

**PUBLIC UTILITY COMMISSION OF OREGON  
STAFF REPORT  
PUBLIC MEETING DATE: December 19, 2006**

**REGULAR** \_\_\_\_\_ **CONSENT**  X  **EFFECTIVE DATE**  January 1, 2007

**DATE:** December 7, 2006

**TO:** Public Utility Commission

**FROM:** Bill McNamee

**THROUGH:** Lee Sparling, Ed Busch, JR Gonzalez, and Bonnie Tatom

**SUBJECT:** PACIFIC POWER AND LIGHT: (Docket No. UM 1003) Joint recommendation for the Commission to set Pacific Power and Light's Service Quality Measures performance levels for 2007, as required by OPUC Orders No. 98-191 and No. 99-616.

**STAFF RECOMMENDATION:**

Staff and Pacific Power and Light (PP&L or Pacific) jointly recommend that the Commission set the Service Quality Measures (SQMs) performance levels for calendar year 2007 at the same levels that were established for 2006.

**DISCUSSION:**

**Overview:** Service Quality Measures had their origins as monitoring tools for evaluating the effectiveness of utility safety programs and reliability activities. OPUC Safety Program Staff and PP&L worked to establish SQMs as part of the Company's 1998 UE 94 proceeding -- "Alternative Form of Regulation" (see Order No. 98-191). The SQMs were also modified by stipulation in UM 918 -- PP&L/ScottishPower merger (see Order No. 99-616). The stated purpose of SQMs is "...to provide a mechanism to ensure service quality is maintained at current or improved levels ...". Safety and Reliability Program Staff believe that the SQMs have proven to be an excellent regulatory tool.<sup>1</sup>

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<sup>1</sup> Note that with its acquisition by MidAmerican Energy Holding Company (UM 1209), Pacific will begin reporting SQM results on a calendar year, rather than fiscal year, basis (*Scottish Power operated on a fiscal year basis, while MidAmerican operates on a calendar year basis*). Therefore, Pacific will report 2006 SQM results for the period January 1, 2006, through December 31, 2006. This will involve a three month overlap – January, February, March - with the FY 2006 results and may cause minor inconsistencies in historical data trends.

There are nine separate measures included in PP&L's SQMs.

1. C1 - At Fault Customer Complaints
2. R1 - Average Interruption Duration
3. R2 - Average Interruption Frequency
4. R3 - Average Momentary Interruption Frequency
5. R4 - Average Interruption Duration (*Per Occurrence*)
6. S1 - Major Safety Violations
7. X1 - Annual Review Vegetative Management
8. X2 - Annual Review Basic Inspection and Maintenance Programs
9. X3 - Annual Review Special Programs

Under the UM 918 stipulation, five of the above measures (C1, R1, R2, R3 and R4) have three performance levels each (*i.e., a goal and two penalty levels*).<sup>2</sup> The performance levels are set by the Commission on an annual basis. The establishment of SQM performance levels for 2007 is the subject of this memo.

The remaining measures are S1, X1, X2, and X3.<sup>3</sup> S1 establishes performance penalties in any case where the Commission determines that a "Major Safety Violation" has occurred (*i.e., service quality falls below the level the utility has agreed to*). The last three measures, are program-monitoring tools for various maintenance programs performed by PP&L on an ongoing basis. For these measures, Safety Staff monitor items such as annual accomplishments, budgets and expenditures, and staffing levels. Basic programs include vegetation management, inspection and repair programs for overhead and underground lines, electric supply stations, marinas, major equipment maintenance, standards, and the metering program.<sup>4</sup>

**SQM C1:** The first measure that the Commission needs to set performance levels for is C1, or customer at-fault complaint frequency. This is expressed as the number of PUC customer complaints where PP&L has been determined to be at-fault, having violated a tariff, rule or business practice standard. The C1 statistic is presented as the number of at-fault complaints per 1000 customers.

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<sup>2</sup> Note that, if determined by the Commission to be appropriate, a penalty would be imposed as a revenue requirement reduction that would be returned to customers.

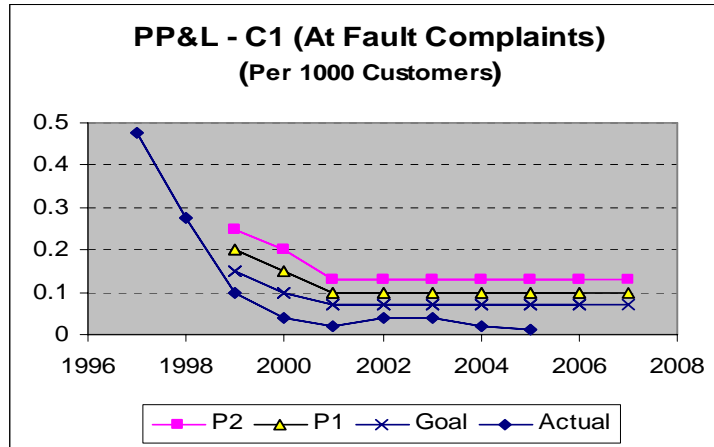
<sup>3</sup> This discussion is for informational purposes only, no Commission action is required for these measures.

<sup>4</sup> PP&L has proposed changes to the Basic Inspection and Maintenance Programs (X2) that Staff is currently reviewing.

The C1 performance levels should be comparable among energy utilities in Oregon (*i.e., the same for PP&L and PGE*). For 2007, the performance levels recommended for Commission adoption are:

- Goal - less than .07 at-fault complaints per 1000 customers
- Penalty 1 line (\$100,000) - .10 at-fault complaints per 1000 customers
- Penalty 2 line (\$1,000,000) - .13 at-fault complaints per 1000 customers

Actual PP&L performance, that has significantly improved since 1997, is provided in the following graph:



**Reliability:** The next four SQMs relate to service reliability. In contrast to C1, the performance levels for reliability-based measures differ by utility. Differences are based on system configuration, terrain, customer density, and other service territory-specific variables. For PP&L, the implementation of SQM monitoring involved transitioning from an old reporting system to a technologically updated and, therefore, more accurate system. This created a data consistency and comparability problem.

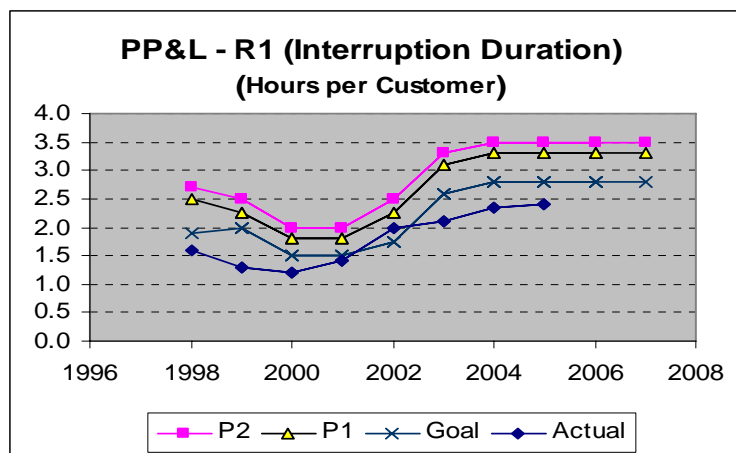
The issue parties needed to resolve was that the new electronic system would provide more accurate data that would most likely show a false indication of deteriorating performance (*i.e., the new data would measure performance flaws that were simply missed by the old reporting system*). Therefore, a meaningful method of transitioning from the historical performance levels to the new, and more accurate, levels had to be devised. Staff has worked with PP&L to recommend establishing performance levels that simultaneously ensure: (1) customers continue to receive the same or improved reliability of service; and (2) the Company is not subject to SQM penalties that are not deserved.

In 2002, PP&L placed its electronic outage management system into operation for its Oregon service territory. Staff has worked with PP&L to study and evaluate the resulting system data gathering impacts and projections. As shown in the following charts, the SQM performance levels were adjusted to reflect the more accurate data achieved by the system improvements.

**SQM R1:** The R1 measure is an averaged customer interruption duration (*i.e., annual time without power*) that utilizes a three-year weighted averaging formula. This is similar to System Average Interruption Duration Index (SAIDI), calculated with the target year weighted at 50 percent, the previous year weighted at 30 percent, and the third year weighted at 20 percent. Certain "major events" can be excluded from these statistics when specific requirements have been met (see OAR 860-023-0080 through 0160). The performance levels recommended for Commission adoption for 2007 are:

- Goal – 2.8 hours
- Penalty 1 level (\$100,000) – 3.3 hours
- Penalty 2 level (\$1,000,000) – 3.5 hours

Actual PP&L performance for this measure is provided in the following graph:

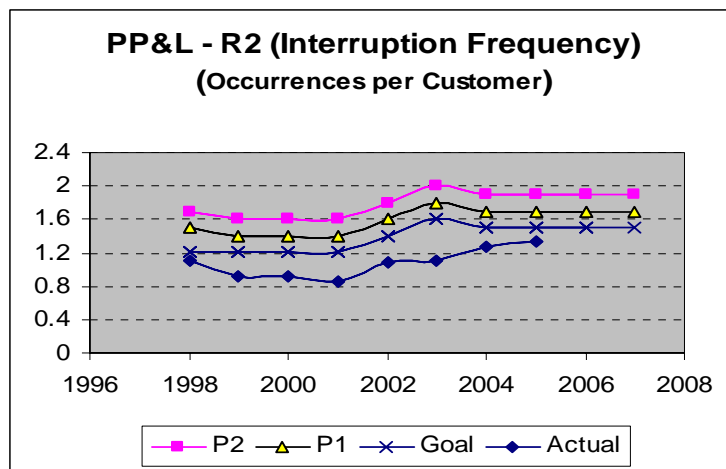


**SQM R2:** The R2 measure is an averaged customer interruption frequency (*i.e., annual number of times service is interrupted for five minutes or more*) that, like R1, utilizes a weighted three-year formula. This is, in essence, a three-year weighted System Average Interruption Frequency Index (SAIFI). The 2007 R2 performance levels recommended for Commission adoption are:

- Goal - 1.5 occurrences
- Penalty 1 level (\$100,000) - 1.7 occurrences

- Penalty 2 level (\$1,000,000) – 1.9 occurrences

Actual PP&L performance for R2 is provided in the following graph:



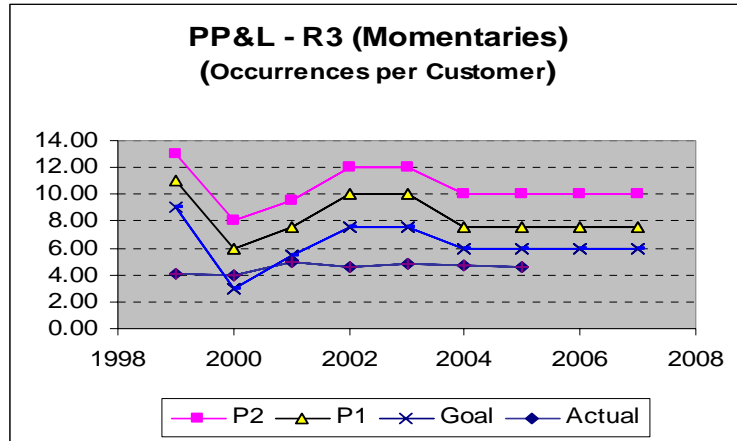
**SQM R3:** The R3 measure is a 3-year weighted average of a customer's momentary interruption frequency (*i.e.*, *Momentary Average Interruption Frequency Index or MAIFI*). Momentary outages are primarily the quick blinks that occur on an electrical system when automatic switches perform their protective function in response to a fault on the line. The diverse and rural nature of Pacific's system has made this a difficult statistic to measure. With equipment modifications, however, the Company has substantially improved its reporting capabilities.<sup>5</sup> Staff and PP&L have worked to adjust the R3 statistic to reflect Pacific's continually improving data collection system for momentaries. Staff believes that Pacific's current R3 reporting is reasonably accurate.

Staff and PP&L recommend 2007 R3 levels be set for at:

- Goal – 6 occurrences
- Penalty 1 level (\$100,000) – 7.5 occurrences
- Penalty 2 level (\$1,000,000) – 10 occurrences

PP&L performance levels for R3 are shown in the following graph:

<sup>5</sup> In compliance with Order No. 04-739, on March 9, 2005, PP&L submitted a written MAIFI Plan that presented the Company's updated automated system data collection (SCADA) procedures. The Company indicated that it has improved its coverage of Oregon circuits from roughly 30 percent in 2002 to nearly 50 percent (*i.e.*, data on momentary occurrences are now collected for approximately 78 percent of Oregon customers). This is a substantial improvement in the reporting of the R3 statistic.

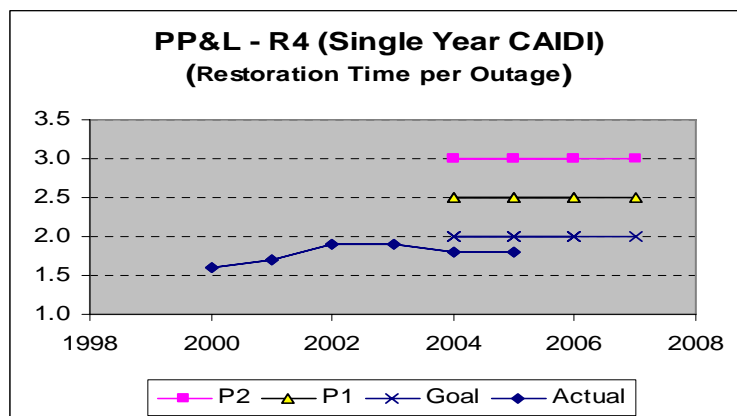


**SQM R4:** The R4 Measure (Service Restoration Indicator) was changed by the Commission in 2004 from percent of customers restored with power within three hours to a standard utility industry index known as the Customer Average Interruption Duration Index (CAIDI). CAIDI represents the average time (hours) required to restore service to the average customer per sustained outage. Major events are excluded from the R4 statistic.

Staff and PP&L recommend 2007 R4 levels be set at:

- Goal - 2 hours
- Penalty 1 line (\$100,000) - 2.5 hours
- Penalty 2 line (\$1,000,000) - 3 hours

The following graph shows the R4 performance levels recommended for 2007, along with several years of historical performance.



**PROPOSED COMMISSION MOTION:**

For calendar year 2007, the Service Quality Measures performance levels for Pacific Power and Light be set as follows:

1. For C1: Goal = .07 at-fault complaints per 1000 customers  
Penalty 1 = .10 at-fault complaints per 1000 customers  
Penalty 2 = .13 at-fault complaints per 1000 customers
2. For R1: Goal = 2.8 hours of service outage per customer  
Penalty 1 = 3.3 hours of service outage per customer  
Penalty 2 = 3.5 hours of service outage per customer
3. For R2: Goal = 1.5 sustained outage occurrences per customer  
Penalty 1 = 1.7 sustained outage occurrences per customer  
Penalty 2 = 1.9 sustained outage occurrences per customer
4. For R3: Goal = 6 momentary outages per customer  
Penalty 1 = 7.5 momentary outages per customer  
Penalty 2 = 10 momentary outages per customer
5. For R4: Goal = 2 hours per outage  
Penalty 1 = 2.5 hours per outage  
Penalty 2 = 3 hours per outage