Section 4

MEASUREMENT SYSTEM

4.1 Defining the Measurements

Measurement systems are an important aspect of any program because they measure business results and can illustrate a program's progress towards ~~goals~~success. This is an important task, since organizations may use the outcomes of measures to make lasting decisions affecting the targeted program. The information provided by the lifeline program's measurements may be used by the Commission, the Division, the Utility and interested parties as a tool to make informed decisions for allocating resources, identifying accountability, monitoring progress and budget development.

In this context, it is especially important to ensure that measurements~~s~~ can "measure up" as viable business decision "tools". To be effective, measures must be carefully selected and refined to be as specific and concrete as possible

In preparing this section of the report, R.W. Beck worked with each of the potential measures identified in Section 3. Each measure was refined, applied and assessed in terms of the standards outlined in 4.1.1.

~~T~~ Based on this effort, R.W. Beck has identified which measures it does and does not find to be applicable for evaluating PaciCorp's Home Energy Lifeline Program. Further, the applicable measures are divided according to whether they can be readily applied or involve unresolved data or design challenges. ~~his section of the report includes the set of measures proposed and developed to evaluate PacifiCorp's Home Energy Lifeline Program.~~

~~In proposing these measures, R.W. Beck considered their applicability in terms of the availability of the data required to support them, and whether they are quantifiable and attributable to the program.~~

- Sub-section 4.2: Measures that are proposed as applicable measures and identified as having readily available data to support them. Commentary on each of these measures includes assessments regarding the ~~of~~ ~~to what degree~~ quantifiability and attributability of each measure. ~~is quantifiable and attributable.~~
- ~~Also~~ Sub-section 4.3: ~~included in this section are m~~Measures that are proposed as applicable measures, but present certain challenges, such as the fact that the data required to support them is not readily available.
- ~~Finally, the~~ Sub-section 4.4: ~~closes with those m~~Measures that ~~were~~ are not proposed by R.W. Beck~~excluded from this initiative~~ and for which discussion about ~~the reasons~~ data or attributability challenges ~~that~~ would have to be resolved before they could be considered.~~why they were not proposed~~.
- Sub-section 4.5: Measures that are not proposed and are determined to ~~be~~ have extreme data challenges.

4.1.1 Criteria For Well-Designed Measures

In assessing these measures, R.W. Beck considered criteria based on both industry standards for sound performance measures, as well as criteria specified by the Commission in their related order.

Any well-designed measurement system ~~to evaluate the lifeline program~~ requires measures that are *specific, measurable* and *economical*. A measure is considered:

- *Specific* when its purpose is clear and it is well defined.
- *Measurable* when the information required is available, accurate and current.
- *Economical* when it is cost effective, the "pay-back" is meaningful, and conducting the measurement is not extensively time consuming.

In addition to these general characteristics, the measures included in the lifeline program ~~is system~~evaluation system must meet the Commission's guidelines. ~~be attributable~~As such, the measures are assessed to determine whether they are *applicable, quantifiable and attributable.* For the purposes of this assessment, a measure is considered: ~~in order to follow the Commission's guidelines for developing measures to evaluate the lifeline program. A measure is:~~

- *Available* when the data required to support it is readily available; accessible in a manner that does not require excessive expense or effort to collect (See measurable and economical above).
- *Quantifiable* when its outcomes can be expressed in more concrete and objective terms. ~~[PATTY – need help on this one]~~
- *Attributable* when its effects can be definitely attributable to the lifeline program.

Finally, the measures included in the lifeline program measurement system must focus on outcomes that are meaningful in the context of the program's objectives and goals, as presented in the mentioned dockets, the historical documentation provided by the Division and input from interested parties.

4.1.1 How Each Measure Is Defined

Measures have several attributes that define them. To ensure a common understanding, these attributes are defined for each ~~proposed~~ measurement outlined in this section. These attributes are:

- Measure title: refers to the name of the performance measure.
- Description: refers to the precise description of what is to be measured.
- Significance: is a short description that identifies why this measure is significant and important.
- Impact: describes the impact the results of the measure will have on the program ~~participants~~recipients, donors and/or utility.
- Standard: refers to the range the result of each measure should fall within. Standards are commonly defined using available industry data and the reality of

the environment where the measurement system will be inserted. Defining standards for this program was a difficult task since industry standards regarding lifeline evaluation programs in other states were not available. The standards for Utah's lifeline program were defined based on the data available for the first year of the program and R.W. Beck's industry knowledge of standards applied to other performance-based measurement systems.

- Sources of information: identifies where and how the information will be obtained.
- Reporting format: identifies the type and format of the report.
- Responsibility: identifies organizational component and individual responsible for ensuring that the data are collected, and reported as specified.

~~Measurement systems provide information that illustrate a program's progress and success. The information provided by the lifeline program's measurements may be used by the Commission, the Division, the Utility and interested parties as a tool to make informed decisions for allocating resources, identifying accountability, monitoring progress and budget development.~~

~~The suggested measurement system is derived from the program's objectives and goals as presented in the mentioned dockets, the historical documentation provided by the Division and input from interested parties.~~

4.2 Applicable, Readily Available Measures

As a starting point, R.W. Beck considered the measures proposed by the Commission to evaluate the success and effectiveness of the program. These measures are listed under 4.2.1 through 4.2.6.

It is challenging to find a way to attribute the results of these measures as an impact of the subsidy program. Factors such as the economy and the volatility of gas prices influence the processes measured under 4.2.1 through 4.2.6 and therefore make if difficult to determine the attributability of these results to the lifeline program. In addition, the data that supports some of these measures might be collected in such a way that clearly establishing their attributability to the program is not possible. For example, the ideal source of information for the terminations and reconnections measure is the number of process handled due to non-payment. The total number of service terminations and reconnections performed in one month might include the terminations and reconnections performed for customers that moved to a new residence, which would skew the results. These measures are to be considered "red flags" or general indicators that may provide associated information regarding the program.

An advantage for the viability of these measures is the fact that since the program's implementation in October 2000, PacifiCorp has monitored the data for these measures and has provided data for the previous year. However, it must be noted that the data available for the previous year presents a challenge in fulfilling the need for a program "baseline" in that this earlier data is aggregated for all residential customers and does not distinguish between program ~~participants~~recipients and other residential customers. As such there is an open need to seek other sources for such "baseline" data for ~~participants~~recipients. In the meanwhile, the design proposed for the affected measures include ways to make the data and calculations more relevant for providing insight about the program's impacts.

In addition, since it is more challenging to assert that trends for such measures are directly attributable to the program, several of the following measures could be applied as indicators or "red flags". In other words, trends associated with such measures can be monitored with the idea that, if related data points start to swing dramatically up or down, the phenomenon may merit deeper scrutiny. Such investigations could include consideration for whether and how this program may be affecting the data signals.

The following discussion takes a closer look at the measures currently in place.

4.2.1. Measure Title: *Balance in Arrears*

Caveat: The balance in arrears measure outlined below might be applied as a "red flag" since the results cannot be clearly attributed to the lifeline program.

Description: Arrearages are defined as the outstanding account balances that are over 30 days past due. This measure would address the average monthly balance in arrears for ~~participants~~recipients of the lifeline program.

Significance: The measure is intended to show the impact the credit provided to low-income customers has on the amount of arrearages for program ~~participants~~recipients.

Impact: In addition to illustrating the impact on arrearages for program ~~participants~~recipients, the results of this measure will show if arrearages have increased or decreased per month and this percentage will be used to reflect the impact on the utility. PacifiCorp does not monitor the cost of its process for handling arrearages and therefore it is not possible to determine the monetary impact of this measure to the utility. This measure does not provide direct information of the impact arrearages has on program donors.

Standard: The standard for arrearages is based on the observed average arrearage for ~~participants~~recipients during the latest six months of the program. This time frame was used since the participation in the program had stabilized. The data provided by PacifiCorp for arrearages during this time frame shows quarterly results. The average arrearage amount per month was derived from this quarterly figure. The average arrearage per program recipient is $13 dollars per month. The standard for this measure is defined as + 0% to –20% of $13 per recipient per month.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial systems.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required to obtain the monthly average arrearages for program ~~participants~~recipients.

Results: Since October 2001, PacifiCorp has been tracking the dollar amount of arrearages for program ~~participants~~recipients. The following table illustrates the results obtained from dividing arrears per month by the number of program ~~participants~~recipients. This calculation is performed to make the data comparable as the number of ~~participants~~recipients varies each month.

Table 4.2.1 Balance in Arrears

	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
# Cust on Lifeline Tariff 3	4	451	1,151	9,425	13,649	15,961	17,342	17,253	16,603	15,966	15,409	14,860
T3 Arrearages $	$1,183	$6,297	$20,479	$341,720	$439,221	$542,325	--	--	$580,809	--	--	$650,062
Average arrear per month							$193,603	$193,603	$193,603	$216,687	$216,687	$216,687
Dollar amount/~~participants~~recipients							$11	$11	$12	$14	$14	$15

The results illustrate that the dollar amount of arrearages for program ~~participants~~recipients has increased an average of 3.5% (except for the month of July where the increase is higher), even though the number of ~~participants~~recipients has decreased. Therefore it is possible to assume that the cost of the arrearages process for the utility has increased over the time period reviewed.

4.2.2. Measure Title: *Terminations*

Caveat: The service terminations measure outlined below might be applied as a "red flag" since the results cannot be clearly attributed to the lifeline program.

Description: Provides information regarding the monthly number of termination notices and service terminations for non-payment for ~~participants~~recipients in the program.

Significance: The measure is intended to show the impact that the credit provided to low-income customers has on the number of termination notices and terminations for ~~participants~~recipients.

Impact: In addition to illustrating the impact of this measure on program ~~participants~~recipients, the results will show if the number of terminations and termination notices has increased or decreased per month and this percentage will be used to reflect the impact on the utility. This measure does not provide direct information of the impact on program donors.

Standard: The standard for termination notices is defined based on the observed average number of termination notices for customers participating in the program. The average termination notices is 150 notices per 1000 customers and it is calculated using six months of data in which the program participation had stabilized. The standard is + 0% to –20% of 150 notices per 1000 program ~~participants~~recipients per month.

The standard for service terminations is defined based on the observed average terminations for customers participating in the program. The average number of service terminations is 6 per 1000 customers and it is calculated using six months of data in which the program participation had stabilized. The standard is + 0% to –20% of 6 service terminations per 1000 program ~~participants~~recipients per month.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial systems. The expected data set for this measure is monthly service terminations for program ~~participants~~recipients due to non-payment. If PacifiCorp cannot provide this data, this measure is a less accurate meaningful surrogate measure.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: Since October 2001, PacifiCorp has been tracking on a monthly basis the number of termination notices and service terminations for program ~~participants~~recipients. The following table illustrates the results obtained from calculating the number of termination notices and service terminations per month by the number of program ~~participants~~recipients. This calculation is performed to make the data comparable as the number of ~~participants~~recipients varies each month.

Table 4.2.2 Terminations

	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
# Cust on Lifeline Tariff 3	4	451	1,151	9,425	13,649	15,961	17,342	17,253	16,603	15,966	15,409	14,860
T3 Term Notices #	1	23	26	628	1,416	2,072	2,613	2,778	2,525	1,389	2,706	2,669
Termination notices/1000 ~~participants~~recipients	250	51	23	67	104	130	151	161	152	87	176	180
T3 Terminations #	0	0	0	3	10	28	119	135	102	68	91	83
Terminations/1000 ~~participants~~recipients	0	0	0	0	1	2	7	8	6	4	6	6

~~Table 4.2.2 Terminations~~

The number of termination notices per 1000 program ~~participants~~recipients had initially decreased and then increased for the last two months considered. At the same time, the number of service terminations has tended to stabilize at 6 terminations per 1000 program ~~participants~~recipients. It is possible to assume that the costs for the utility associated with termination notices increased during the months of August and September 2001, while the costs associated with service terminations has remained stable.

4.2.3. Measure Title: *Reconnections*

Caveat: The service reconnections measure outlined below might be applied as a "red flag" since the results cannot be clearly attributed to the lifeline program.

Description: Provides information regarding the monthly number of service reconnections for ~~participants~~recipients of the program.

Significance: The measure is intended to show the impact that the credit provided to the low-income customers has on the number of service reconnections.

Impact: In addition to showing the impact of this measure on program ~~participants~~recipients, the results of this measure will show if the number of reconnections has increased or decreased per month and this percentage will be used to reflect the impact on the utility. This measure does not provide direct information of the impact on program donors.

Standard: The data used for the analysis of this measure in the draft report was labeled improperly in PacifiCorp's spreadsheet and reflected the number of service reconnections performed for residential customers. The actual number of service reconnections for program ~~participants~~recipients shows that during the first year of the program only one reconnection was performed. Based on this information, the standard for service reconnections would range from 1 service reconnection per 14,000 to at least 3 service reconnections per 14,000 program ~~participants~~recipients.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial systems. The ideal data for this measure is reconnections for program ~~participants~~recipients following terminations due to lack of payment. If PacifiCorp cannot provide this data, this measure is a less meaningful surrogate measure.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: Since October 2001, PacifiCorp has been tracking on a monthly basis the number of service reconnections for program ~~participants~~recipients. During the first year of the program only one service reconnection was performed for ~~participants~~recipients. Since one reconnection was performed during the year, it is possible to assume that the cost of service reconnections for program ~~participants~~recipients increased.

4.2.4 Measure Title: *Accounts Sent to Collection Agencies*

Caveat: The account sent to collection agencies measure outlined below might be applied as a "red flag" since the results cannot be clearly attributed to the lifeline program.

Description: Provides information regarding the monthly number of program recipient accounts and outstanding account balances sent to collection agencies by the utility.

Significance: The measure is intended to show the impact that the credit provided to low-income customers has on the outstanding account balances and number of program recipient accounts sent to collection agencies.

Impact: In addition to showing the impact of this measure on program ~~participants~~recipients, the results will show if the number of accounts and dollar amount sent to collection agencies has increased or decreased per month and this percentage will be used to reflect the impact on the utility. This measure does not provide direct information of the impact on program donors.

Standard: The standard for the dollar amount sent to collection agencies is defined based on the observed average amount sent by the utility involving program ~~participants~~recipients. The average dollar amount sent to collection agencies is $2.00 per recipient and it is calculated using six months of data in which the program participation had stabilized. The standard should be + 0% to – 20% of $2.00 per program recipient per month.

The standard for the number of accounts sent to collection agencies is defined based on the observed average number of program recipient accounts sent to collection. The average number of accounts sent to collection agencies is 9 per 1000 ~~participants~~recipients and it is calculated using six months of data in which the program participation had stabilized. The standard is +0% to –20% of 9 accounts per 1000 program ~~participants~~recipients sent to the collection agency per month.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial systems.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: Since October 2001, PacifiCorp has been tracking on a monthly basis the number of accounts and dollar amounts for these accounts sent to collections agencies. The following table illustrates the results obtained from calculating the number of accounts and dollar amount sent per month. This calculation is performed to make the data comparable as the number of ~~participants~~recipients varies each month.

Table 4.2.4 Accounts Sent to Collection Agencies

	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
# Cust on Lifeline Tariff 3	4	451	1,151	9,425	13,649	15,961	17,342	17,253	16,603	15,966	15,409	14,860
T3 to Collect Agencies $	$0	$0	$0	$0	$283	$3,764	$10,562	$33,116	$30,063	$17,553	$24,651	$37,242
Dollar amount/~~participants~~recipients	$0.00	$0.00	$0.00	$0.00	$0.02	$0.24	$0.61	$1.92	$1.81	$1.10	$1.60	$2.51
T3 to Collect Agencies #	0	0	0	0	0	2	4	10	10	6	9	17
Accounts/1000 ~~participants~~recipients	0.00	0.00	0.00	0.00	0.15	2.19	3.75	10.03	9.52	5.95	9.47	17.50

The results indicate that the dollar amount and number of recipient accounts sent to collection agencies has tended to increase since April 2001. It is possible to assume that the costs associated with these processes have also increased for the utility.

4.2.5 Measure Title: *Write-Offs*

Caveat: The write-offs measure outlined below might be applied as a "red flag" since the results cannot be clearly attributed to the lifeline program.

Description: Provides information regarding the monthly number of recipient account write-offs by the utility and the dollar amount for these accounts.

Significance: The measure is intended to show the impact that the credit provided to low-income customers has on the dollar amount and number of write-offs for program recipient accounts.

Impact: In addition to showing the impact of this measure on program ~~participants~~recipients, the results will show if the number of write-offs and dollar amount written-off has increased or decreased per month and this percentage will be used to reflect the impact on the utility. This measure does not provide direct information of the impact on program donors.

Standard: The standard for the number of write-offs is defined based on the observed average number of write-off for program ~~participants~~recipients. The average number of write-offs is 2 per 1000 ~~participants~~recipients per month and it is calculated using six months of data in which the program participation had stabilized. The standard is + 0% to –20% of 2 accounts per 1000 program ~~participants~~recipients per month.

The standard for the dollar amounts written-off is defined based on the observed average amount of write-offs for program ~~participants~~recipients. The average dollar number written-off is $262 per 1000 ~~participants~~recipients and it is calculated using six months of data in which the program participation had stabilized. The standard is 0% to –20% of $262 per 1000 program ~~participants~~recipients per month.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial systems.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: Since October 2001, PacifiCorp has been tracking on a monthly basis the number of accounts and dollar amounts written-off. The following table illustrates the results obtained from calculating the number of accounts and dollar amount sent per month. This calculation is performed to make the data comparable as the number of ~~participants~~recipients varies each month.

Table 4.2.5 Write-Offs

	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
# Cust on Lifeline Tariff 3	4	451	1,151	9,425	13,649	15,961	17,342	17,253	16,603	15,966	15,409	14,860
T3 Write-offs $	$0	$0	$30	$113	$256	$749	$1,163	$2,090	$1,985	$3,389	$5,384	$10,446
Dollar amount/1000 ~~participants~~recipients	$0.00	$0.00	$26.06	$11.99	$18.76	$46.93	$67.06	$121.14	$119.56	$212.26	$349.41	$702.96
T3 Write-offs #	0	0	1	2	8	15	15	17	12	26	49	108
Accounts/1000 ~~participants~~recipients	0.00	0.00	0.87	0.21	0.59	0.94	0.86	0.99	0.72	1.63	3.18	7.27

The results indicate that the dollar amount and number of accounts written-off per 1000 program ~~participants~~recipients has tended to increase. It is possible to assume that the costs for the utility associated with these processes have increased as well.

4.2.6. Measure Title: *Recoveries*

Caveat: The recoveries measure outlined below might be applied as a "red flag" since the results cannot be clearly attributed to the lifeline program.

Description: Provides information regarding the ratio of the monthly number of recoveries to write-offs and the dollar amount of recoveries to write-offs.

Significance: The measure is intended to show the impact that the credit provided to low-income customers has on the dollar amount and number of write-offs for program recipient accounts.

Impact: In addition to showing the impact of this measure on program ~~participants~~recipients, the results will show if the number of recovered accounts and dollar amount for these recovered accounts has increased or decreased per month and this percentage will be used to reflect the impact on the utility. This measure does not provide direct information of the impact on program donors.

Standard: The standard for the ratio of recovered accounts to write-offs is defined based on the observed average number of recovered accounts and written-off accounts from program ~~participants~~recipients. The monthly average number of recovered accounts is 21 and it is calculated using six months of data in which the program participation had stabilized. The observed monthly average number of recipient account write-offs is 38 and it is also calculated using six months of data in which the program participation had stabilized. The average ratio of recovered accounts to written-off accounts is 21: 38, which closely approximates a ratio of 1 recovered account to 2 written-off accounts. The lower range for this standard would be no less than 1 recovered account per every two written-off accounts for program ~~participants~~recipients. The upper end for this measure would be 1.5 recovered accounts per every 2 written-off accounts for program ~~participants~~recipients.

The standard for the ratio of recovered dollar amounts to written-off amounts is defined based on the observed average recovered dollars and the amount written-off for program ~~participants~~recipients. The monthly average recovered dollar amount is $838 and it is calculated using six months of data in which the program participation had stabilized. The observed monthly average written-off dollar amount is $4,076 and it is calculated using six months of data in which the program participation had stabilized. The average ratio of recovered dollar amounts is 838: 4,076. The lower end of this standard would be no less than $800 recovered dollars per $4,000 written-off dollars for program ~~participants~~recipients. The upper end for this measure would be $1,200 recovered dollars per $4,000 written-off dollars for program ~~participants~~recipients.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial systems.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: Since October 2001, PacifiCorp has been tracking on a monthly basis the number of accounts and dollar amounts for the accounts written-off. The following table illustrates the results obtained from calculating the number of recovered accounts to write-offs. This calculation is performed to make the data comparable as the number of ~~participants~~recipients varies each month.

Table 4.2.6 Recoveries

	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
# Cust on Lifeline Tariff 3	4	451	1,151	9,425	13,649	15,961	17,342	17,253	16,603	15,966	15,409	14,860
T3 Write-offs $	$0	$0	$30	$113	$256	$749	$1,163	$2,090	$1,985	$3,389	$5,384	$10,446
T3 Recoveries $	$0	$0	$19	$11	$69	$160	$159	$102	$733	$1,490	$1,035	$1,506
T3 Write-offs #	0	0	1	2	8	15	15	17	12	26	49	108
T3 Recoveries #	0	0	1	2	8	15	9	5	20	30	20	44

The number of recovered dollar amount and accounts to written-off dollar amounts and accounts was higher for the months of April, June and July 2001. However, in August and September the number of recovered accounts and amounts decreased in comparison to the number of written-off accounts. It is possible to assume that for the utility, the costs associated with recoveries was initially less and then increased for the six months reviewed.

4.2.7 Measure Title: *Accrued Interest*

Description: Shows the excess amounts of accrued interest remaining in the program account after credit distribution. An interested party suggested this measure.

Significance: The measure shows the monthly amount that is accrued due to interest. The excess balance in the program account comes from the donors surcharge, but the interest does not accrue to the donors.

Impact: This measure does not provide any information regarding the impact to ~~participants~~recipients or utility. However, it does provide information regarding the potential for unintended consequences of the program's design in the form of an account that could, at the current levels of disbursements and administrative costs grow indefinitely.

Standard: A standard should be defined for this measure that minimizes the excess amounts of accrued interest. The program design as understood by R.W. Beck would argue for 0 interest accrued, which would require a rebate to ~~participants~~recipients or an assessment that would consider rolling back the monthly surcharges.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial systems.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: The data provided by PacifiCorp shows that the interest accrued by the fund after the first year of the program is $5,111.

4.2.8 Measure Title: *Account Balance*

Description: Shows the annual excess balance in the program account after the contributions have been distributed. An interested party suggested this measure.

Significance: The measure provides information regarding the collected amount from the donors and the amount distributed to program ~~participants~~recipients.

Impact: This measure provides information regarding the impact to ~~participants~~recipients and donors, but not the utility. And, like the measure above, this measure could grow indefinitely at the current levels of disbursements and administrative costs.

Standard: The standard for this measure is between 0% and 5% of the $1.850,000 designated as the capped amount for the program.

Sources of Information: The data for this measure is provided by PacifiCorp based on their accounting and financial information.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the account balance. The Division will be responsible for performing the calculations required for this measure.

Results: The data provided by PacifiCorp indicates that during the first year of the lifeline program $1,897,652 was collected from the donors and $1,044,260 was distributed to the program ~~participants~~recipients.

4.2.9 Measure Title: *Penetration*

Description: Measures the program's penetration over time, in PacifiCorp's program qualified low-income customers-base. R.W. Beck suggested this measure.

NOTE: A variation of this measure was suggested to monitor the program's penetration into the lowest of the low-income customers. However, since related data is not currently available, this data challenge would need to be addressed before this variation could be proposed.

Significance: The program targets low-income households that are PacifiCorp customers in Utah and that qualify under the program's income restrictions. The measure would show the percent of program participation.

Impact: This measure illustrates the impact of program penetration on ~~participants~~recipients, but not on donors or the utility.

Standard: Participation rate of 42% of eligible households in PacifiCorp's service territory.

Sources of Information: The information required for this measure is the number of participating households in the program and it is provided by PacifiCorp based on their accounting and financial systems.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: A total of 532,000 Utah Power and Light customers are residential customers. SLCAP and Crossroads estimated that approximately 48,157 households are eligible to participate in the program. The following table illustrates the program's participation since it was implemented in October 2000.

Table 4.2.9 ***Penetration***

	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
Customers on Lifeline Tariff 3	4	451	1,151	9,425	13,649	15,961	17,342	17,253	16,603	15,966	15,409	14,860
Percent of participation	0.01%	0.94%	2.39%	19.57%	28.34%	33.14%	36.01%	35.83%	34.48%	33.15%	32.00%	30.86%

4.2.10 Measure Title: *Energy Consumption Trend*

Description: This measure tracks the average monthly kWh consumption for program ~~participants~~recipients and also residential customers.

Significance: Monitoring monthly consumption of these two groups of consumers provides useful information when analyzing the results or influences of the program and identifying external agents that might have influenced the results of the measures.

Impact: This measure does not evaluate the impact of the program on ~~participants~~recipients, but rather tracks energy consumption for both groups of consumers.

Standard: Standards are not appropriate for this measure, since it tracks consumption rather than impact on ~~participants~~recipients and donors.

Sources of Information: The average monthly kWh consumption for program ~~participants~~recipients and donors will be provided by PacifiCorp.

Reporting Format: Report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the information for this measure to the Division. The Division will be responsible for performing the calculations required for this measure.

Results: The following table illustrates the average monthly consumption for program ~~participants~~recipients and donors.

Table 4.2.10 *Energy Consumption Trends*

	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01
Residential Average kWh	640	631	799	850	723	661	579	556	644	811	912	776
Recipient Average kWh	706	547	692	731	747	526	524	502	498	615	658	589
Temperature Normalizing kWh Total Residential*	(1,004,000)	(28,324,000)	2,761,000	(2,401,000)	2,477,000	14,859,000	(9,083,000)	(16,144,000)	(3,531,000)	(2,129,000)	(4,691,000)	(2,714,000)

***** The negative numbers indicate a reduction to the reported kWh based on actual temperatures that exceeded the expected temperatures.

The results indicate higher consumption for both groups during the winter months of January and February and during the summer month of August.

It is especially challenging to find a way to attribute energy-conserving trends as an impact of a subsidy program. The measure outlined above might be applied as a "red flag" or general environmental indicator, as described for measures earlier in this section.

4.3 Additional Applicable, But Challenged, Measures

The following section lists those measures that were suggested by interested parties and~~,~~ found to be applicable, but that, at this time, present unresolved challenges regarding data availability or design. The measures included have also been reviewed considering their quantifiability, attributability in relation to the program and the value their results could provide in evaluating whether the program is successful.

4.3.1 Measure Title: *Donor's Investment Opportunity*

Description: Measures the donor's missed investment opportunity.

Significance: This measure would illustrate the possible missed investment opportunity for program donors per year.

Impact: This measure provides information on potential impacts to donors. It does not provide information regarding impacts to the ~~participants~~recipients or the utility

Standard: The standard for this measure would be the dollar amount that results from using two possible investment scenarios that range between 3.0% (savings account annual return) and 12.0% (Standard and Poors long term return) to calculate the missed investment opportunities.

Sources of information: To determine the donor's missed investment opportunity, it is necessary to calculate the future value of the monthly surcharges contributed by the donors. The number of donors in each schedule and their corresponding surcharges provides the total monthly contribution. Once the monthly contributions are identified, it is possible to determine the magnitude of the investment opportunity by applying a financial time value of money formula that will illustrate the future value of the annuities for each schedule:

$$FVA = PMT \sum_{t=1}^{n1} (1 + i)^{n-1}$$

FVA = Future value of an annuity

PMT = Payment

n = number of payments

t = time

i= interest rate

To evaluate the missing investment opportunities, two scenarios were be considered:

1) Low rate of return. Under this scenario the interest rate used is 3.0%, which represents the interest rate yield by savings accounts.
2) Higher rate of return. Under this scenario the expected rate of return used is 12.0%, which represents the Standard and Poors 500 historical long-term return.

The results from this formula provide the amount of return the donors would receive if they had invested their contributions in alternative investment opportunities. The challenge associated with this measure is determining the percentage of donors that would be likely to invest their contributions in other opportunities.

Reporting Format: Report provided to the Commission on an annual basis.

Responsibility: It would be PacifiCorp's responsibility to provide the monthly contributions. The calculations required to obtain the results of this measure would be the Division's responsibility.

Results: To increase the accuracy of this measure it is helpful to determine the percentage of donors that would be likely to invest their contributions; however at this time that information was not available. The data that was available to perform this measure is the average monthly donor contribution, the number of payments performed by the donors in one year and the interest rates assumed for other investment opportunities. Taking into consideration that the percentage of donors most likely to invest is not available, the results of applying the formula for the two scenarios defined is:

1) Low rate of return - 3.0% interest rate used, which represents the interest rate yield by savings accounts. The following shows the details of the calculations performed to apply the formula:

   Average monthly contribution: $158,138

   Number of payments in a year: 12

   Interest rate: 3% annual interest rate

   Present value of the annuity: 0

   Future value of the annuity: $1,928,777

   Based on the average monthly contributions used, the total annual contributions equal $1,897,656. This means that if the donors had invested in other opportunities with a 3% interest rate they would have made an additional $31,212.

2) Higher rate of return - expected rate of return used is 12%, which represents the Standard and Poors 500 historical long-term return The following shows the details of the calculations performed to apply the formula:

   Average monthly contribution: $158,138

Number of payments in a year: 12

Interest rate: 12% annual interest rate

Present value of the annuity: 0

Future value of the annuity: $2,025,641

Based on the average monthly contributions used, the total annual contributions equal $1,897,656. This means that if the donors had invested in other opportunities with a 12% interest rate they would have made an additional $127,985.

4.3.2. Measure Title: *Donor's After–Tax Contributions Compared to Pre-Tax Contributions*

Description: This measure shows the amount of money that is unavailable to some donors because the surcharge is not tax deductible. The interested party suggested focusing on the income tax and assuming a 22% tax load.

Significance: The measure is intended to show both the direct and the indirect cost to the donors since their contribution is performed on an after-tax basis.

Impact: This measure provides information on impacts to donors. It does not provide any information regarding the impact to the ~~participants~~recipients or utility.

Standard: The standard for this measure would need to consider as a maximum point the total amount contributed by residential donors at a 22% tax rate. The minimum for this standard can not be defined at this time since the percentage of residential customers that work from home and deduct the surcharge as a business expense, can not be determined.

Sources of Information: PacifiCorp would provide the total dollars collected for the lifeline program. The suggested tax rate is 22%, which would apply to the majority of the donors. The challenge with this measure is that the contributions made by commercial and industrial customers are usually deducted as a business expense and therefore do not qualify for this measure. In addition, residential customers might work from home and also deduct this contribution as a business expense. Information required to determine the percentage of residential customers whose contribution is performed on an after-tax basis is not available. Data regarding the monthly contribution of all residential customers is available and will be considered in order to perform this measure.

Reporting Format: Excel spreadsheet and report provided to the Commission on an annual basis.

Responsibility: It is PacifiCorp's responsibility to provide the total dollar amount collected for the program. The Division will be responsible for performing the calculations required for this measure.

Results: To obtain the annual dollar contribution of residential customers, the average number of residential customers was calculated and then multiplied by the surcharge for this schedule ($0.12). The 22% tax rate was then applied to the result.

During the first year of the program, an average of 577,711 residential customers contributed to the program. Based on this figure the dollar amount contributed by the residential customers was $69,325. When applying the 22% tax rate, the cost to the donors is $84,576 since their contribution is performed on an after-tax basis.

As stated above, to increase the accuracy of this measure it is necessary to determine the percentage of residential customers whose contributions are performed on an after-tax basis. This data is currently not available.

4.3.3 Measure Title: *Recipient and Donor Perspective and Attitudes*

Description: The measure suggested focuses on identifying the ~~participants~~recipients' and donors' attitudes about the program and its results. It would also identify the ~~participants~~recipients' and donors' needs and desires in relation with the lifeline program. In addition, this measure would be used to determine the propensity of the ~~participants~~recipients to consume the provided credit and the propensity of the donors to invest their contributions.

Significance: Obtaining the ~~participants~~recipients' and donors' attitudes, perceptions, needs and desires in relation to the program is a measure that can be quantified through the use of a survey. This survey could also be used to determine the ~~participants~~recipients' perception of their propensity to consume the provided credit and to determine the donors' perception of their propensity to invest their contributions.

Impact: As stated above, the survey would illustrate the perception of donors and ~~participants~~recipients regarding the program. The survey would not measure the impact of the program on the utility.

Standard: Standards for this measure cannot be defined at this time, since the details of what the survey would evaluate are unknown.

Sources of Information: The data for this measure would be attainable through surveys conducted to ~~participants~~recipients and donors. This process would increase the costs of administrating the project and it is important to consider that negative perceptions towards the program do not necessarily determine the program's effectiveness. R.W. Beck's experience has been that costs for a six to seven minute telephone survey of 400 residential customers would be approximately $10,000. Costs for a six to seven minute telephone survey of 300 commercial customers would be approximately $20,000. These costs include the design of the instrument, the actual surveying, and analysis of the results obtained.

Reporting Format: The results of the survey would be included in the annual report to the Commission.

Responsibility: The Division would be responsible for managing the process required to perform the surveys.

4.3.4 Measure Title: *Average Electricity Energy Burden*

Description: This measure would provide information about the electric energy cost burden for low-income families participating in the program.

Significance: This measure is intended to show the impact the credit provided to low-income customers has on their electric energy cost burden defined as the proportion of a household's income spent on electricity expenses. The measure would include:

- The electric energy cost burden calculated using the average annual electric bill for program ~~participants~~recipients.
- The electric energy cost burden calculated using the average annual bill minus the $96 dollars credited to program ~~participants~~recipients in a year.
- The median annual household income for program ~~participants~~recipients.

Impact: This measure illustrates the program's impact on ~~participants~~recipients. It does not provide information on the impact to the utility or program donors.

Standard: The Low Income Consumer Utility Issues: A National Perspective report prepared by Jerold Oppenheim and Theo MacGregor states that in Utah, the electricity burden is 1.6% for those with a median income. The Oppenheim and MacGregor report also states that for the low-income consumer, the electricity burden is five times greater. Considering this information, the suggested standard for this measure is between 8.0% and the actual electricity burden calculated for program ~~participants~~recipients.

Sources of Information: The information required for this measure is:

- The median annual income for all program ~~participants~~recipients is not available. Instead the median annual income for SSI ~~participants~~recipients will be calculated using their monthly income and projecting it to obtain their annual income.
- Average monthly bill for program ~~participants~~recipients.

Reporting Format: Results to be included in the annual report presented to the Commission.

Responsibility: PacifiCorp would be responsible for providing the average annual bills for program ~~participants~~recipients. The Department of Community and Economic Development (DCED) would provide the monthly income for program ~~participants~~recipients since they since administer the program and determine customer eligibility. The Division would be responsible for performing the calculations to obtain the electric energy cost burden.

Results: At this time the data regarding the monthly income for program ~~participants~~recipients was not available. This data will be provided to the Division for the corresponding application of the measure.

4.3.5 Measure Title: *Program Stability*

Description: Provides information regarding the stability of the program participation.

Significance: During the facilitated session Group members suggested that the stability of the program be measured, based on recent observations that a number of ~~participants~~recipients seem to be "lost" from the program rolls, when they move or in some other way affect their affiliation with their PacifiCorp account. The concern is that they may not be reenrolling, but there is no clear insight on the root challenges. This measure would help clarify whether the program is providing a stable benefit to enrolled customer households, identifying the number of people that join the program, how many leave and the reasons for leaving.

Impact: This measure would provide information regarding the impact that the program has on ~~participants~~recipients. It would not provide any information regarding the impact to the utility or donors.

Standard: Discussion is still required to determine the manner to monitor this measure. Standards may be defined once this information is available.

Sources of Information: The information required for this measure includes the number of ~~participants~~recipients per month that join the program, those that drop the program and the reasons why they leave it. As program administrator, the DCED would be the one most likely to have the data related to program participation. However, the information that supports the reasons why the ~~participants~~recipients drop the program is currently unavailable. The surveys suggested to collect ~~participants~~recipients' and donors' perspectives would provide one tool for gathering this information.

Reporting Format: Results to be included in the annual report presented to the Commission.

Responsibility: The Department of Community and Economic Development (DCED) would provide the data related to program participation. The Division would be responsible for performing the calculations to obtain the program stability rates. If the survey were performed, the Division would be responsible for managing that process.

Results: At this time the results for this measure are unavailable.

4.4 Measures Not Proposed

The following lists measures suggested by the interested parties, but that were not included in the measurement system that R.W. Beck is proposing to evaluate the lifeline program.

4.4.1 Measure Title: *Returned Checks*

Description: This measure would provide information regarding the monthly number of returned checks from program ~~participants~~recipients.

Significance: The measure is intended to show the impact that the credit provided to the low-income customers has on the number of returned checks from program ~~participants~~recipients. Monitoring the number of returned checks does not provide information as useful as tracking the monthly dollar amount the utility does not receive due to these checks. This figure can be tracked by the amount in arrearages, which is a measure currently monitored.

Impact: This measure would show the impact the program has on ~~participants~~recipients. If the utility tracked the number of returned checks, the percent change of returned checks per month would provide information regarding the utility costs associated with this business process.

Standard: Not applicable.

Sources of Information: PacifiCorp would have to provide the number of returned checks from program ~~participants~~recipients each month. This would most likely increase the administrative costs of the system, since the data gathering tools to monitor this measure are not in place.

Reporting Format: If the data were available, the results would be included in the annual report to the Commission.

Responsibility: PacifiCorp would be responsible for providing this information, if it were readily available.

Results: Implementing this measure will most likely increase the costs and complexity of monitoring the program. Since related data is gathered under the arrearages measure, at this time it is not necessary to track the number of returned checks from program ~~participants~~recipients each month.

4.4.2 Measure Title: *Legal measures*

Description: The suggestion was made to develop measures to determine if the program was consistent with the Constitution of the United States, the Utah State Constitution and the Federal Welfare Reform Act of 1996. Developing these measures would require a legal assessment of the program that is beyond the scope of this project and therefore will not be addressed in this report.

Significance: Not applicable

Impact: Not applicable

Standard: Not applicable

Sources of Information: Not applicable

Reporting Format: Not applicable

Responsibility: Not applicable

4.4.3 Measure Title: *Costs Associated With the Fire and Health Department, Homeless Shelters, and Medicaid Funds*

Description: The Low Income Consumer Utility Issues report by Jerold Oppenheim and Theo McGregor states that the benefits of low-income payment assistance and efficiency programs for tax payers include reduced costs of fire and health departments, homeless shelters and Medicaid funds. A measurement for this issue would be intended to evaluate the impact the lifeline program has on the costs of the fire and health department, homeless shelters and Medicaid funds (and/or related service overheads for area communities).

Significance: A broader socio-economic study is required to analyze the possible impact low-income payment assistance programs have on the costs mentioned above. This study would need to consider issues such as the relationship between the payment assistance provided to the low-income households and their attitude regarding alternative uses of energy, health related behaviors, factors that influence the decision to move, etc. The results of this study would be used to define potential standards to measure the impact of the assistance program has on the costs of fire and health departments, homeless shelters, and Medicaid funds.

Impact: Not applicable

Standard: Not applicable

Sources of Information: Not applicable

Reporting Format: Not applicable

Responsibility: Not applicable

4.4.4 Measure Title: *Property Value*

Description: The Low Income Consumer Utility Issues report by Jerold Oppenheim and Theo McGregor states that the benefits of low-income payment assistance and efficiency programs for tax payers include increased property values that generate real estate taxes. In addition to the benefits stated in the Oppenheim and McGregor report, an interested party presented the detriments that the plan would have on property values. These detriments include reduced property values due to less money to maintain the homes and lower property tax receipts due to lower property values.

A measurement for these issues would be intended to evaluate the impact the lifeline program has on property values.

Significance: A broader socio-economic study is required to analyze the possible benefits and detriments low-income assistance programs have on property values. This study would need to consider issues such as the relationship between the payment assistance provided to the low-income households and factors that influence their decision to move, factors that influence property value, the relationship between the surcharge and the factors that influence home owners to maintain and repair their homes, etc. The results of this study would be used to define potential standards to measure the impact of the assistance program has on property values and the generation of real estate taxes.

Standard: Not applicable

Sources of Information: Not applicable

Reporting Format: Not applicable

Responsibility: Not applicable

4.4.5 Measure Title: *Investment Costs Associated With Employment and Construction*

Description: An interested party suggested that the lifeline program has associated detriments that lower investments, which impact employment and construction figures negatively. The decrease in investments would be due to fewer dollars available due to the contributions made to the program. A measurement for this issue would be intended to evaluate the impact the lifeline program has on employment and construction due to lower investments.

Significance: A broader socio-economic study is required to analyze the possible impact the lifeline program has on employment figures, construction trends and investment costs. This study would need to consider issues such as the relationship between investments and employment rates, the relationship between investments and construction trends, factors that influence employment and construction rates, etc. The results of this study would be used to define potential standards to measure the impact of the assistance program has on employment and construction rates.

Impact: Not applicable

Standard: Not applicable

Sources of Information: Not applicable

Reporting Format: Not applicable

Responsibility: Not applicable

4.4.6 Measure Title: *Personal Funds and Costs Associated with Home Improvements and Retail Sales*

Description: An interested party suggested that the lifeline program has associated detriments that reduce the personal funds donors have available for maintaining and repairing their homes and for purchasing retail items. The decrease in personal funds would be due to fewer dollars available due to the contributions made to the program. A measurement for this issue would be intended to evaluate the impact the lifeline program has on reduced home improvements and reduced retail sales due to the donor's lower personal funds.

Significance: A broader socio-economic study is required to analyze the possible impact the lifeline program has on home maintenance and retail sales. This study would need to consider issues such as the relationship between reduced personal funds and home maintenance patterns, the relationship between reduced personal funds and consumer behavior, etc. The results of this study would be used to define potential standards to measure the impact of the assistance program has on home maintenance and retail sales.

Impact: Not applicable

Standard: Not applicable

Sources of Information: Not applicable

Reporting Format: Not applicable

Responsibility: Not applicable

4.5 Possible Measures, but Extremely Challenged for Data Attributability

4.5.1 Measure Title: *Economic Stimulus From Consumer Dollars Freed through the Subsidy*

Description: Group members participating in the facilitated discussion, suggested that a measure be developed to provide information regarding the aggregate impact of the consumer dollars that are freed up through the availability of the "substituted" subsidy dollars.

Significance: The suggested measure is intended to calculate a compounded stimulating effect that the "freed" dollars would have within the local economy as the dollars are distributed back into circulation through consumer spending on basic goods and services. It was recommended that if the missed investment opportunity measure was calculated as an aggregate impact of the total funds collected through the surcharge, then this measure should be calculated using the aggregate of the total funds distributed through the subsidy.

Impact: This measure provides information on potential impacts to the ~~participants~~recipients. It does not provide any information regarding the impact to the donors or utility.

Standard: The standard for this measure would be the dollar amount that results from using the multiplier recommended by the USDA to calculate the compounded stimulating effect that the "freed" dollars would have within the local economy as the dollars are distributed back into circulation through consumer spending on basic goods and services.

Sources of Information: Group members recommended that the measure apply information from the USDA, asserting that this agency has calculations on the "multiplier" effect of one dollar spent on basic commodity. According to this source, the referenced calculation assumes that for every dollar a consumer spends on a basic commodity it stimulates up to $3.00- $4.00 within the economy at large.

Reporting Format: Report provided to the Commission on an annual basis.

Responsibility: PacifiCorp would be responsible for providing the amount distributed to ~~participants~~recipients. The party that suggested this measure, Crossroads Urban Center, would be responsible for identifying the multiplier suggested by the USDA for this measure and for performing the calculations associated with this measure.

Results: The multiplier necessary to apply this measure was not available at this time.

4.5.2 Measure Title: *Economic Stimulus From Consumer Dollars Taken through the Subsidy*

Description: Group members participating in the facilitated discussion, suggested that a measure be developed to provide information regarding the aggregate impact of the consumer dollars that are "taken" up through the subsidy dollars.

Significance: The suggested measure is intended to calculate a compounded stimulating effect that the taken dollars would have within the local economy as the dollars that are "taken" from the donors and are not available to them for consumer spending on basic goods and services. It was recommended that if the missed investment opportunity measure was calculated as an aggregate impact of the total funds collected through the surcharge, then this measure should be calculated using the aggregate of the total funds distributed through the subsidy.

Impact: This measure provides information on potential impacts to donors. It does not provide any information regarding the impact to ~~participants~~recipients or the utility.

Standard: The standard for this measure would be the dollar amount that results from using the multiplier recommended by the USDA negatively to calculate the compounded stimulating effect that the "taken" dollars would have within the local economy.

Sources of Information: Group members recommended that the measure apply information from the USDA, asserting that this agency has calculations on the "multiplier" effect of one dollar spent on basic commodity. The negative number of this multiplier would be used to calculate the dollars "taken" from the donors. According to this source, the referenced calculation assumes that for every dollar a consumer spends on a basic commodity it takes up to $3.00- $4.00 within the economy at large.

Reporting Format: Report provided to the Commission on an annual basis.

Responsibility: PacifiCorp would be responsible for providing the amount distributed to ~~participants~~recipients. The party that suggested this measure, Crossroads Urban Center, would be responsible for identifying the multiplier suggested by the USDA for this measure and for performing the calculations associated with this measure.

Results: The multiplier necessary to apply this measure was not available at this time.