

# MEMORANDUM

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To: Mr. Harry Boertzel, ALJ  
Public Utilities Commission

From: Dr. Youssef Hegazy

Subject: **GPA Line Loss Performance Issues**

Date: October 15, 2007



This memo summarizes R. W. Beck, Inc.'s review of the issue regarding GPA's line losses related to the utility's performance and quality of service. We have reviewed Georgetown Consulting Group, Inc.'s (GCG) memo and attachments dated October 15, 2007 (GCG Line Loss Stipulation Status.doc) pertaining to the subject matter. Following are our observations:

- Based on our knowledge, a conversation with Bob Burns (a regulatory expert with more than 25 years of experience, and until recently with NRRI), and several industry surveys,<sup>1</sup> we found no evidence to suggest that line-loss is a practice used by any public utility commission in the United States to measure the performance of a utility or to index the quality of service that a utility is providing to its customers.
- By increasing the incentive to cut costs, performance-based rate (PBR) regimes have been accused of causing service quality to deteriorate. As a result, most utility PBRs are supplemented with some sort of service quality incentive mechanism. However, the balance between the service quality incentive and the primary incentive is somewhat ad hoc, so it is difficult to say whether the supplemental incentive ensures an adequate quality of service. Based on industry surveys, most of the mechanisms to measure quality of performance include the use of customer surveys. The next most common measure used in these mechanisms is some measure of service outages. We are not aware of use of system losses as an explicit PBR benchmark.
- The following are some interesting indicators highlighted by the referenced survey:<sup>2</sup>
  - Forty states (80 percent) had no plans for PBRs for electric power utilities. A few state utility commission officials reported that only minor changes or no changes at all had been made to the rate plans once put into place.
  - Thirty nine PUCs (78 percent) had no plans for using penalty-based rates, while 11 state-level PUCs indicated having implemented some form of electric distribution/customer service penalty-based rate structure.

<sup>1</sup> "Performance-Based Rates For U.S. Electric Utilities: A 2007 Status Report, June 2007," Prepared by: Newton-Evans Research Company, Inc., Ellicott City, Maryland USA.

<sup>2</sup> Ibid.



- **Criteria on which PBRs should be based:** 100 percent of the utility respondents indicated “duration of sustained interruptions” as forming the basis for measuring quality or performance. Seventy-one percent indicated that the frequency of sustained interruptions was also a criterion on which PBRs are based. A second group of criteria centered around customer service. “Customer satisfaction surveys” was the most significant factor in this category. “Volume of complaint calls” and “wait time per call” were also being used, although to a lesser extent. Seventy-one percent of the respondents further stated PBR statistics did not or *would not* include interruptions caused by storms.
- **Perception of relationship between development of PBRs and capital spending:** Sixty percent of respondents who had reported use of, or plans to use PBRs, indicated a relationship between the development of PBRs and an increase in capital spending.
- **Perception of relationship between development of PBRs and O&M spending:** Eighty percent of responding utility officials see a relationship between PBR use and an increase in O&M spending.
- Line loss benchmarks are proposed to be phased-in over a 24-month period. GCG proposes that GPA’s line loss performance be measured on a 24-month trailing average basis. In other words, each monthly value over the past 24 months would be averaged together. Comparison or benchmark to a peer group is preferable to the use of past performance because the latter is more susceptible to ratcheting.<sup>3</sup> Line losses are functions of a multitude of variables (load, transmission and distribution topology, transmission and distribution mileage, etc.). Utilities can reduce losses by investing in T&D infrastructure and maintenance. However, losses could also increase due to unforeseen and uncontrollable factors (e.g., weather, theft, unforeseen accidents). Benchmarking to a peer group would eliminate such bias. However, designing a peer group in the case of GPA might be difficult.
- GCG proposed to penalize GPA if GPA fails to meet the line loss performance benchmarks for two consecutive LEAC rate periods by disallowing fuel expenses related to losses above the benchmark level and to penalize GPA further if the utility relies on cutting back of the delivery system or generator maintenance as a consequence of such cutbacks. This approach exposes both the utility and its customers to unnecessary risks. By straining the non-for-profit utility’s revenues below the cost-based revenue level, the utility will end-up with a weaker ability to finance its O&M and investment needs. Based on the GCG proposal, the utility may be punished further as its ability to improve performance and

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<sup>3</sup> The ratchet effect occurs when a utility benchmark is set based on past performance. If a utility improves its performance in one period, attaining its incentive in the next period becomes all the more difficult because the performance standard will be raised. The net effect is to dilute the incentive of improving performance in the current period.



finance its obligations deteriorate further, and so on. This could also lead to increasing cost of capital and less ability to raise funds.

Based on the above observations, it is our recommendation that PUC/GPA:

1. Index performance measurements on customer satisfaction rather than on arbitrary, complicated and expensive-to-measure indices.
2. Benchmark the utility's performance based on a comparable peer group rather than on historical performance.
3. Consider a PBR mechanism that will give GPA the incentive to reduce costs and maintain service quality, while at the same time maintaining the utility's ability to finance its own obligations. .

YAH:bb

c: Angelo Muzzin, R. W. Beck  
John J. Cruz, GPA  
Melinda R. Camacho, GPA  
A.E. Balajadia, GPA

A handwritten signature in cursive script, reading "Angelo Muzzin". Below the signature, there is a line of text that appears to be "for yourself of GPA", also written in cursive.