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Attorney for the Guam Power Authority

BEFORE THE PUBLIC UTILITIES COMMISSION

IN THE MATTER OF	)	DOCKET NO. 02-04
	)	
GUAM POWER AUTHORITY	)	GPA's FILING OF ITS POSITION
LEVELIZED ENERGY ADJUSTMENT	)	REGARDING LINE LOSS STANDARDS
CLAUSE (LEAC)	)	
	)	

COMES NOW, GUAM POWER AUTHORITY and pursuant to the PUC Order in Docket No. 02-04 files its position regarding line loss standards for use in future LEAC proceedings, a copy of which is attached hereto as Exhibit "A". GPA advises the PUC that the necessary studies required to develop a long term line loss standard have not been completed, and therefore requests that the PUC continue with the interim line loss standard of 7% for an additional LEAC cycle, and that it be allowed to filed its position on long-term line loss standards by December 15, 2009, when it files the LEAC request for the February 2010 to July 2010 LEAC period.

RESPECTFULLY SUBMITTED this 14th day of January, 2009, by:

D. GRAHAM BOTHA, ESQ.
Guam Power Authority Legal Counsel

Guam Power Authority
Line Loss Position Filing with PUC

GPA was ordered by the PUC in PUC Docket No. 02-04, to file by January 15, 2009, its position regarding long-term line loss standards for use in future Levelized Energy Adjustment Clause proceedings (LEAC). The long-term standards were to be used starting with the August 2009 – January 2010 LEAC cycle.

GPA is advising the PUC that it was unable to complete its analyses of line loss standards and related matters. Thus, GPA does not have a position at this time relative to a recommendation for a long-term energy losses standard. GPA's analysis of transmission system losses is nearing completion, but the distribution system line loss study requires several more months. To hasten the progress on the distribution analysis, GPA has contracted a majority of the work to an engineering consultant, Power Engineers based in Boise, Idaho. Furthermore, GPA has not completed assessment of a survey issued in mid-2008 to twenty similar sized utilities requesting data related to energy loss standards and regulatory oversight of the standard (see Exhibit A). GPA plans to use the survey results to assist the PUC in determining what requirements of GPA are in line with other similar sized utilities.

In the meantime, GPA requests the Commission to approve an extension until December 15, 2009 for GPA to file its position on the long–term standard. Furthermore, GPA recommends extending an interim loss standard of 7% for another LEAC cycle until it files its recommendation for the permanent standard for the February 2010–July 2010 LEAC period.

In its review of the line loss standard, GPA examined the methodology used to determine monthly line loss levels. The evaluation of the accuracy of the current method of estimating energy losses is presented. In addition, GPA will describe a revision to the current method that improves the accuracy of energy loss estimation. GPA finds the current estimating method understates the loss levels; revised method of approximating loss levels are more than one percent higher than current estimates.

Line Loss Methodology:

The present method of calculating GPA line losses is described below (as used here the terms energy losses and line losses are synonymous although energy losses is more encompassing).

Table 1
LOSS CALCULATION

A	Gross Generation	148,452,445
B	Station Use	8,241,334
C	NET SEND OUT (A-B)	**140,211,111**
	GPA KWH Accountability:	
D	Station Use	8,241,334
E	Sales to Navy @34.5 kV	28,212,504
F	Sales to customers (accrual basis)	105,443,823
G	GPA use-KWH	249,391
H	TOTAL ACCOUNTABLE	**142,147,052**
I	UNACCOUNTED ENERGY LOSSES (A-H)	**6,305,393**
	Ratio of Unaccounted KWH:	
K	Ratio to Gross Generation (I/A)	4.25%
L	Ratio to Net Generation (I/C)	**4.50%**

Table 1 shows a typical monthly report of gross generation, kWh sales, and energy losses. GPA currently estimates kWh sales to use in projecting monthly revenue. GPA calculates its monthly energy losses by subtracting Monthly Accrued Civilian and Navy kWh sales and GPA use from kWh Monthly Net Generation (the total power plant generation less the energy consumed by the plants). The net kWh send out is from meter readings taken daily at midnight and tallied at the last day of the month at the various power plants. The accrued kWh sales is the total of the meter readings taken during the month plus the accrual of the remaining unread or unbilled days of the month less the prior month's accrual.

Deficiency in the Methodology:

The estimated monthly kWh consumption is based partly on days included in the meter reading and for the remaining days of the month, kWh consumption is extrapolated using the same average daily kWh consumption. For revenue accounting purposes and reporting time constraints, the use of such estimates is valid and has proven satisfactory even with the inaccuracies inherent in extrapolation methods. As will be shown, the use of this kWh consumption estimate for determining energy losses is inadequate and results in inconsistent and unreasonable loss values.

The accurate method of calculating monthly energy losses is to take the Net Generation kWh and subtract the Civilian and Navy kWh consumed during the same time period. However, to obtain the Civilian and Navy kWh consumed over the same time period as the Net Generation kWh would require simultaneous reading of over 44,000 meters, a

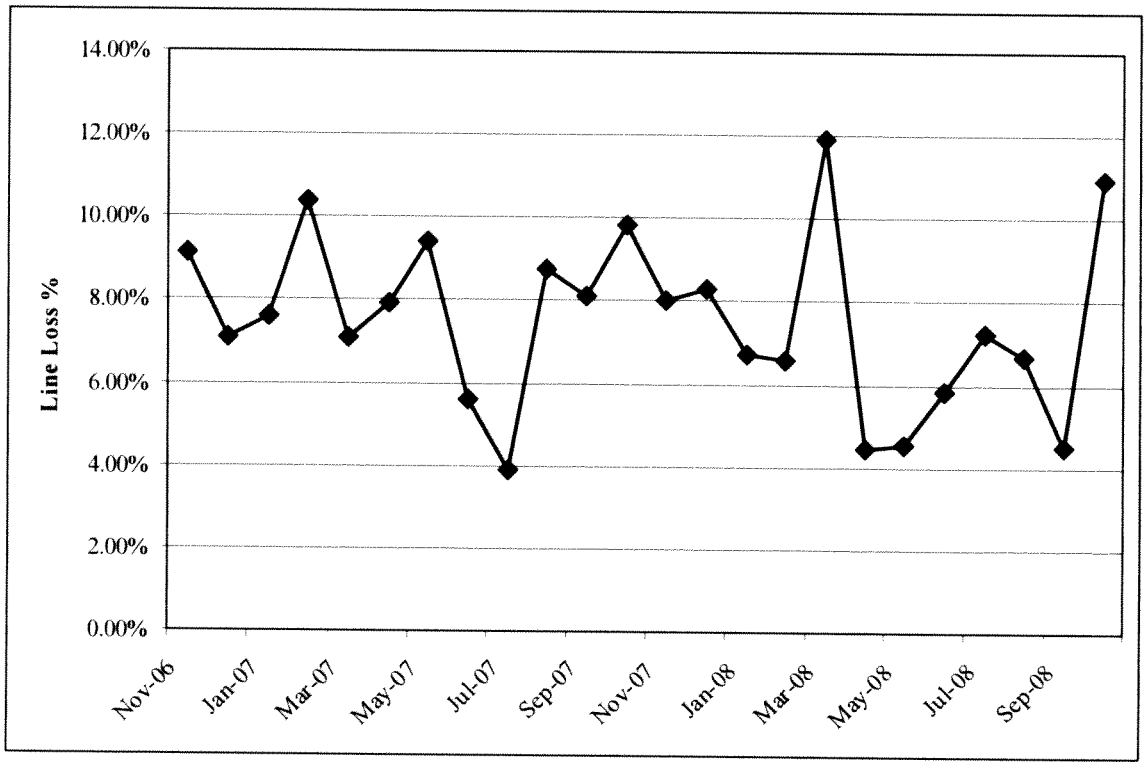
technology and process that GPA does not have now, nor do most utilities for that matter. Thus, because the difference between Net Generation kWh and monthly kWh consumption is based on estimated data, there is still inaccuracy inherent in the energy losses calculation method. And this also applies to the revised methodology.

The inadequacy with the current energy loss calculation is in the use of extrapolation to estimate net kWh consumption for the period not captured by the meter reading. The differences in Net Generation kWh from month to month can be significant and result in either overstating or understating the daily average kWh consumption for the extrapolated periods. A review of Table 2 shows some of the inconsistent results. Examination of the loss percentages for the months of February thru June 2008 shows monthly % loss variations greater than 5%, from 6.59% to 11.91% then to 4.44%. Energy losses do not exhibit such behavior from month to month. For the same period, there were three months where % losses were at least 1% below the interim loss standard of 7%. Again, these are not credible results, notwithstanding GPA's excellent efforts to correct metering and billing errors.

Table 2
DATA FROM CURRENT LOSS CALCULATION METHOD

		Monthly Loss Ratio	Unaccounted for Energy
1	November-06	9.15%	13,407,806
2	December-06	7.11%	10,741,707
3	January-07	7.58%	10,979,521
4	February-07	10.40%	13,654,366
5	March-07	7.07%	10,016,380
6	April-07	7.94%	11,885,381
7	May-07	9.39%	14,519,461
8	June-07	5.63%	8,729,251
9	July-07	3.89%	6,012,265
10	August-07	8.78%	13,072,263
11	September-07	8.10%	11,632,925
12	October-07	9.81%	14,679,459
13	November-07	8.01%	11,749,201
14	December-07	8.28%	12,704,820
15	January-08	6.73%	10,047,718
16	February-08	6.59%	8,878,876
17	March-08	11.91%	17,580,121
18	April-08	4.44%	6,685,659
19	May-08	4.55%	6,980,808
20	June-08	5.86%	8,454,439
21	July-08	7.23%	10,525,317
22	August-08	6.68%	9,955,002
23	September-08	4.50%	6,305,393
24	October-08	10.92%	16,351,642

Figure 1
GRAPH OF LOSS RATIOS USING CURRENT CALCULATION METHOD



To improve the accuracy of the energy losses estimates, GPA recommends estimating kWh consumption based on meter readings, and not from the extrapolation. GPA will use the calculated average daily consumption from the following month to estimate the kWh consumption for the period extrapolated for the prior month's revenue projections. The monthly kWh consumption estimate is now based on two sets of meter readings instead of one meter reading set and an extrapolation. This is where the improvement lies. Incorporating metered data to cover all the days in the same period as that by the Net Generation kWh increases the accuracy of the energy loss estimate.

Table 3 contrasts the differences in results of losses in kWh and in % of net generation between the two calculation methods.

Table 3
COMPARISON OF LOSS DATA
CURRENT VS. NEW METHOD

		Net Generation	CURRENT Ratio to Net Generation	NEW METHOD Ratio to Net Generation	CURRENT Unaccounted for Energy	NEW METHOD Unaccounted to Energy
1	November-06	146,548,029	9.15%	9.48%	13,407,806	13,885,443
2	December-06	151,119,188	7.11%	12.00%	10,741,707	18,141,253
3	January-07	144,776,648	7.58%	12.51%	10,979,521	18,118,664
4	February-07	131,235,725	10.40%	10.33%	13,654,366	13,552,486

		Net Generation	CURRENT Ratio to Net Generation	NEW METHOD Ratio to Net Generation	CURRENT Unaccounted for Energy	NEW METHOD Unaccounted to Energy
5	March-07	141,670,159	7.07%	8.85%	10,016,380	12,537,160
6	April-07	149,747,560	7.94%	12.84%	11,885,381	19,223,440
7	May-07	154,549,289	9.39%	8.09%	14,519,461	12,508,481
8	June-07	155,046,738	5.63%	7.95%	8,729,251	12,333,500
9	July-07	154,577,859	3.89%	9.95%	6,012,265	15,383,499
10	August-07	148,935,682	8.78%	8.91%	13,072,263	13,265,606
11	September-07	143,688,250	8.10%	8.15%	11,632,925	11,705,004
12	October-07	149,605,527	9.81%	8.97%	14,679,459	13,422,105
13	November-07	146,731,565	8.01%	9.04%	11,749,201	13,259,328
14	December-07	153,394,001	8.28%	9.69%	12,704,820	14,861,436
15	January-08	149,206,800	6.73%	8.69%	10,047,718	12,967,032
16	February-08	134,650,204	6.59%	8.43%	8,878,876	11,347,614
17	March-08	147,663,308	11.91%	9.18%	17,580,121	13,555,320
18	April-08	150,516,715	4.44%	8.75%	6,685,659	13,169,244
19	May-08	153,523,679	4.55%	9.05%	6,980,808	13,887,094
20	June-08	144,213,235	5.86%	8.57%	8,454,439	12,359,380
21	July-08	145,659,841	7.23%	7.74%	10,525,317	11,268,563
22	August-08	148,925,071	6.68%	7.76%	9,955,002	11,552,164
23	September-08	140,211,111	4.50%	7.72%	6,305,393	10,819,005
24	October-08	149,743,154	10.92%	8.63%	16,351,642	12,927,628
6-MONTH AVERAGE		882,276,091	6.64%	8.25%	58,572,601	72,813,835
12-MONTH AVERAGE		1,764,438,684	7.15%	8.61%	126,218,996	151,973,809
24-MONTH AVERAGE		3,535,939,338	7.51%	9.22%	265,549,781	326,050,447

The energy loss levels of the revised method averages 8.25% for the 6-month period ending October 2008. This is 1.25% higher than the line loss standard for the previous LEAC period, and 1.55% above the 6.7% standard for the current LEAC cycle. For the 6-month period from May 2008 to October 2008, the difference in losses between the current method and the revised method is greater than 1.6%. For the moving 12 months from November 2007 to October 2008 the difference is greater 1.4 %.

Figure 2
LINE LOSS %
TWO CALCULATION METHODS

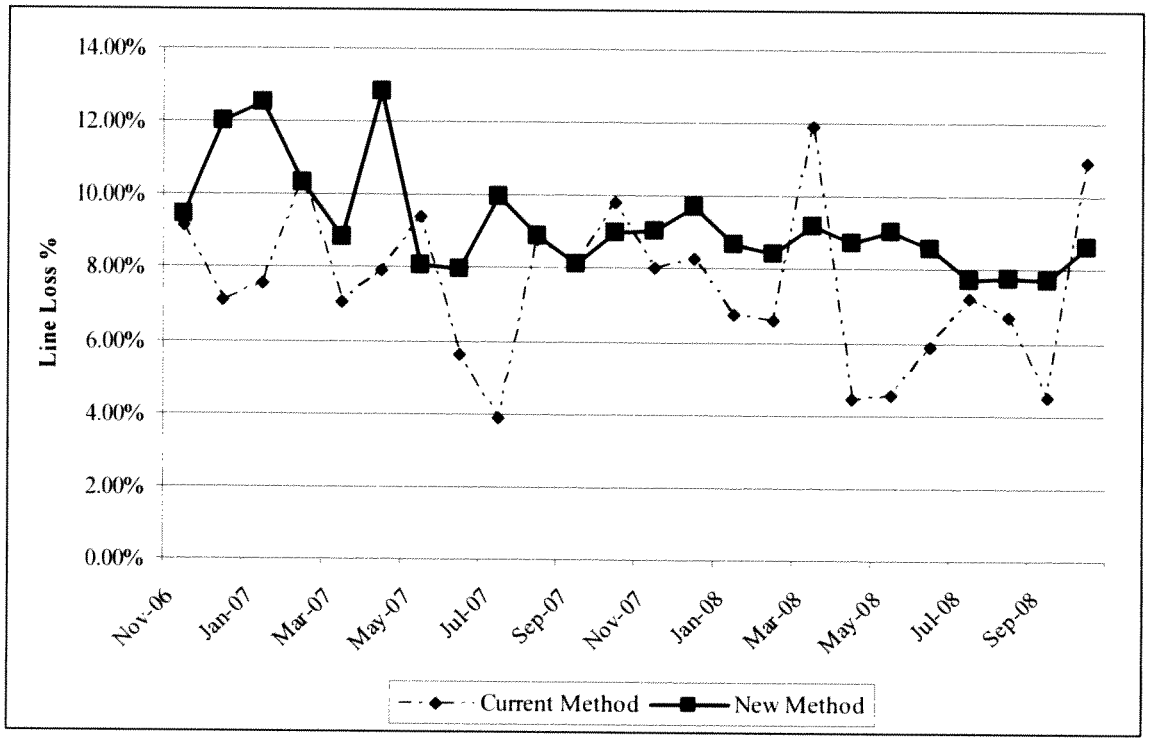
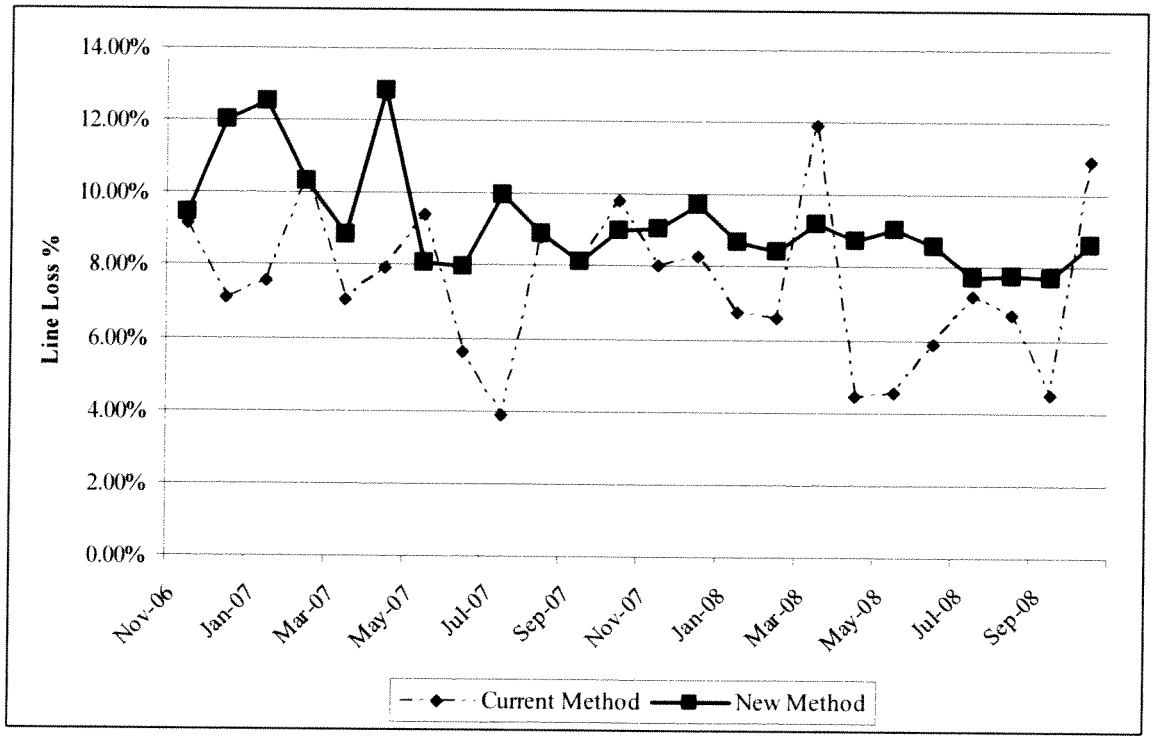


Figure 3
LOSSES
TWO CALCULATION METHODS



Revising the energy loss estimating will require waiting a few weeks for the following month's meter readings. In order to meet the LEAC filing time requirements, it will be necessary to redefine the months used for identifying the loss performance level to compare against the six month LEAC loss standard. Since the kWh consumption calculations required for the energy losses calculation are also required by the revenue projection process, there is no additional task associated with calculating the GPA energy losses. As mentioned earlier, the report of energy losses will have about a one month lag because of the requirement to wait several weeks for the 2nd set of meter reading data.

GPA's analysis shows that the more accurate estimate of GPA's energy losses indicate real loss levels are higher than are currently reported. However, GPA is not requesting PUC adoption of the revision at this time. Changing the energy loss estimating methodology now will only worsen comparisons with the PUC-adopted interim energy loss standards. A more comprehensive discussion of the energy losses and loss standard is needed prior to incorporating the revised method into the process. GPA will seek approval of this change when it presents its position and recommendations on long-term energy loss standards.

	Name	Address	Customers Served	Loss Percentage				Minimum Loss Penalties?
				Generation	Transmission	Distribution	Sub-Distribution	
1	Florence Utilities	Box 877 Florence Ala. 35631-0877	46,900					
2	Burbank Water and Power	Box 631 Burbank, CA 91503-0631	50,702			3		NO
3	Redding, City of	PO Box 496071 Redding, CA 96049-6071	42,126					
4	Roseville Electric	2090 Hilltop Circle, Roseville, CA 95747-9704	49,825					
5	Silicon Valley Power	1500 Warburton Ave. Santa Clara, CA 95050-3713	50,426					
6	Marieta Board of Lights and Water	675 N. Marieta Parkway Marieta, GA 30060-1528	44,567					

				Loss Percentage				
7	Rochester Public Utilities	4000 E. River Rd. N.E. Rochester, Minn. 55906-2813	46,433			3.985		NO
8	Columbia Water and Light	PO Box 6015 Columbia, MO 65205 (105 W. Ash St. 95203)	42,447					
9	Farmington, City Of	101 N Browning Pkwy Farmington, N.M. 87401	42,070					
10	Murfreesboro Electric Department	Murfreesboro, Tenn. 37133-0009	46,566					
11	Sevier Country Electric System	Box 4870 Sevierville, Tenn. 37864-4870	50,962					
12	Brownsville Public Utilities Board	Box 3270 Brownsville Tx. 78523-3270	42,413	1	2	7		NO
13	Bryan Texas Utilities	205 E. 28th St. Bryan, TX 77803-6902	47,816					

				Loss Percentage				
14	Denton Municipal Electric	1659 Spencer Rd. Denton, TX 76205	42,185					
15	Danville Department Of Utilities	Box 3300 Danville, VA 24543-3300	48,968					
16	Benton PUD	2721 W 10th Ave. PO Box 6270 Kennewick, WA 99336-0270	44,855			3.985		NO
17	Chelan County Public Utility District No. 1 of	Box 1231 Wenatchee, WA 98007-1231	44,431					
18	Cowlitz County Public Utility District No. 1 of	PO Box 3007 Longview, WA 98632-0307	47,423					
19	Grant County PUD No. 2	Box 878 Ephrata, WA 98823-0878	42,673					
20	Grays Harbor County PUD No. 1	Box 480 Aberdeen, WA 98520-0109	41,414		3	5	2	NO
			AVERAGE:	**1**	**2.5**	**4.594**	**2**	

Remarks

7.	Rochester Public Utilities	Distribution loss standard based on APPA median for Energy Loss Percentage for 20 to 50 thousand customer class utilities.
16.	Benton PUD	Distribution loss standard based on APPA median for Energy Loss Percentage for 20 to 50 thousand customer class utilities.