electric's original forecasts and budgets for 1972 and prior years included alternative plans which indicated that approximately 1200 MW of capacity would be needed during the period 1978-1980. The first alternative plan called for 1200 MW of oil-fired peaking capacity and the second alternative plan called for 1200 MW of coal-fired base generation at Rush Island units 3 and 4. Alternative 1 was the favored plan at that time.

In late 1973 the oil embargo began which not only created serious shortages, but raised doubts as to the future availability of oil to fire peaking plants as contemplated. In addition, a decision on the coal-fired Rush Island plants had to be made almost immediately if the company was to meet their 1979 and 1980 on line deadlines. Due to these conditions the Combustion Turbine peaking units plan was abandoned in favor of the Rush Island units 3 and 4 plan and preliminary work was started in 1974.

In the spring of 1974 the oil embargo ended and supplies of fuels began to return to normal at, however, significantly higher prices. By the end of the year, the thinking on the availability of fuels had changed once more with due recognition given to price implications. In late 1974, Union Electric decided to once again examine the economic feasibility of peaking plants. This decision relates to the fact that peaking plants are generally run for relatively short times during the year with higher fuel costs, but require significantly less capital investment as well as generally lower operating costs exclusive of fuel.

*Exhibit 12 Staff Exhibit 6*  
In this regard, see ~~Staff Exhibit 6~~, which incorporates the results of the Union Electric operational studies based on the projected 1980 year with Staff's computed cost of capital differences based on a 9% rate of return and income tax computed thereon.

*Schedule 12. Toff Exhibit 6*

As you can see from examination of ~~Exhibit 12~~, the fuel costs for the oil fired combustion turbine is higher, the other operating costs are lower, and the overall effect of the significant capital differences makes the oil fired combustion turbine costs significantly more attractive at least from a cost standpoint.

In questioning the Company relating to factors which prompted the change, the following reasons were given:

(1) Delays in on-site construction of Rush Island's coal fire units 1 and 2 representing the trend which was expected to be followed, should units 3 and 4 be *Continued* ~~continued~~

(2) Rapidly increasing price of coal.

(3) Environmental regulations applicable to coal-fired plants.

(4) The substantially greater capital investment required for coal-fired units as compared to combustion turbines.

(5) The difficulties of raising capital as well as high capital costs associated therewith.

(6) The fact that service adequacy in terms of reserve generation margins will not be influenced by the substitution of combustion turbine capacity in that total generating capacity additions in megawatts have not changed. (1200 MW whether peaking or based-fired)

(7) The flexibility afforded by the combustion turbines in meeting changing load conditions, that is; the combustion turbines being planned, provide the advantage of much shorter lead times for installation compared to large coal-fired or nuclear units with longer lead times. This permits the opportunity to adjust planned generation additions should load growths vary substantially from those currently being forecast. The company and I both believe this to be an important consideration in view of the current economic condition and the uncertainties of future developments which can influence electrical energy requirements.

(8) It is my understanding that the F.P.C., the State of Illinois and the State of Iowa have all accepted similar proposals to amortize cancellation costs incurred on Rush Island units 3 and 4, as extraordinary property losses over 5 year periods.

(9) While the Missouri Public Service Commission has not ruled upon the proposed treatment in the context of a rate case, they have been previously made aware of the accounting therefor, and the staff's views on the subject.

Stage 2 - Conclusions Drawn from the Facts and Circumstances:

Based on the facts as previously elaborated upon, it is my opinion that Union Electric has attempted to make the most economically feasible decision under the circumstances, which should not only benefit them, but should hold rates down for the consumers. The primary reduction relates to the significant reduction in plant investment (400 to 525 million) which, of course, lowers rate base and correspondingly rates derived therefrom. In addition, the company, in accepting this procedure, is foregoing the collection of cost of capital associated with the cancellation costs expended, and are recovering over a period of 5 years, only the costs expended without any return thereon.

It is therefore my opinion that the proposed adjustment, amortizing Rush Island cancellation costs (net) over a 5 year period, is the most proper and equitable solution which can be derived under the circumstances.

**UNION ELECTRIC COMPANY**  
Case No. EB-77-154

Schedule of Estimated Cost Savings Based on December 1974 Budget Projections Related to the use of Combustion Turbines Rather than Rush Island #3 and #4 Coal Fired Units in the 1980 Year

Dec. 15, 1974 U.E. Estimated Cost Comparisons	Estimated Date of Completion	Capital and/or Construction Cost (000 United)	Total System Fuel Costs Based on 1980 Year Costs (000 United)	Total Estimated Operating Costs 1980 Year (000 United)	Actual Cancellation Costs (Net) (000 United)	Estimated Total Operating Costs Based on Minimum Capital Differences (000 United)	Total Estimated Operating Costs Based on Maximum Capital Differences (000 United)
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**Coal Fired**

Rush Island #3  
(600 MW)

1979 600,000 minimum  
1980 \*725,000 maximum

Includes coal  
for Rush Island  
#3 & 4 at approx.  
\$25 per ton  
248,246

316,483

316,483

\*Including Scrubbers  
cooling towers &  
additional en-  
vironmental re-  
quirements.

**Oil Fired**

Combustion Turbine  
30 MW units which  
can be installed  
as needed  
Total of 1200 MW

Includes Addn. oil  
for Combustion  
Turbine Units at  
Approx. 18.70 per  
BBL

336,452

336,452

Difference Including all Environmental Requirements	400,000	(21,398)	5,952	(4,523)	(19,969)	(19,969)
	*525,000					

Minimum Cost of Capital Differences  
9% x 400,000 x 21,398 Inc. Tax

Maximum Cost of Cap.  
9% x 525,000 x 27,825 Inc. Tax

Estimated Overall Cost Savings Due to Use  
of Combustion Turbines for 1980 Year.

57,200

75,075

\*Cancellation Costs (net) Composed of the following:  
5.9 million of expenditures related to preliminary work  
on Units 3 and 4 which includes engineering, testing,  
management services, survey, and some materials.  
3.0 million related to cancellation of construction and  
equipment contracts relating to Rush Island Units 3 & 4.  
8.9 Total Gross  
(4.4) Less Income Taxes  
4.5 Net Amt. to be Amortized

37,231	55,106
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APPENDIX B

ADDITIONAL INFORMATION  
FROM  
UNION ELECTRIC COMPANY

UNION ELECTRIC SYSTEM  
RUSH ISLAND UNITS 3 AND 4  
VS  
COMBUSTION TURBINES SUBSTITUTED THEREFOR

	<u>Including Unit 3</u>		<u>Including Substitute Combustion Turbines</u>	
	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>
<u>1979</u>				
Turbines	60	\$ 2,471	174	\$ 7,200
Unit 3	889	9,639	-	-
Other	<u>26,359</u>	<u>201,408</u>	<u>27,134</u>	<u>213,605</u>
Total	27,308	\$213,518	27,308	\$220,805

	<u>Including Units 3 and 4</u>		<u>Including Substitute Combustion Turbines</u>	
	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>
<u>1980</u>				
Turbines	94	\$ 4,090	662	\$ 28,601
Units 3 & 4	2,498	29,218	-	-
Other	<u>26,272</u>	<u>214,938</u>	<u>28,202</u>	<u>241,043</u>
Total	28,864	\$248,246	28,864	\$269,644

	<u>Including Units 3 and 4</u>		<u>Including Substitute Combustion Turbines</u>	
	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>
<u>1981</u>				
Turbines	27	\$ 1,241	406	\$ 18,605
Units 3 & 4	2,516	33,452	-	-
Callaway	2,344	5,791	2,389	5,902
Other	<u>25,738</u>	<u>220,415</u>	<u>27,830</u>	<u>249,839</u>
Total	30,625	\$260,899	30,625	\$274,346



<u>1982</u>	<u>Including Units 3 and 4</u>		<u>Including Substitute Combustion Turbines</u>	
	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>
Turbines	10	\$ 476	203	\$ 9,921
Units 3 & 4	2,424	35,612	-	-
Callaway	6,933	17,122	7,095	17,522
Other	<u>23,187</u>	<u>210,766</u>	<u>25,256</u>	<u>240,940</u>
Total	32,554	\$263,976	32,554	\$268,383

<u>1983</u>	<u>Including Units 3 and 4</u>		<u>Including Substitute Combustion Turbines</u>	
	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>
Turbines	6	\$ 301	81	\$ 4,159
Units 3 & 4	1,779	30,129	-	-
Callaway	12,437	30,722	12,812	31,648
Other	<u>20,449</u>	<u>198,475</u>	<u>21,778</u>	<u>213,407</u>
Total	34,671	\$259,627	34,671	\$249,214

<u>1984</u>	<u>Including Units 3 and 4</u>		<u>Including Substitute Combustion Turbines</u>	
	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>	<u>kWh Output (Millions)</u>	<u>Fuel Costs (Thousands)</u>
Turbines	-	\$ 8	93	\$ 5,018
Units 3 & 4	1,986	35,340	-	-
Callaway	13,490	33,319	13,837	34,175
Other	<u>21,483</u>	<u>222,022</u>	<u>23,029</u>	<u>242,257</u>
Total	36,959	\$290,689	36,959	\$281,450