

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In The Matter Of The Application of)
PacifiCorp and Scottish Power plc) Docket No. 98-2035-04
for an Order Approving the Issuance)
of PacifiCorp Common Stock)

SCOTTISHPOWER

REBUTTAL TESTIMONY OF ROBIN MACLAREN

JULY 16, 1999

Q. Please state your name, responsibilities, and qualifications.

A. My name is Robin MacLaren. I have an Honors degree in Electrical Engineering from the University of Strathclyde in Glasgow, Scotland, and am a member of the Institution of Electrical Engineers and Institute of Directors in the U.K. I have over 24 years experience in all aspects of the electric utility business. As Chief Engineer, Power Systems, my responsibilities include engineering, capital investment, and network performance improvement in all transmission and distribution networks owned by ScottishPower.

Q. What is the purpose of your rebuttal testimony?

A. My testimony will address the issues raised by DPU witness Mr. Robert Maloney and comment on the proposed merger conditions contained in Exhibit No. DPU 1.2 ("Conditions") which relate to ScottishPower's proposed Performance Standards and Customer Guarantees. I will also address the positions taken by Mr. Paul Chernick, consultant to the Committee of Consumer Services (CSS). In addition, I will respond to specific concerns raised by the witnesses for Utah Associated Municipal Power Systems (UAMPS), Deseret Generation & Transmission Co-Operative, Inc. (Deseret), Nucor Steel (Nucor), and the Utah League of Cities and Towns (ULCT).

I. RESPONSE TO THE MERGER CONDITIONS PROPOSED BY THE COMMISSION AND UAMPS

Q. Mr. Maloney's proposed Condition No. 29 would require the Company to "continuously meet performance standards." Does the Company have concerns regarding the wording of that Condition?

A. We have concerns regarding the wording of Condition No. 29, but not, we believe, with the intent of the Condition, which confirms existing Commission authority. The Company has voluntarily committed to meet certain specified Performance Standards and has agreed to pay specified penalties in the event it does not meet those standards. We take those commitments seriously and will use all reasonable efforts to meet those standards on a day-by-day basis. However, read literally, Condition No. 29 would require errorless compliance with the Performance Standards. In addition, each error could, based on the discussion in Mr. Maloney's testimony, result in penalties under Section 54-7-25. This would not be a reasonable result, and we do not believe that this is the intent of Condition 29. This belief is based on Mr. Maloney's response to ScottishPower Data Request No. 1-11, which is attached to my testimony as Exhibit SP __ (RM-1). ScottishPower would recommend eliminating the word "continuously" from Condition No. 29, to avoid any confusion about the intent of the Condition. This modification would not limit the Commission's ability to monitor and enforce the Company's compliance with its Performance Standards.

Q. UAMPS (Daniel, p. 23) has recommended that the Commission substantially increase financial penalties for ScottishPower's failure to comply with targeted reliability improvements. Please respond.

A. Although UAMPS has testified it is supportive of our proposed Performance Standards pertaining to reliability, it also expressed concerns about whether ScottishPower can

achieve its service goals. Again, I would direct Mr. Daniel to ScottishPower's track record on customer service and system reliability. In addition, our reporting proposals ensure visibility of our progress in achieving our proposed service goals. Increased penalties are not necessary to ensure that ScottishPower fulfills its commitments to improve service.

- Q. Condition No. 38 would require the Company to make quarterly reports to the Commission showing credits to customers for failures to meet Customer Guarantees. Is this necessary to ensure that ScottishPower improves its service quality?
- A. ScottishPower is committed to providing all reasonable reports to the DPU and the public to demonstrate all aspects of our service standards and considers the additional reports and targets it has proposed to be a real benefit of the transaction. Quarterly reports will be provided to the DPU on a number of performance criteria, including the Performance and Customer Guarantees. An annual report will be published, as more fully described in Mr. Moir's direct testimony. Each report will contain an overview of ScottishPower's standards, targets and guarantees and describe the performance results for that year. However, ScottishPower is prepared to work with the Commission to audit any aspect of our operations to ensure service does not deteriorate. ScottishPower considers that overdetailed reporting is onerous and will simply take resources away from the Company focus on improving performance and customer service. ScottishPower considers this approach to be in the spirit of Title 54-4a-6(3) which requires the process to be "as simple and understandable as possible."

In the same vein, UAMPS suggests that ScottishPower should be required to provide a detailed action plan 120 days after the Commission issues an order approving the merger (Daniel, p. 22) This would be overly burdensome, and is not necessary at this early stage in our five-year program.

Q. Mr. Daniel has suggested a number of additional requirements be included in the action plan (p.23). Are these requirements necessary?

A. No. Mr. Daniel is recommending that the action plan encompass

- reliability improvements on the system for all Utah electric consumers on a non-discriminatory, non-preferential basis
- incorporate ongoing participation by Commission Staff and consumer representatives

In response to the first point, the Commission already has a process in place to address complaints against the Company, and there are statutes that prohibit discriminatory or preferential treatment of customers, which apply to PacifiCorp now, and will apply after the merger. As for the second point, ScottishPower does not believe this type of process is necessary unless the Company's actions after the merger cause the Commission to be concerned about the Company's ability to deliver our service package and maintain a reliable system. We recommend that ScottishPower be judged on (1) its ability to deliver what it has committed to provide; and (2) its track record for service reliability.

Q. In Condition No. 30 the DPU has requested that PacifiCorp report funding sources and expenditures against the \$55 million estimate. Will the Company provide this information to the Commission?

A. ScottishPower has committed to spend \$55 million to implement the proposed service standards package outlined in Mr. Moir's direct testimony. This funding will be derived from achieving efficiencies within existing programs and will not result in an incremental expense to customers. ScottishPower will report on these expenditures and the source of funds within the existing Results of Operations semi-annual report. This should respond to Commission concerns that ScottishPower will fund network expenditures from PacifiCorp's existing budget.

- Q. How will ScottishPower demonstrate that outage levels will not deteriorate after the merger given that the current outage reporting system understates outages (Condition Nos. 31, 32 and 34)?
- A. PacifiCorp has committed to bring Prosper on line within 12 to 18 months. To address concerns that outage levels are not increasing, ScottishPower will share its audit process with the Commission to ensure that agreed-on baselines are established within 18 months of the transaction. It is ScottishPower's intention that setting correct baselines would involve submitting the details to the DPU for agreement. ScottishPower will work with the DPU and CCS to establish the baselines. The DPU, upon request, may audit the Prosper system in order to determine actual outage levels. This should also allay any concerns expressed by Deseret witness Stover (p. 15) as to whether ScottishPower is setting appropriate baselines from which benchmarks can be set and improvements measured. ScottishPower will use its reasonable endeavors to bring Prosper on line 12 to 18 months after the merger, but it would be unrealistic for ScottishPower to agree to a Commission requirement commit to having Prosper fully installed no later than 12 months after the merger when it cannot guarantee this timescale.

Q. Why did ScottishPower propose the IEEE definitions in defining an extreme event (Condition No. 33)?

A. ScottishPower proposed the IEEE definitions because they are recognized standards. Mr. Maloney has testified that two of the definitions, "exceeds the design limits of the power system" and "extensive damage to the electric power system" (p. 19) may require engineering judgment. We agree with Mr. Maloney's observation, but do not agree that we eliminate the definitions, since they are based on the IEEE, but intend that we would only apply these two definitions after agreement with the DPU over specific events. This also addresses Mr. Chernick's recommendation that the definition should be objective (p. 33).

Q. Mr. Maloney has recommended that PacifiCorp report on internal targets for call-handling during wide-scale outages and report the results to the Commission. What is the Company's position regarding this recommendation (Condition No. 37)?

A. Extreme situations vary so much that targets would be difficult to establish and monitor. The Company's preferred approach would be to submit a report to the Commission on call-handling statistics after each wide-scale outage.

Q. Do you agree with Mr. Maloney that tracking outage levels on district, circuit, and individual customer bases will help demonstrate to customers that they receive reliable service (Condition No. 35)?

A. ScottishPower agrees with Mr. Maloney that tracking outage levels at more disaggregated levels is preferable. It is a longer term plan to track customer service at the individual customer level. We would ask the Commission to recognize that this goal requires a period of overall system improvement and monitoring, as well as additional accurate historical data.

II. THE MERGER BETWEEN SCOTTISHPOWER AND PACIFICORP WILL PRODUCE BENEFITS TO CUSTOMERS

Response to Mr. Chernick's Testimony on Behalf of Committee of Consumer Services

- Q. Mr. Chernick (p. 5) questions whether there is a connection between improving PacifiCorp's performance and the merger with ScottishPower. Please comment.
- A. The connection could not be clearer. The proposals to improve PacifiCorp's performance are ScottishPower's proposals. PacifiCorp had no independent plans for substantial system improvements prior to entering into the Merger Agreement as discussed by Mr. O'Brien. Further, ScottishPower can achieve any gains more quickly and at lower cost than PacifiCorp can on its own. ScottishPower has already demonstrated its ability to achieve significant gains in performance, through its accomplishments at ScottishPower and Manweb.
- Q. Mr. Chernick states that PacifiCorp's performance in most areas is not particularly problematic (p. 5) and both Mr. Chernick and Mr. Brubaker, who is testifying on behalf of Utah Industrial Energy Consumers, contend that PacifiCorp should be able to improve performance, with or without the aid of ScottishPower (Brubaker, p. 14). Please respond.
- A. Customers will benefit from improvements in service. ScottishPower does not believe in providing merely adequate or average performance, and believes PacifiCorp performance improvement can be achieved cost-effectively. Mr. Chernick concedes, later in his testimony, that PacifiCorp's performance in answering the telephone when customers call is "poor." (Chernick, p. 13) He acknowledges that ScottishPower's proposed standard for telephone service would be a "significant improvement over current practice."

(Chernick, p. 26) He also notes that this Commission has initiated a proceeding (Docket No. 99-2035-01) to investigate quality of service for PacifiCorp. (Chernick, p. 13) All these statements are evidence that improvements in PacifiCorp's performance can be made, and ScottishPower has the track record and skills to achieve these for the benefit of customers.

Regarding his comment that PacifiCorp should be able to obtain the skills necessary to improve performance with or without the aid of ScottishPower, we do not contest PacifiCorp's ability eventually to achieve improvements on its own. What ScottishPower brings, and what is most beneficial to PacifiCorp's customers, is the experience and skills to achieve improvements faster, more fully and with greater efficiency and certainty than PacifiCorp could achieve alone.

Q. Do you agree with Mr. Chernick's claim that ScottishPower's proposed improvements are vague and minor (p. 5)?

A. No. Our service performance commitments certainly are not vague; they are quite specific. Nor are they minor. Individually, they represent measurable and significant improvements over current levels of performance. As a whole, they represent the most comprehensive set of service commitments in the United States.

Q. Mr. Chernick contends that ScottishPower has not clearly defined portions of its proposal (p. 5). Please comment.

A. Mr. Chernick introduces ambiguity into proposals that are quite straightforward. The objectives and levels of performance improvement in the proposals are clearly specified. Any ambiguity rests in the fine details which will be resolved in the course of implementation. ScottishPower's own interest in achieving improvements and efficiencies in customer service combined with the Commission's continuing jurisdiction ensure that customers will benefit from these proposals.

- Q. Next, Mr. Chernick states that some of the improvement targets cannot be set meaningfully until PacifiCorp has improved its data collection system and determined the baseline from which improvements will be made (p. 5). How do you respond?
- A. It is for the reasons Mr. Chernick indicates that ScottishPower is committed to improving the reporting systems in PacifiCorp. Nevertheless, the magnitude of the targeted improvements can be set.
- Q. Mr. Chernick criticizes ScottishPower's service proposals as not well thought through, because ScottishPower has promised improvements without knowing the baseline performance levels from which the improvements will be measured (p. 5). How do you respond?
- A. It is true that PacifiCorp's actual baseline performance levels are unclear, and this is one of the first areas ScottishPower will improve. It is not correct, however, to claim that ScottishPower's service proposals are not well thought through. ScottishPower has already implemented programs such as these in its own service territory and in the service territory of Manweb from similar initial baseline uncertainty. ScottishPower has a very thorough understanding of its proposals and the benefits they bring to customers. Any differences between electric service in the U.K. and electric service in the United States are not sufficient to overcome the value of these experiences.
- Q. How do you respond to Mr. Chernick's assertion that ScottishPower's proposal to correct PacifiCorp's historical reliability data is vague (p.18)?
- A. ScottishPower is committing to doing something positive to address the current deficiencies in reliability data. ScottishPower's/PacifiCorp's commitment to collect and correct the baseline reliability data is in itself a benefit to customers and will improve the Commission's ability to monitor service reliability in the state of Utah.

- Q. What protections are in place to ensure the cost-effectiveness of ScottishPower's investments in improved reliability?
- A. Our transition planning process is designed specifically to identify cost-effective investments, that is, those that provide net benefits to customers. In addition, we are committing to fund the service standards improvements out of existing budgets, so there will be no incremental cost for these programs. Finally, the prudence of our expenditures will be subject to investigation in rate cases.
- Q. Do you agree with Mr. Chernick's conclusion that reliability and customer service are not important issues to commercial and industrial customers (p. 15)?
- A. No. We are convinced that commercial and industrial customers do value reduced outages. Our experience in the U.K. and involvement with U.S. utilities and industrial organizations, indicates that most industrial customers place significant value on the reduction of outages. Our pro-active commitments to improve service are intended to reduce outages and the resulting system disturbances that would, if experienced, cause significant operational problems for commercial and industrial customers.
- ScottishPower's analysis of the benefits to customers from improved System Performance demonstrates that the majority of the benefit accrues to commercial and industrial customers. (See Exhibit SP ___ (AVR-2 (Supplemental Testimony), p. 10 Table 2).
- Q. Mr. Chernick is critical of the five-year time frame within which PacifiCorp/ ScottishPower commit to make improvements in the SAIDI, SAIFI and MAIFI indices. (p. 41) Please respond.
- A. Sustainable improvement in electricity networks does not happen quickly. ScottishPower believes in a methodical and thorough approach to strengthening the network and introducing improved techniques and systems. Such an approach is especially necessary for a geographically extensive system such as PacifiCorp's.

Q. Mr. Chernick raises a number of questions regarding ScottishPower's proposal to annually improve PacifiCorp's five worst performing circuits in the state of Utah. First, he asks whether the achievement of a greater than 20 percent reduction in the Circuit Performance Indicator ("CPI") in one circuit can be credited to another circuit that may have not achieved the goal (p. 20). Does ScottishPower's proposal include such a transfer of credit?

A. No. Each one of the selected circuits will be measured on its own.

Q. What happens if ScottishPower/PacifiCorp fail to achieve the 20 percent reduction on CPI for more than one year (Chernick, p. 20)? Can a selected circuit be reselected in a later year?

A. If we fail to achieve the 20 percent reduction in a circuit for more than one year, we will seek to identify the underlying reasons for the failure. However, if a circuit's CPI falls 20% for a year or two and then rises in a later year, we would consider our goal for that circuit achieved. A reduction as significant as 20 percent in the first instance would indicate that the network improvements were performing as expected. Under these circumstances, we do not expect to see the CPI rise significantly in subsequent years. If it does, we would want to determine the causes before taking any further action.

ScottishPower will not reselect a circuit for five years after its initial selection. This is to ensure that improvements are not concentrated on only a few circuits. If we fail to improve a selected circuit we will determine the reason for the failure, and based on this information we will formulate a plan to improve circuit performance.

Q. How long would ScottishPower have to achieve the 20 percent improvement in a worst performing circuit?

A. We would have two years following the year in which the circuit is selected as one of the five worst performing circuits.

- Q. Will the selection of the worst performing circuits be based only on data for the three years before the merger?
- A. No. For each year the selection of five worst performing circuits is made, we will use data from the most recent three-year period.
- Q. What will happen if ScottishPower/PacifiCorp are unable to obtain the appropriate planning consents to improve a selected circuit?
- A. ScottishPower/PacifiCorp would do its best to obtain the necessary consents. ScottishPower's experience in this area is that obtaining appropriate planning consents has not been a significant problem. If the appropriate planning consents cannot be obtained, however, ScottishPower/PacifiCorp would select another circuit, consistent with improving service to worst served customers.
- Q. Do you agree with Mr. Chernick's statement that "it is not clear that ScottishPower is actually proposing any improvement over existing conditions?" (p. 23, footnote 18)
- A. No. ScottishPower's proposed decreases in SAIFI, SAIDI and MAIFI represent clear improvements from current levels of performance. The value to customers of improvements in these measurements, calculated on the basis of a study performed by the Electric Power Research Institute for the Bonneville Power Administration, is approximately \$60 million annually, or about \$600 million on a net present value basis. (Richardson Supp. Test., p. 5) In addition, failure to improve performance in the five network performance standards will lead to penalty payments.

The \$60 Million Figure Is A Reasonable Estimate Of Customer Benefits

Q. Is the \$60 million annual customer benefit estimate unreliable because it is based upon outage cost estimates from an 1990 EPRI survey for the Bonneville Power Administration?

A. No, for at least four reasons. First, Mr. Chernick claims that the estimate is unreliable because ScottishPower did not adjust for differences in the size of commercial and industrial customers or changes in technology over time (p. 34). We do not agree. The outage cost estimates from the BPA survey are the best data available for estimating the value to PacifiCorp's customers from improvements in system reliability. The retail customers included in the BPA survey were drawn from customers of the following utilities: Puget Sound Energy, Portland General Electric, Benton County PUD, Clallum County PUD, Clark County PUD, Salem Electric, Lower Valley PUD and Tacoma Electric. These utilities are representative of the Pacific Northwest and are a good proxy for PacifiCorp's customer base, given the lack of survey data available specifically for the PacifiCorp system.

Second, the purpose of the study was to determine whether the level of benefits to customers from ScottishPower's proposed reductions in SAIFI, SAIDI and MAIFI are significant. The precise magnitude of these benefits is not particularly important for the purpose of this proceeding. Even if, for the sake of argument, the benefits were only half of the \$60 million annual figure, the net benefits to customers would still be substantial given the relatively modest estimated cost required to achieve these improvements.

Third, without the raw BPA survey data, which could not be obtained, there is no way to accurately adjust for differences in size between the customers surveyed and PacifiCorp's customers. ScottishPower has evaluated outage estimates contained in surveys performed by Puget Sound Energy, Duke Power and Southern California Edison. A review of those empirical studies confirms the fact that ScottishPower's commitment to improve system

reliability will provide customers with substantial quantifiable benefits, irrespective of differences in customer size or other issues that make comparisons between utilities difficult.

Exhibit SP __ (RM-2) to my rebuttal testimony shows the estimated benefit from ScottishPower's system performance standards using outage cost estimates from these three surveys results. Estimates of customer benefits from ScottishPower's proposed reliability improvements to the PacifiCorp system range from \$31 million to \$61 million, compared to the estimate of \$60 million for the BPA study. It is important to point out that the estimates of \$31 million and \$50 million based on the Puget Sound Energy and Southern California Edison data exclude the effect that large commercial and industrial customers have on the average outage cost estimates.¹ In the case where large customers were included in the survey, for Duke Power, the results are virtually identical to those derived using the BPA outage cost estimates. Relying on outage cost estimates from either the BPA or Duke Power studies results in the same estimate of \$60 million in customer benefits from ScottishPower's proposed reliability improvements. Even with the differences between the BPA and Duke Power studies in terms of the size and type of customers surveyed, the application of the study results to PacifiCorp's system yields similar results. This supports the finding that ScottishPower's promised service quality improvements represent a substantial benefit to PacifiCorp's customers.

Fourth, the only example cited by Mr. Chernick regarding changes in technology over time would have the effect of increasing, not decreasing, the benefit estimate. The fact that ScottishPower did not attempt to adjust for the likely increase in the cost of momentary outages since 1990, due to greater reliance on electronics and computer based

¹ Large customers over 1 MW were excluded from the Southern California Edison and Puget Sound Energy surveys. Since large customers have significantly higher outage costs, it is not surprising that the estimate of benefits from reliability improvements is substantially less using the Southern California Edison and Puget Sound Energy data compared to the BPA data.

technologies sensitive to such outages, simply makes ScottishPower's \$60 million benefit estimate conservative.

Q. Do you agree with Mr. Chernick's assertion that ScottishPower's assumed value of momentary outages for residential customers is too high (p. 34)?

A. No. The assumed value of momentary outages for residential customers is not too high. The estimated value of a momentary interruption for residential customers used in the ScottishPower study is corroborated by a more recent survey of residential customers of Puget Sound Energy.² This survey, made public since the preparation of the benefit study, estimates the value of a momentary interruption for residential customers to be about \$4 compared to the estimate of \$3.41 used in ScottishPower's benefit study.

Q. Do you agree with Mr. Chernick's observation that the benefit estimate contained in AVR-7 incorporates the value of the 10% reduction in SAIFI (p. 34)?

A. Yes. The benefit of the 10% reduction in SAIFI is incorporated in the \$37 million estimate of the cost of an extended outage and illustrates the value to customers of the proposed reductions in both SAIDI and SAIFI.

Q. Do you agree with Mr. Chernick's conclusion that commercial and industrial customers should primarily bear the costs of improvements in transmission and distribution reliability, since those improvements primarily benefit these customers (p. 37)?

A. No. All customers benefit from improvements in transmission and distribution reliability. The benefits to commercial and industrial customers may be more apparent, but one cannot generalize about the value of reliability to customers. Some commercial or industrial customers may not value reliability highly, while certain residential customers may be highly dependent on a reliable power supply. Indeed, power quality and reliability are becoming ever more important to residential customers as the use of

² See presentation by Michael Sheehan and Michael Sullivan, Value of Service: A Customer Perspective, IEEE T&D Expo, April 13, 1999.

computers and microprocessors in the home expands. It is clear from the BPA/EPRI study and the experiences of ScottishPower and PacifiCorp that customers place a high value on reliability of the electric power system. Overall, the complete package of service standards is balanced and provides benefits to all customers.

Response to Specific Service Reliability Issues

- Q. How do you respond to Nucor's assertion that if ScottishPower does not realize its projected costs savings it may elect to cut back on expenditures for system performance improvements, resulting in less reliable service? (Goins, p. 12)
- A. This is simply conjecture by Mr. Goins. There is no evidence that ScottishPower would take this course of action. In any event, this course of action would be contrary to ScottishPower's track record. ScottishPower has committed to spend \$55 million on its proposed service package. ScottishPower is committed to providing reliable service to its customers, and will make expenditures as required.
- Q. Please respond to ULCT's contention that ScottishPower has not proposed any specific solution to mini-outages. (Dolan, pp. 3-4)
- A. ScottishPower's network Performance Standards include a reduction in MAIFI by 5% from an accurate baseline for PacifiCorp's system. The Company has committed to achieve this reduction by 2005.
- Q. ScottishPower has focused five of its Performance Standards on improvement to the distribution system. Does this mean that the Company, as UAMPS (Daniel, p. 17) and Deseret (Stover, p. 14) have implied, will not invest in transmission or in areas of the network that need improvement over the next five years?
- A. No. The network Performance Standards focus on the distribution system, but any part of the network demonstrating poor performance will be examined and improvements will be made if necessary. The expenditures outlined in Mr. Moir's direct testimony are those

identified for reliability improvement.

ScottishPower agrees with Mr. Daniel's point that where additional expenditure is deemed necessary, that the expenditure should not be capped. The \$55 million is earmarked for ScottishPower's proposed service standards package. However, where ScottishPower identifies areas in the system where improvements can be made it will evaluate those and make necessary improvements in the normal course of its business. Given that the \$55 million does not represent a cap for all transmission and distribution expenditures over the next five years, Mr. Daniel's comparison of the expenditures for ScottishPower's proposed service package with the necessary expenditures to build and operate a transmission and distribution system is not a useful comparison.

Q. Mr. Daniel has recommended that ScottishPower direct its commitments to both transmission and distribution facilities (as warranted) as part of its reliability improvements and that ScottishPower establish reliability indices for measuring its Performance Standards on a state-by-state basis (p.23). Would ScottishPower agree to these requirements?

A. Yes.

Q. Please comment on Mr. Stover's testimony on behalf of Deseret that the proposed merger will have an adverse impact on customers in rural Utah in terms of reduced service reliability (p. 7).

A. There is no basis for Deseret's claim that the merger will result in reduced service reliability for rural customers. In fact, ScottishPower's proposal to improve the five worst performing circuits in each state by twenty percent demonstrates the Company's commitment to rural areas. In addition, the Company does not believe it is necessary to account separately for rural and urban regions. Mr. Stover's method to divide rural and urban customers is not robust and would not be considered by ScottishPower. Furthermore, the examples provided in the table on page 17 of Mr. Stover's testimony are not an accurate representation of urban and rural characteristics. It does not address the length of circuits and typical fault rates. ScottishPower is dedicated to customer service and believes a reasonable approach is to make investments which ensure the maximum advantage to all of its customers. ScottishPower and Manweb's track record demonstrate the Company's commitment to make improvements in rural areas.

Q. Mr. Stover's testimony seems to imply that ScottishPower will not address the transmission reliability concerns of its wholesale customers. Is that the case?

A. No. ScottishPower is committed to providing an adequate and reliable network to its customers. The Company is not going to ignore the transmission component of its network. In addition, Deseret, and its members, have a forum at FERC to raise these issues which are jurisdictional to FERC.

Q. Does this conclude your rebuttal testimony?

A. Yes.

Illustrative Application of Other Survey Results

Source of Survey Data	Customer Class	Momentary Interruption Cost (\$)	Seventy-Eight Minute Outage Cost ¹	Total System Cost of Outages (\$ million)	Estimated Benefit from 5% and 10% Reductions (\$ million)	Comments
Bonneville Power Admin						
	Residential	\$3	\$4	\$32		Survey includes large C&I customers
	Commercial	\$126	\$1,243	\$344		
	Industrial	\$4,217	\$13,501	\$475		
	Total				\$61	
Puget Sound Energy						
	Residential	\$4	\$10	\$44		Survey excluded customers larger than 1 MW
	Comm/Ind Ave.	\$109	\$1,194	\$317		
	Comm/Ind Ave	\$109	\$1,194	\$22		
	Total				\$31	
Duke Power						
	Residential	\$1	\$6	\$15		Survey includes large C&I customers
	Commercial	\$167	\$1,520	\$434		
	Industrial	\$3,473	\$10,853	\$388		
	TOTAL				\$61	

Southern California Edison						
	Residential	\$4	\$4	\$37		Survey excluded customers larger than 1 MW
	Comm/Ind. Ave.	\$209	\$1,896	\$541		
	Comm/Ind Ave.	\$607	\$1,896	\$68		
	Total				\$50	

¹ Outage cost estimates for Duke are for a 60 minute outage