

December 20, 1990

Mr. E.F. Farland, Manager  
Works Engineering  
Westinghouse Electric Corporation  
One Tuscarawas Road  
Beaver, PA 15009

SUBJECT: VANPORT TOWNSHIP MUNICIPAL AUTHORITY  
WESTINGHOUSE WELL FIELD POWER COSTS

Dear Mr. Farland:

I am writing on behalf of the Vanport Township Municipal Authority (VTMA) with respect to Westinghouse Invoice Nos. HF-30423 and HF-30425, charging VTMA electric costs for the operation of the clearwell pumps which were incorporated into the TCE removal facilities.

Invoice No. HF-30425, dated December 3, 1990, charges VTMA \$21,873.76 for operation of the clearwell pumps for the period February 1990 through July 1990. Invoice No. HF-30423, also dated December 3, 1990, covers the period August 1990 through October 1990 and is in the amount of \$12,382.24.

It is my understanding that the above invoice amounts were determined by multiplying the total of each of the Duquesne Light Company monthly power bills for the TCE facility by 66%, as VTMA's share of the power costs (due to the clearwell pumps). The rationale establishing 66% as VTMA's share of the electric bill was presented in your meeting of September 12, 1990 with VTMA representatives.

I reviewed your September 12, 1990 analysis; however, I feel it is reasonable only with respect to the distribution of costs associated with the "Energy Charge" component of the bill. Each electric bill includes two other components ("Customer Charge" and "Demand Charge") which I feel your analysis does not address.

Every metered service is assessed a monthly customer charge. VTMA already pays a monthly customer charge for their own well field facilities. Although the cost is nominal, it would be inappropriate for VTMA to pay any portion of the second customer charge. The existence of the second service is due strictly to the presence of your TCE facility.

Mr. E.F. Farland, Manager

Page 2

December 20, 1990

I reviewed VTMA's well field power bills prior to and following the start up of the TCE facility with regard to the demand charge component of the bill. The review indicated that the reduction in their billing demand was not equivalent to that in their energy consumption. Your analysis of September 12, 1990 is based on energy consumption (KWH). Therefore, a separate analysis is required to determine VTMA's share of the demand charge component of Westinghouse Corporation's power bill.

Attachment "A" to this letter reviews the same power bills included in your September 12, 1990 analysis, but with respect to billing demand as opposed to energy consumption (KWH). The attachment shows the billing demand (KW) for each monthly power bill. Please note that the power factor multiplier (PFM) for each VTMA power bill is 1.0.

The average monthly billing demand for VTMA's well field prior to start up of the TCE facility was 151 KW. Following start up of the TCE facility, VTMA's billing demand dropped to a monthly average of 77 KW, or an average reduction of 74 KW/month.

Attachment "A" also shows the billing demand data from the Westinghouse TCE facility power bills, including the power factor multiplier. VTMA's well field facilities exhibit a power factor of 1.0. Therefore, I have adjusted each of the monthly billing demand readings for the Westinghouse TCE facility to reflect the billing demand had the power factor multiplier been 1.0. It is my opinion that VTMA should not participate in the additional cost of billing demand charges due to a power factor multiplier greater than 1.0. Had capacitors been included in the Westinghouse design of the TCE facility, the power factor multiplier on the power bills for the Westinghouse TCE facility would not have exceeded 1.0.

The average billing demand (KW) for the Westinghouse TCE facility for the months under consideration, when adjusted to a power factor multiplier of 1.0, is 199. Multiplying 199 KW by 66% (VTMA share of Westinghouse TCE facility power bill per Westinghouse analysis of September 12, 1990) indicates that VTMA's average share of the monthly billing demand would be 131 KW, which exceeds the average reduction (74 KW) experienced by VTMA since the start up of the TCE facility.

Therefore, I propose that VTMA's share of the billing demand charges of the power bills for the Westinghouse TCE facility be limited to a percentage determined by dividing the average reduction in billing demand (74 KW) experienced by VTMA, by the average billing demand for the TCE facility (199 KW when adjusted to a power factor multiplier of 1.0), or 37.2%.

Mr. E.F. Farland, Manager  
Page 3  
December 20, 1990

Based on the above proposed distribution of charges, I have prepared Attachment "B" showing a breakdown of each Westinghouse TCE facility power bill to date. I have separated each bill into three components. Billing demand (KW) has been adjusted to a power factor multiplier equal to 1.0, and the billing demand charge has been recalculated accordingly. VTMA's share of each category is summarized as follows:

<u>WESTINGHOUSE TCE FACILITY POWER BILL COMPONENTS</u>	<u>VTMA SHARE (%)</u>
(1) Customer Charge	0
(2) Demand Charge (Adjusted to 1.0 PFM)	37.2
(3) Energy charge, less credits	66

Attachment "B" shows that the amount payable by VTMA to Westinghouse for the period February 7, 1990 to November 3, 1990 is as follows:

<u>POWER BILL COMPONENT</u>	<u>VTMA SHARE</u>
(1) Customer Charge	\$ 0.00
(2) Demand Charge	12,297.29
(3) Energy Charge	<u>13,541.86</u>
Total	\$25,839.15

Pennsylvania sales tax, shown on the power bills for the periods February 7 to March 8 and March 8 to April 6, is not included in the above amount due. VTMA is not charged sales tax on their power bills.

In summary, your invoices of December 3, 1990 charge VTMA a total of \$34,256 as its share of the power costs for the Westinghouse TCE facility for the period February 1990 through October 1990. I have reviewed the power bills for the period, as well as your analysis of September 12, 1990, and it is my opinion that VTMA has been overcharged on the basis of your analysis.

Mr. E.F. Farland, Manager  
Page 4  
December 20, 1990

On the basis of the rationale outlined in this letter, I am recommending that VTMA pay Westinghouse Electric Corp. a total of \$25,839.15 as its share of the power bill for the referenced period.

Very truly yours,



Dennis E. Graham, P.E.

DEG:dy/3384C

Enclosures

cc: Paul Lego, Westinghouse  
VTMA  
S.C. Holland, Esq.

ATTACHMENT "A"

Review of Billing Demand (KW)  
(Duquesne Light Co. Power Bills)

A. Vanport Township Municipal Authority

1. Prior to Operation of TCE facility

<u>Month/Yr.</u>	<u>Billing Demand (KW)</u>
9-88	143
10	151
11	151
12	156
1-89	155
2	157
3	157
4	158
5	156
6	151
7	150
8	152
9	152
10	152
11	143
12	135
1-90	140
2-90	154
Average	151

2. Following Start Up of TCE facility

<u>Month/Yr.</u>	<u>Billing Demand (KW)</u>
3-90	95
4	79
5	71
6	70
7	72
8	75
Average	77

ATTACHMENT "A" (CONT.)

Review of Billing Demand (KW)  
(Duquesne Light Co. Power Bills)

B. Westinghouse TCE Facility

<u>Month/Year</u>	<u>Billing Demand (Per Duquesne Light Bill)</u>	<u>PFM</u>	<u>Billing Demand (Adjusted to PFM = 1.0)</u>
3-90	237		
4	235	1.26	188
5	239	1.27	185
6	239	1.27	188
7	324	1.27	188
8	239	1.27	255
			188
		Average	199

**ATTACHMENT 'B'**  
**WESTINGHOUSE TCE FACILITY**  
**DUQUESNE LIGHT CO. POWER BILLS**

Service Period	Customer Charge	Billing Demand (Less 5 KW)	Power Factor Multiplier	Billing Demand Corrected For PFM = 1.0	VTMA Share of Billing Demand For PFM = 1.0 (37.2%)	VTMA Share of Demand Charge (PFM = 1.0)	Energy Charge Less Credits
2-7 to 3-8-90	\$8.31	237 KW	1.26	188 KW	70 KW	(1) 1104.10	2215.58
3-8 to 4-6-90	8.75	235	1.27	185	69	(2) 1133.67	2008.86
4-6 to 5-10-90	9.08	239	1.27	188	70	(3) 1299.20	2545.13
5-10 to 6-7-90	9.08	239	1.27	188	70	(3) 1299.20	2151.07
6-7 to 7-9-90	9.08	324	1.27	255	95	(3) 1763.20	2424.73
7-9 to 8-7-90	9.08	239	1.27	188	70	(3) 1299.20	2224.48
8-7 to 9-6-90	9.08	223	1.19	187	70	(3) 1299.20	2312.18
9-6 to 10-4-90	9.08	261	1.0	261	97	(3) 1800.32	2265.92
10-4 to 11-3-90	9.08	187	1.0	187	70	<u>(3) 1299.20</u>	<u>2370.02</u>
						VTMA SHARE (DEMAND CHARGES) =	\$12,297.29
						Total Energy Charges (Less Credits) =	\$20,517.97
						VTMA SHARE OF ENERGY CHARGES (66%) =	\$13,541.86

**Notes - Demand Charge**  
(1) \$16.43/KW @ 0.96 Month  
(2) \$16.43/KW @ 1.0 Month  
(3) \$18.56/KW @ 1.0 Month