

ORDER NO. 04-739

ENTERED DEC 10 2004

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**BEFORE THE PUBLIC UTILITY COMMISSION**

**OF OREGON**

UM 1003

In the Matter of Setting PACIFIC POWER )  
AND LIGHT's Service Quality Measure ) ORDER  
(SQM) Lines for 2005. )

**DISPOSITION: 2005 SERVICE QUALITY MEASURES GOAL AND  
REVENUE REQUIREMENT REDUCTION (PENALTY) LINES SET**

At its public meeting on December 7, 2004, the Commission adopted Pacific Power and Light and Staff's joint recommendation to set goal lines and penalty lines for 2005. Staff's recommendation report is attached as Appendix A and is incorporated by reference.

**ORDER**

IT IS ORDERED that the 2005 Service Quality Measures goal and penalty lines for Pacific Power and Light are set, as described in Appendix A.

Made, entered and effective \_\_\_\_\_.

BY THE COMMISSION:

\_\_\_\_\_  
**Becky L. Beier**  
Commission Secretary

A party may request rehearing or reconsideration of this order pursuant to ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-014-0095. A copy of any such request must also be served on each party to the proceeding as provided by OAR 860-013-0070(2). A party may appeal this order to a court pursuant to applicable law.

**PUBLIC UTILITY COMMISSION OF OREGON  
STAFF REPORT  
PUBLIC MEETING DATE: December 7, 2004**

**REGULAR**  X  **CONSENT**       **EFFECTIVE DATE**            April 1, 2004

**DATE:** November 22, 2004

**TO:** Lee Sparling, through JR Gonzalez, and Ed Busch

**FROM:** Bob Sipler

**SUBJECT:** PACIFIC POWER AND LIGHT: (Docket No. UM 1003) Joint recommendation for the Commission to set Pacific Power and Light's (PP&L) Service Quality Measures (SQMs) performance lines for 2005, as required in UE 94 by OPUC Order 98-191 and as required in UM 918 by OPUC Order 99-616.

**STAFF RECOMMENDATION:**

Staff and PP&L jointly recommend that the Commission set the Service Quality Measures performance levels for 2005 at:

1. For C-1: the goal is .07 at-fault complaints/1000 customers  
the Penalty 1 line is .10 at-fault complaints/1000 customers  
the Penalty 2 line is .13 at-fault complaints/1000 customers
2. For R-1: the goal is 2.8 hours of service outage annually  
the Penalty 1 line is 3.3 hours of service outage annually  
the Penalty 2 line is 3.5 hours of service outage annually
3. For R-2: the goal is 1.5 sustained outage occurrences annually  
the Penalty 1 line is 1.7 sustained outage occurrences annually  
the Penalty 2 line is 1.9 sustained outage occurrences annually
4. For R-3: the goal is 6 momentary outages annually  
the Penalty 1 line is 7.5 momentary outages annually  
the Penalty 2 line is 10 momentary outages annually
5. For R-4: the goal is 2 hours  
the Penalty 1 line is 2.5 hours  
the Penalty 2 line is 3 hours

In addition, Staff supports Pacific Power's proposal to change the R-4 Measure as specified in the Proposed Commission Motion. Additionally, Pacific must provide a detailed written plan to modify its data collection by April 1, 2005, so comprehensive momentary event performance can be reported.

## **DISCUSSION:**

The SQMs had their origins as monitoring tools related to safety and reliability monitoring by Staff. These tools were then modified to include a way to evaluate the effects of a decoupling program. As a part of PP&L's application for an "alternate form of regulation" (AFOR) in UE 94, the SQMs were developed into a format similar to the present agreement. Then, during the PP&L/ScottishPower merger (UM 918), another modification was stipulated. The stated purpose is "...to provide a mechanism to ensure service quality is maintained at current or improved levels subsequent to implementation of an alternate form of regulation ..." and "...to incorporate provisions of the ScottishPower merger...". Safety and Reliability Staff believes that the SQMs have proven to be an excellent regulatory tool since their first adoption in 1997.

There are nine separate measures included in PP&L's SQMs. Of these, five measures (C-1, R-1, R-2, R-3 & R-4) have three performance levels each (a goal and two penalty levels) set by the Commission on an annual basis. In addition, a sixth measure (S-1) has pre-set performance penalties in any cases where the Commission declares that a "Major Safety Violation" has occurred. The remaining three measures, (X-1, X-2, and X-3) are program-monitoring tools for various maintenance programs performed by PP&L on an ongoing basis. For these we monitor items such as annual accomplishments, budgets and expenditures, and staffing levels. Basic programs include vegetation management (tree trimming), inspection and repair programs for overhead and underground lines, electric supply stations, marinas, major equipment maintenance, standards, and the metering program.

The details of these requirements are found in Staff's "UE 94/ UM 918 Service Quality Measures" referred to in stipulation four adopted by the Commission in Docket UM 918. The stipulation gives the Commission the ability to impose penalties reflecting lesser service quality than the company agreed to provide. These penalties are distinct from those imposed under ORS 756.990. The SQM stipulation also lists reporting requirements and a timeline, which includes this submission to the Commission, so a determination can be made for the performance levels for the coming year.

The Commission has a great deal of discretion as to how penalties will be paid should penalty lines be exceeded. The penalties would be revenue requirement reductions and could be returned to customers through rate reductions. The Commission could also direct the funds toward specific utility projects that would benefit customers, or otherwise determine an appropriate use. The Commission can also recognize circumstances beyond the company's control, and cap or adjust the amount. An additional provision of the SQM stipulation allows

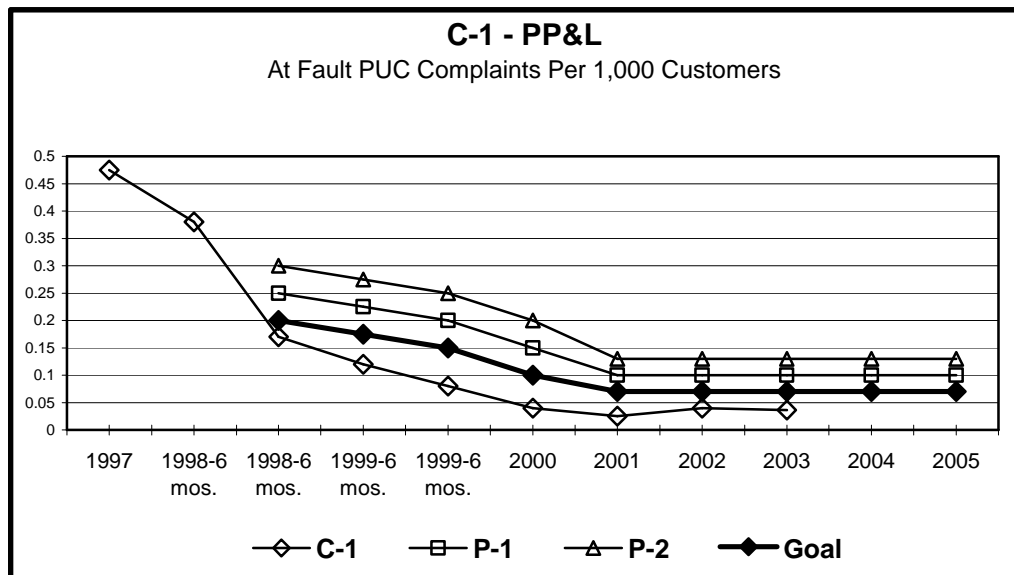
refunds with interest, when certain programs have not been funded at historical levels and associated performance has not met the lines set by the Commission. The concept here is that customers have paid for services that they have not received and therefore should be reimbursed.

The first measure for which the Commission needs to set performance lines is C-1, 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, per 1000 customers, on an annual basis. PP&L has significantly improved performance on this measure since 1997.

Commission comments after initiation of the SQMs were that PP&L performance on this measure should be comparable to other energy utilities in Oregon. This is in contrast to the reliability-based measures, which must take into consideration many variables of system configuration and age, customer density, prevailing weather conditions, and terrain variables within the service territory. It is recommended that the lines for 2005 be set for the fifth year at:

- Goal - less than .07
- First penalty line (\$100,000) - .10
- Second penalty line (\$1,000,000) - .13

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



The next four measures relate to service reliability.

When the SQMs were discussed with ScottishPower during the UM 918 merger, Staff, PP&L and ScottishPower all realized that there were special conditions ahead that would require communication and negotiation to keep this regulatory tool meaningful.

ScottishPower anticipated three changes that would occur over the first few years of its leadership. The first change was to work practices and system management methodology. Pertinent here was an emphasis on accuracy in outage reporting by operations personnel. Some outages were not being reported and others were reported with rough estimates of customers affected and inaccurate duration times. PP&L reports an increase in reported outage data of 20% due to this change. The second change was the incorporation of the Computer Aided Distribution Operations / POver Systems Performance Reporting tool or CADOPS/PROSPER (C/P) system gradually over the PP&L multi-state territory. This C/P system combines an electronic outage management system with a facility mapping and customer data system. Again, a significant gain in the accuracy of outage data is one of the results. For the areas that C/P has been put into operation, the company reports a 92% increase to outage data. The third change would be to upgrade elements of the distribution lines to achieve improved reliability and operator control, particularly in circuits that were under-performing.

The problem is that the SQMs were based on the old reporting system. The new system would provide more accurate data that was virtually guaranteed to indicate deteriorating performance, when in fact there was no change in what customers were actually experiencing. Other utilities have experienced this same false indication of deteriorating performance when they have incorporated better data collection methods. What this means is that a meaningful method of comparing the historical performance lines with the lines produced with more accurate data had to be devised. Only then could performance lines be set so customers continue to receive the same or improved reliability, and so the company could avoid SQM penalties that it really didn't deserve.

Added to this difficult challenge is a promised merger benefit of improved reliability by 2005 (10% improvement to customer outage durations and frequency, and 5% improvement in momentary outages). Quantifying this improved reliability compared to pre-merger reliability (and SQM levels) over a multi-year period, while many changes are simultaneously occurring is a difficult task, but one that PP&L seems to be managing well.

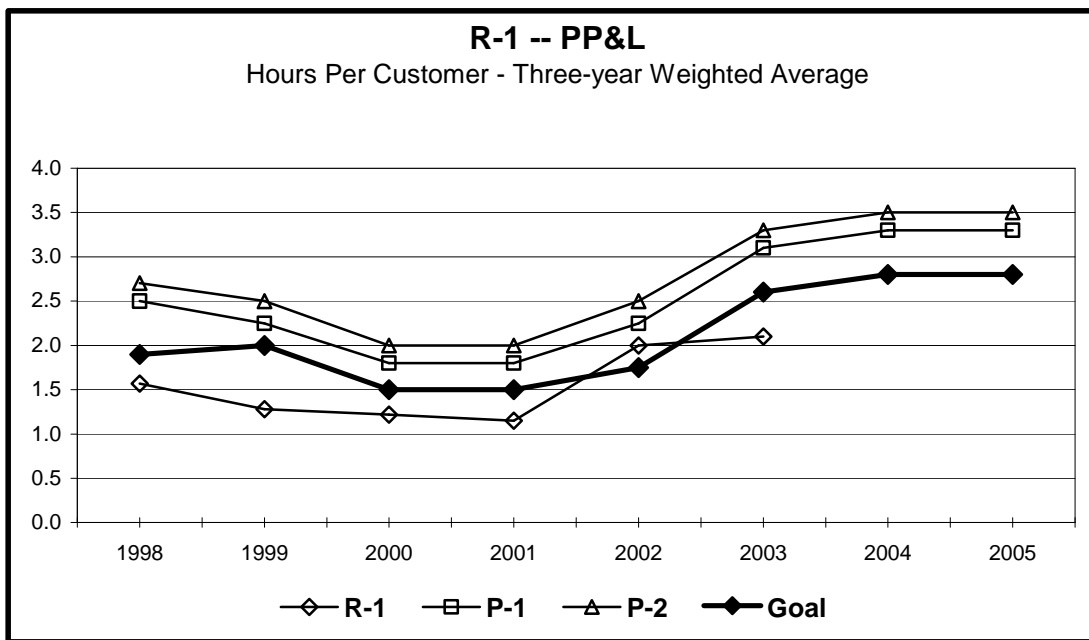
The year 2002 was a transition year, during which the C/P system was put into operation in Oregon. Estimates of how data would be affected were initially based on C/P initiation in other states. There is now data from 2002, 2003, and part of 2004 in Oregon to help set performance

lines for 2005. Staff is continuing to review PP&L's study of system change impacts and projections, and recommends accepting the negotiated performance line recommendations for R-1, R-2, R-3, and R-4 for 2005. Future in-state data will provide an even better basis for setting performance lines. The levels for acceptable goal line decisions for 2005 and beyond, that include the 10% improvements, have also been determined for R-1 (3.1) and R-2 (1.5). Specific comments and recommendations by Staff are included in this memo for R-3 and R-4, which go beyond the recommendations for setting 2005 performance lines.

The R-1 measure is an averaged customer interruption duration (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%, the previous year weighted at 30%, and the prior previous year weighted at 20%. Certain "major events" can be excluded from these statistics when specific requirements have been met (based on OAR 860-023-0080 through 0160). The performance lines recommended for Commission adoption for 2005 are:

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

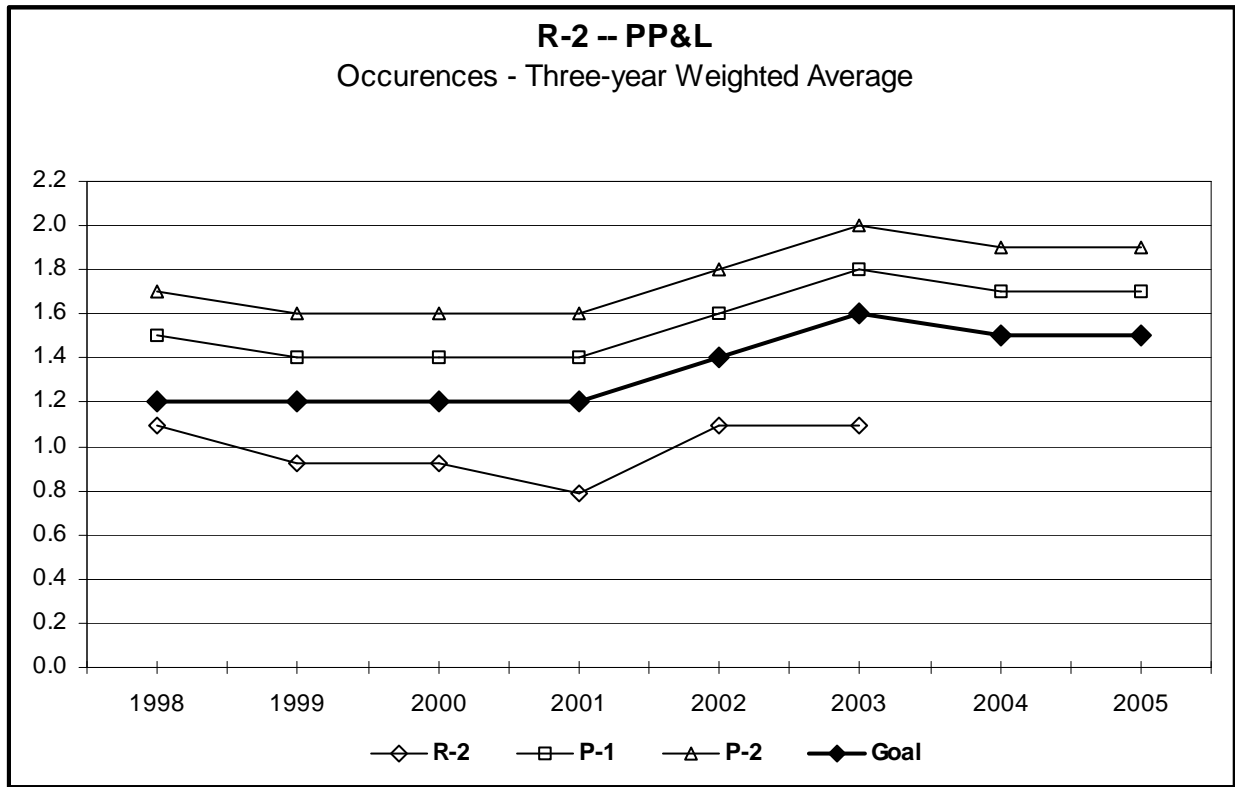
Actual PP&L performance for this measure is provided in the following graph:



The R-2 measure is an averaged customer interruption frequency (annual number of times service is interrupted for five minutes or more) that, like R-1, utilizes a weighted three-year formula. This is a three-year weighted System Average Interruption Frequency Index (SAIFI), in essence. The performance lines recommended for Commission adoption for R-2, for 2005, are:

- Goal - 1.5 occurrences
- Penalty 1 line (\$100,000) - 1.7 occurrences
- Penalty 2 line (\$1,000,000) – 1.9 occurrences

Actual PP&L performance for R-2 is provided in the following graph:



The R-3 (averaged customer momentary interruption frequency) measure has been phased in over the last few years. A trial run was performed for 1999, and the measure's first fully implemented year was 2000. Momentary outages are primarily the quick blinks so as to occur on an electrical system when automatic switches perform their protective function in response to a fault on the line. This is a three-year weighted Momentary Average Interruption (by "event") Frequency Index (MAIFIE), in essence. The data collection system for momentaries is still under

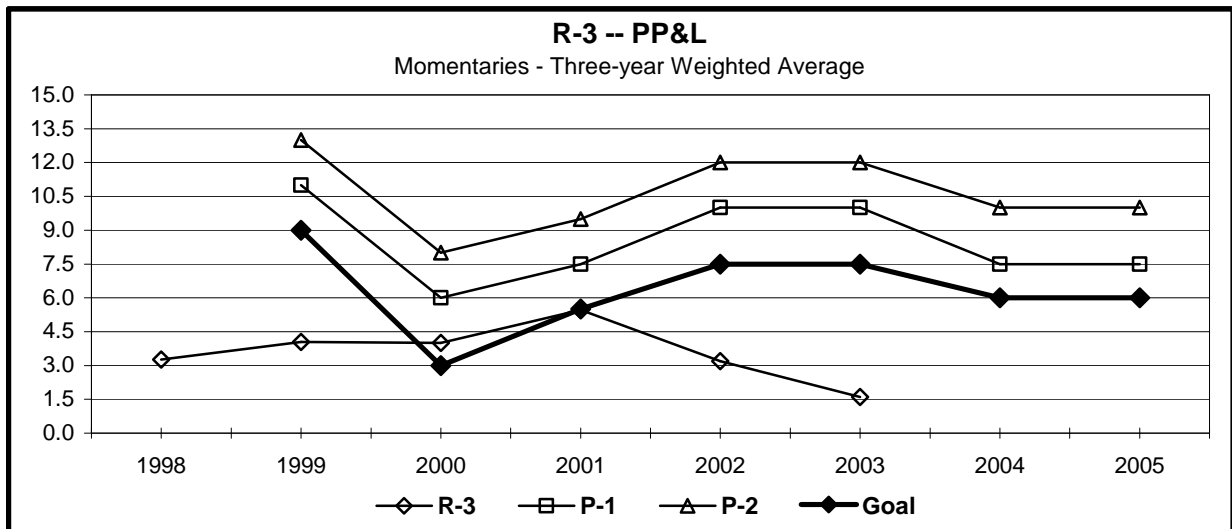
development by PacifiCorp and the criteria to evaluate the promised 5% improvement still needs to be determined.

Staff performed an audit in 2004, which covered security, metering, outage management, and reliability reporting. Pacific's performance and systems were acceptable in all areas reviewed except for the data collection system used to determine MAIFIE annual levels. In the past, data was derived from substation breaker counts and the number of momentary interruptions calculated from these operational events. When the CADOPS system was deployed, the automated data system (SCADA) collected data for less than 30% of Oregon circuits. Since those findings, Pacific personnel have determined that additional accurate data can be gathered, with some system modifications, that will cover more than 70% of Oregon customers, covering 49% of Oregon circuits. Staff believes this is an essential first step. Staff recommends that the Company be required to provide this detailed plan with specific timelines to certify that data is representative (therefore reasonably accurate), and possibly to increase data collection for more complete reporting of actual MAIFIE performance by April 1, 2005. Additionally, Staff would recommend that the Company continue to evaluate the inclusion of additional accurate monitoring devices, so that more comprehensive MAIFIE data for Oregon circuits can be developed to enhance annual SQM and reliability reporting.

Staff and PP&L recommend R-3 lines be set for 2005 at:

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

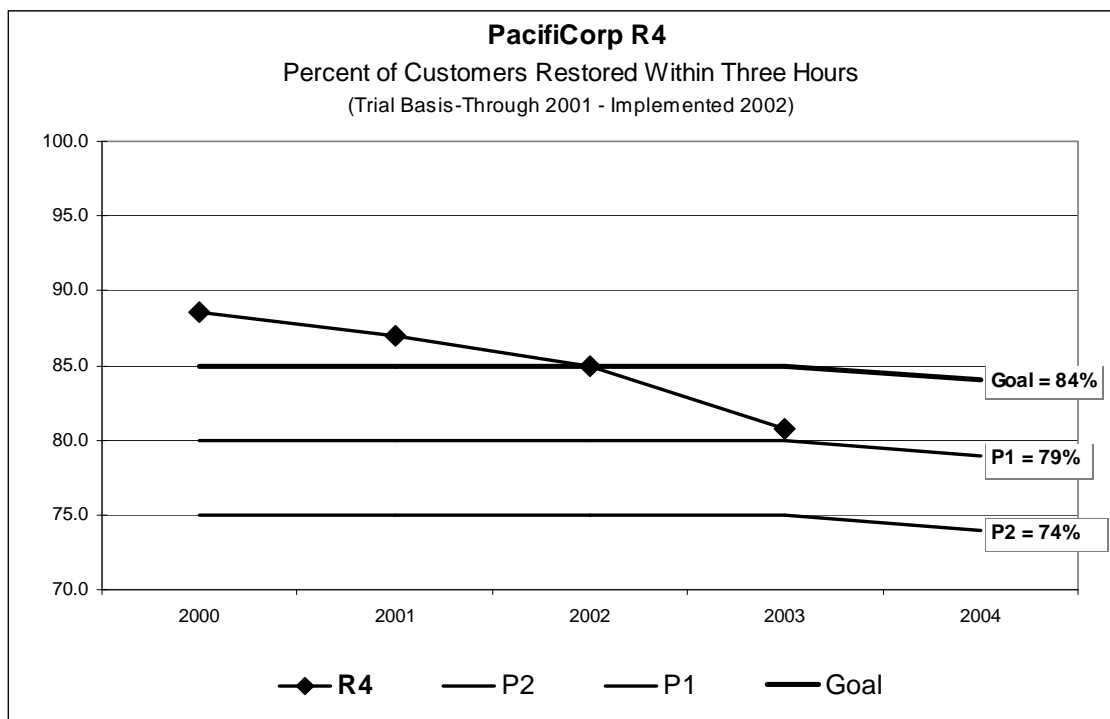
PP&L performance for R-3 (some estimated and some actual data) is reflected in the following graph:





The R-4 Service Restoration Indicator is the percent of customer sustained interruptions that have been restored within three hours of initiation. A two-year trial run was to be performed in 2000 and 2001, and the measure's first fully implemented year was 2002. The recommended levels for R-4, were based on both past performance and a merger commitment to provide at least 80% restoration of service within three hours starting in 2002. The level indicates that penalties start at 79%, which is performance less than the 80% commitment. Actual performance for 1999, 2000, and 2001 was 88.2%, 88.6%, and 87% respectively. After deployment of the CADOPS system, measured performance fell to 85% in 2002 and to 80.7% in 2003, and this was attributed to the completeness of outage reporting and the accuracy of the outage durations documented.

A graph of the Service Restoration Indicator is shown in the following:



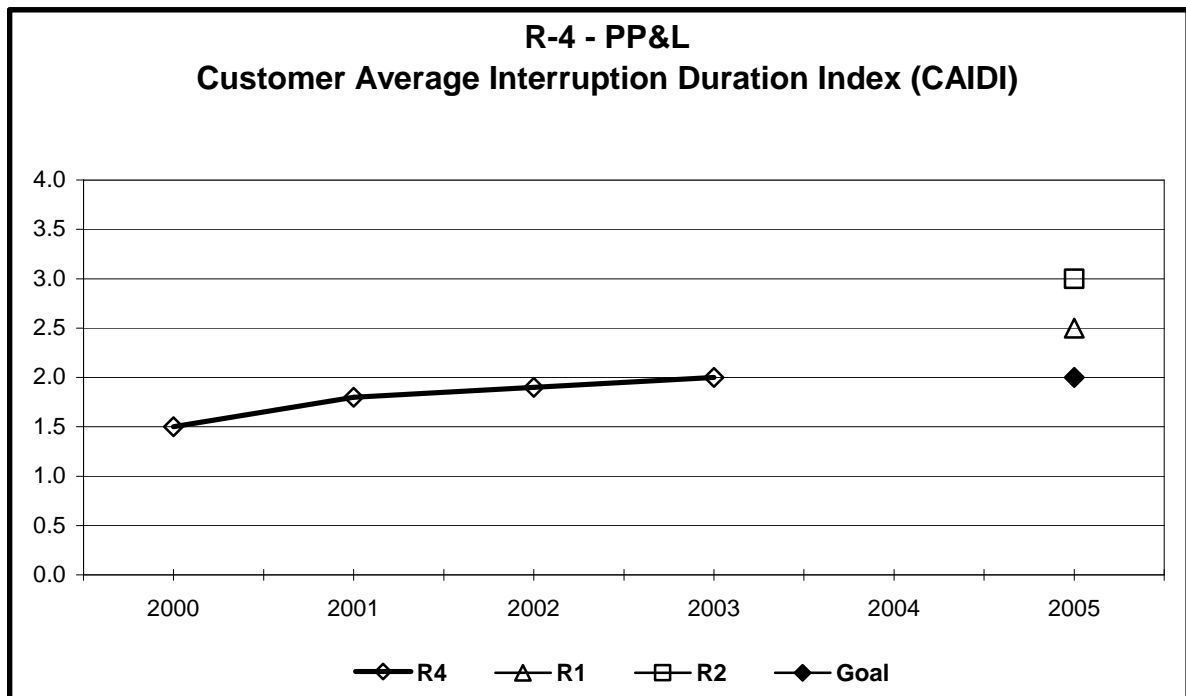
Both Staff and Pacific personnel have expressed some frustration with the R-4 measure, which was adapted from a ScottishPower merger commitment to quickly restore power after an outage. This measure addresses only outages that are over three hours in length, and then treats those outages all the same regardless of the outage length. Pacific is proposing that the R-4 measure be

changed to utilize a standard industry reliability index for measuring outage lengths (CAIDI). This is Customer Average Interruption Duration Index and this differs from SAIDI in that only customers that have experienced extended outages are included, instead of all customers. This measure will be considered per fiscal year instead of a three-year weighted average basis. Staff recommends that the Commission allow this change and (based on past performance) set the performance levels based on this index.

Staff and PP&L recommend R-4 lines be set for 2005 at:

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

A graph showing the basis for the recommended new R-4:



**PROPOSED COMMISSION MOTION:**

The Service Quality Measures performance lines for Pacific Power and Light, for the year 2005, be set as follows:

1. For C-1: the goal is .07 at-fault complaints/1000 customers  
the Penalty 1 line is .10 at-fault complaints/1000 customers  
the Penalty 2 line is .13 at-fault complaints/1000 customers
2. For R-1: the goal is 2.8 hours of service outage annually  
the Penalty 1 line is 3.3 hours of service outage annually  
the Penalty 2 line is 3.5 hours of service outage annually
3. For R-2: the goal is 1.5 sustained outage occurrences annually  
the Penalty 1 line is 1.7 sustained outage occurrences annually  
the Penalty 2 line is 1.9 sustained outage occurrences annually
4. For R-3: the goal is 6 momentary outages annually  
the Penalty 1 line is 7.5 momentary outages annually  
the Penalty 2 line is 10 momentary outages annually
5. For R-4: the goal is 2 hours  
the Penalty 1 line is 2.5 hours  
the Penalty 2 line is 3 hours
6. Pacific is required to provide to Staff, by April 1, 2005, a detailed written plan with specific timelines to certify that MAIFle data is representative and accurate, and to improve data collection and reporting for actual MAIFle performance.
7. The R-4 Measure is deleted from the Service Quality Measures Stipulation included in PUC Order 99-616, and in its place a new R-4 Measure, as detailed in Attachment 1, is inserted. All terms and conditions will continue to apply to this replacement measure, including the term extension ordered in PUC Order 03-528.

UM 1003 Set PP&L 2005 SQM.doc

**Attachment 1**

Pacific Power and Light changes proposed to the UE 94 / UM 918 Service Quality Measures document with merger modifications, dated June 16, 1999, as adopted by OPUC Order 99-616.

Page 2: Table I under R4 Description, change title to "Annual Service Restoration Index".

Table I under R4 Measure Value Calculation, change to "R4 = Annual CAIDI, with Major Events excludable."

Page 5: under "C 5" change title to "Annual Service Restoration Index".

Pages 13 and 14 under R4:

Change title to "Annual Service Restoration Index".

Change 1. to: "Description: The R4 measure is the average time (hours) required to restore service to the average customer per sustained interruption, exclusive of Major Events. This is based on an industry index; Customer Average Interruption Duration Index (CAIDI)."

Change 3 to: "Measure Calculation: The R4 measure is calculated each SQM fiscal year. R4 equals the sum of customer interruption durations divided by the total number of customers interrupted. Major events may be excluded. This measure is subject to the requirements of OAR 860-023-0080 through 0160."

Change 5 to: "Revenue Requirement Reduction Threshold (RRR 1): A specific duration in hours for all Oregon customer sustained interruptions, on average, on an annual basis."

Change 6 to: " Revenue Requirement Reduction Line 2 (RRR 2): A specific duration in hours for all Oregon customer sustained interruptions, on average, on an annual basis."

Change the first sentence of 7 by replacing "lower percentage number" with "higher hourly time".

UM 1003 Set PP&L 2005 SQM.doc