**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

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| In The Matter Of The Application of PacifiCorp and Scottish Power plc for an Order Approving the Issuance of PacifiCorp Common Stock | ) ) ) ) | Docket No. 98-2035-004 |

**SCOTTISH POWER**

**SUPPLEMENTAL TESTIMONY OF ALAN V. RICHARDSON**

**APRIL 16, 1999**



98-2035-04

## INTRODUCTION

Q. Please state your name.

A. My name is Alan V. Richardson. I previously offered direct testimony in this proceeding.

Q. What is the purpose of your supplemental testimony?

A. This testimony responds to certain of the issues identified by parties in their March 31 issues list to the Commission.

Q. Please summarize your testimony.

A. My testimony responds to the requests of some parties that we be more specific about the benefits and costs associated with the transaction. My testimony shows:

- We are committed to providing substantial, quantifiable benefits, monetary and otherwise, to the Utah customers of PacifiCorp.
- We have already identified cost savings that flow from the transaction -- the net corporate cost reduction of $10 million per year -- and have committed to flow it through to customers through the ratemaking process. These savings are recurring, and are worth about $100 million on a net present value basis. This alone satisfies the requirement that we produce net positive benefits to customers from the transaction. Our proposals go far beyond this, however.
- The $55 million which we have estimated we will spend over the next five years to implement the proposed service standards package is <u>not</u> an incremental cost, but will be achieved through efficiencies within the existing spending plans of PacifiCorp. Overall costs will therefore not increase as a result of these expenditures, as they will be offset by efficiencies we will achieve in PacifiCorp's operations. Thus the $55 million cannot be viewed as an "offset" to the $10 million of annual cost reductions described above.
- We are committed to providing benefits to customers through improved quality of service, with our unprecedented package of customer service standards. These service quality benefits are significant and real, and our success in achieving them can be tracked through commonly accepted measurement techniques. It is possible to place a dollar value on the benefits to customers from this improved quality of service. An approach described in my testimony suggests that the value

of portions of these improvements is worth approximately $60 million annually to customers.

- We expect to achieve other significant cost savings in the future, which together with the corporate cost savings mentioned above will lead to rates lower than they would have been without the transaction. Our experience in transforming ScottishPower operations in Scotland, Manweb and Southern Water substantiates our ability to achieve efficiencies in utility operations.

- Where there are perceived costs and risks associated with the transaction, we have addressed them through our proposed conditions.

- Taken together, Utah customers would be overwhelmingly better off, and the public interest served, by approval of the transaction.

Finally, my testimony also addresses certain of the remaining issues raised by the parties.

## BENEFITS TO CUSTOMERS FROM THE TRANSACTION

Q. What are the quantifiable benefits to customers flowing from the transaction?

A. Many of the benefits lend themselves to being measured by dollar figures, such as the $10 million per annum in net reduction in corporate costs which will be reflected in cost of service by the end of the third year after the transaction closes. We also expect to achieve additional cost savings in the future. These savings will provide a real and tangible benefit to Utah customers. As discussed below in this testimony, ScottishPower has a demonstrated ability to achieve efficiencies in utility operations, as witnessed by our experience with transforming ScottishPower operations in Scotland, Manweb and Southern Water. Another benefit which ultimately will be captured in dollar savings is the expected reduction in the borrowing costs that PacifiCorp will incur as it becomes integrated into a larger, financially stronger ScottishPower group, with a combined capitalization of over $18 billion. Given the recent financial results reported by

PacifiCorp -- a loss of 19 cents per share for calendar year 1998 -- the value of ScottishPower's financial strength standing behind PacifiCorp should not be underestimated.

Other benefits flowing to customers from the transaction, while capable of being quantified, do not lend themselves easily to being measured in dollar savings. However, these benefits are substantial and must be taken into account in any aggregation of customer benefits from the transaction. Exhibit __ (AVR-1) is a compilation of the benefits which will flow to customers from the transaction.

Q. Please describe some of the benefits that cannot be easily quantified into dollar savings.

A. With our network performance standards, we are committing to improve system availability and system reliability by 10% over the next five years, and to reduce momentary interruptions by 5% during the same period. Our commitment will be tracked by commonly used measurement techniques--SAIDI[1] in the case of system availability, SAIFI[2] in the case of system reliability, and MAIFI[3] in the case of momentary interruptions. In consultation with the regulators, we will establish a benchmark as the starting point for this commitment, and our delivery on this commitment will be quantified by statistics gathered using these accepted indices. The benefits are quantifiable and real, and we have committed to pay penalties if we don't achieve them.

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[1] System Average Interruption Duration Index.

[2] System Average Interruption Frequency Index.

[3] Momentary Average Interruption Frequency Index.

The other network performance standards to which we are committed (improving the 5 worst performing circuits in Utah and prompt supply restoration) and the customer service performance standards (telephone service levels and complaint resolution) also provide real and quantifiable benefits. The service improvements which we achieve will be tracked according to identified and agreed upon measurement tools.

Q. What other benefits can you identify?

A. Our customer service guarantees are an undeniable benefit to customers. We are committing to specific standards in our dealing with customers, and backing that commitment up with payments when failures occur. This is clearly a measurable benefit. A customer will either experience specific improvements in certain performance measurements or receive $50 (or $100 for a commercial or industrial customer in the case of some of the standards) if we fail to meet our commitment. Such a program is not in place for Utah customers today. Indeed, we believe the program is unprecedented in the U.S. Our commitment to back up our guarantees with dollars is a benefit which we think customers will find to be very valuable. Customers also benefit from knowing exactly what to expect from their electric utility, and that our performance will be measured against specific standards with periodic reports to customers on our accomplishments.

Q. Are these benefits capable of being measured in dollars?

A. In some cases. For example, in the case of our promised improvement in system availability and momentary interruptions, there are techniques available which attempt to put dollar figures on the value to customers of not having their power interrupted. I have included as Exhibit ___ (AVR-2) one such study which attributes dollar values on these

measures of improved service quality. That estimate, using a 1990 survey performed by the Bonneville Power Administration and the Electric Power Research Institute, suggests that the improvements to SAIDI and MAIFI to which we are committed produce approximately $60 million annually in value to our customers, or about $600 million on a net present value basis. While parties may debate the analytical techniques used in arriving at these figures, the estimates nonetheless demonstrate that our promised service quality improvements represent a substantial and quantifiable benefit to Utah customers. Whatever the precise numbers, it is clear that the reduced interruptions in service have an obvious and significant value.

Q. Are the benefits related to the remaining performance and customer guarantee standards also quantifiable in a similar manner?

A. No, they are not. While it is difficult to quantify the benefits of the other performance standards and the customer guarantee standards in a similar manner, intuitively customers do value these commitments. The benefits exist, whether or not a dollar value can easily be assigned to them. Some of the many examples that demonstrate a link between such service standards and value creation include the following:

- Commercial establishments will be better able to schedule maintenance work or other downtime activity during periods of planned interruption.
- Homeowners will be better able to plan their daily activities knowing there will be greater certainty on keeping appointments.
- All customers will know that the telephone will be answered more promptly.
- Customers will also know that complaints, bill inquiries, concerns about power quality and meter problems will be addressed more promptly and with a degree of

certainty. This avoids the seemingly innumerable telephone calls that some customers experience to try to achieve resolution of a problem.

- Power supply will be established for customers on a timely basis so that the other start-up activities for a new commercial establishment can proceed more smoothly.

With these improvements in service, customers will be able to rely upon the performance of their electric utility as they plan their daily activities, thereby reducing the loss in productivity that would otherwise occur.

Q. ScottishPower states that it will provide other benefits through its transformation of PacifiCorp. How can Utah customers be assured these benefits will be realized?

A. The simple answer is that we have done it before. The assurance that these benefits will be delivered is substantiated by our experience in transforming ScottishPower, Manweb, and Southern Water. A later section of my testimony describes our experience in transforming Manweb. While that experience does not exactly parallel the circumstances of this transaction, it does demonstrate our capability of achieving efficiencies by transforming utilities. It is this capability and experience which we intend to bring to bear upon PacifiCorp's operations.

## COMPARISON OF BENEFITS AND COSTS OF THE TRANSACTION

Q. Has ScottishPower demonstrated that there is a net positive benefit to PacifiCorp's Utah customers if the transaction is approved?

A. We have clearly satisfied our burden to show net positive benefits to customers. The promised $10 million annual net reduction in corporate costs in and of itself meets this

standard. Our proposals extend far beyond just meeting this standard, as is apparent from reviewing the benefits itemized in Exhibit ___ (AVR-1).

Q. What about the costs associated with the additional investment which ScottishPower will undertake to achieve the improvements in system performance?

A. As stated in Mr. Moir's testimony, ScottishPower estimates that it will spend $55 million, or about $11 million annually, during the five-year implementation period to put the proposed service standards package into place. About $32 million of this expenditure is capital investment to be made over the five-year implementation period ($31.1 million for the performance standards and $0.9 million for the customer guarantees). The remaining $23 million are operating expenses. PacifiCorp's overall capital and revenue budgets will not increase as a result of these expenditures, however. This is because, first, ScottishPower will seek to make performance-improving investments which also lead to operational efficiencies. Second, a portion of the committed expenditure will come from modifying or accelerating existing projects contained within PacifiCorp's budget (e.g., capital projects to improve worst performing circuits). Third, ScottishPower will, in parallel, be seeking other efficiencies in both the capital expenditure program (while delivering the same or improved outputs) and operating expenditures (while delivering improved reliability and service). Thus the $55 million expenditure will not have an impact on the rates of Utah customers. Indeed it will help to mitigate upward cost pressures rather than adding to them.

Q. In the Statement of Additional Issues submitted by the Committee of Consumer Services, the $55 million cost for implementing the system improvements is placed alongside the

$10 million in net corporate cost reductions to which ScottishPower has committed. Is this an appropriate analysis?

A. Not at all. The $55 million expenditure is not really a "cost" of the transaction and should not be considered as an "offset" to the benefits identified earlier in my testimony. As noted above, this investment is not over and above PacifiCorp's existing capital plans, but represents a refocusing of those plans. In any event, the magnitudes are far different, as the $10 million in net corporate cost reductions is an annual figure which can be expected to recur in future years, and has a net present value of about $100 million. The $55 million expenditure, on the other hand, is primarily capital spending that would not have the same sort of impact on revenue requirement. Apart from the corporate cost reductions, we are confident that we will achieve additional significant cost savings in the future, although their magnitude cannot be quantified.

Q. What are some other potential costs or risks associated with the transaction?

A. One obvious expense item is the cost ScottishPower and PacifiCorp will incur to complete the transaction, which we have promised to exclude from our books for ratemaking purposes. Customers are therefore unaffected by that cost. In other cases, we have attempted to identify costs and risks that could be associated with the transaction, and to address them through conditions that we propose to attach to approval of the transaction. For example, risks associated with a feared loss of regulatory oversight or access to PacifiCorp's books and records are addressed through specific commitments which we are making in these areas. These are presented in Mr. Green's testimony at pages 13 to 15.

## ASSURANCE OF FUTURE COST SAVINGS, AS SUBSTANTIATED BY MANWEB EXPERIENCE

Q. Why does ScottishPower's experience with Manweb demonstrate an ability to achieve efficiencies in utility operations?

A. In 1995, ScottishPower successfully acquired Manweb, a regional electricity company serving 1.3 million customers in the northwest of England and north Wales. In the three plus years since that acquisition, we have been successful in reducing operating costs, while at the same time achieving substantial improvements in customer service. We have therefore shown it is possible to do both, by refocusing the utility's efforts on providing excellent service to customers. The Manweb experience provides a proven track record that substantiates our commitment here to produce cost savings.

Q. Please describe ScottishPower's experience with Manweb.

A. At its core, the ScottishPower experience with Manweb serves as a testament to our ability to transform utility businesses to the benefit of our customers, employees and shareholders. The approach we followed to transform Manweb was applied in the transformation of our ScottishPower operations in Scotland and to Southern Water. This same approach, which is unique in the industry and one that delivers on promised results, will be applied to PacifiCorp as well.

Q. What is unique about the ScottishPower approach to transforming utility businesses?

A. ScottishPower's capability is unique in that it relies upon a complex mix of skills, experiences, knowledge, processes, systems and people that deliver the results, as described in Mr. MacRitchie's direct testimony.

Q. Please describe the various actions that ScottishPower implemented to achieve efficiencies and cost savings at Manweb.

A. The actions included the following:

- Changes to organizational accountabilities to provide greater alignment of responsibilities with service delivery.
- Changes to planning, budgeting and reporting systems to focus on efficiency and customer service.
- Greater use of technology to improve productivity and respond better to customer requirements.
- Development of working practices at all levels in the organization to more closely match the operating priorities of the different parts of the business.
- Simplified business processes around service delivery.
- Integration of common functions while retaining local accountabilities.
- Implementation of best practices in procurement to leverage greater purchasing power and supplier relationships.
- Rationalization of operations to achieve efficiencies.
- Development of performance management techniques to drive productivity improvements.

Q. What cost savings was ScottishPower able to achieve in its transformation of Manweb?

A. Since 1993-94, the year before we acquired Manweb, its business operating costs have been reduced by over 55%, from £176 million to £78 million in 1997-98. This dramatic reduction in business operating costs is shown in Figure 1 below.

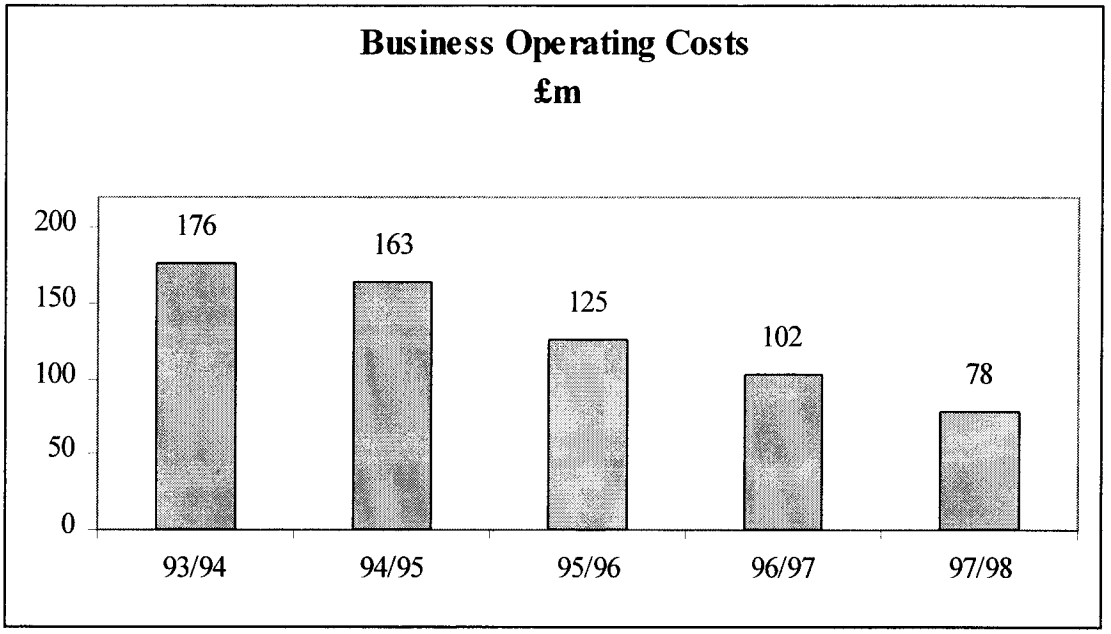


**FIGURE 1**

Q. What other conclusions can be drawn from the Manweb experience?

A. The Manweb experience confirms another point made in Mr. MacRitchie's testimony regarding the time required to transform the business. The ScottishPower experience is that the proper way to transform businesses requires sufficient time to introduce the types of investments in information technology, people and systems that will provide sustainable improvements in the business. This was undertaken in Manweb and the results of this effort are apparent from Figure 1. Another point on timing is that in the case of Manweb, it was several months after we received regulatory approval of the acquisition before we could make precise commitments as to cost reductions.

Q. Were the cost savings at Manweb achieved through reductions in capital spending?

A No. As shown in Figure 2, the level of capital expenditures at Manweb remained relatively unchanged during the transformation at Manweb, meaning we were able to achieve these efficiencies by investing more smartly. This was attributable to the application of the investment strategy that emphasizes value rather than mere asset replacement as described in both Mr. MacRitchie's and my earlier testimony.

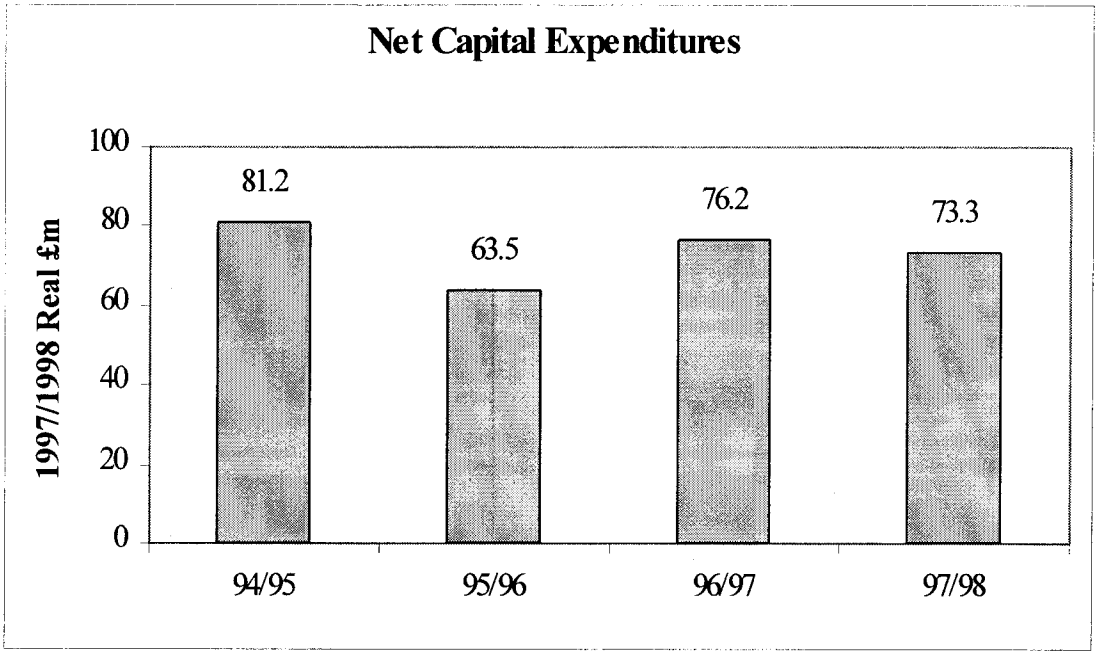


**FIGURE 2**

Q. How can you show that ScottishPower was able to achieve greater workforce productivity at Manweb?

A. Following the transformation at Manweb, we were able to do a better job with fewer people. Figure 3 below shows the manpower levels during the period from 1994 through 1998.

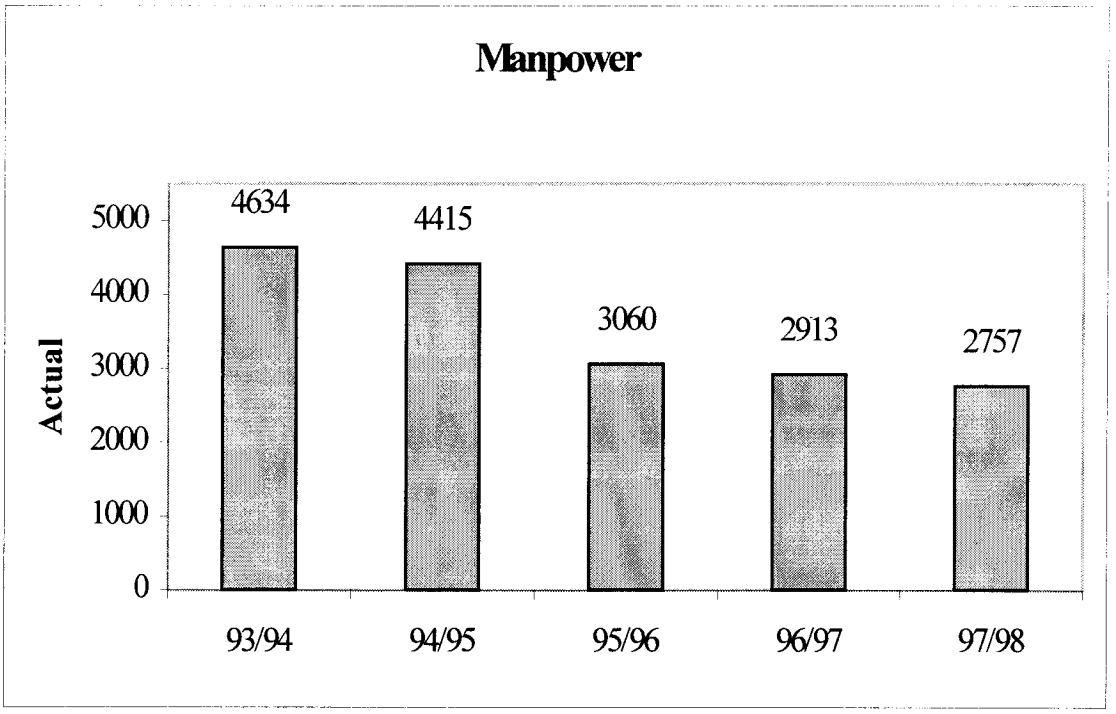


**FIGURE 3**

Q. Did these reductions in manpower levels have any adverse impact on safety?

A. No. Manweb's reportable accident rate declined from 2.41 reportable accidents per 100 employees in 1994/95 to 1.84 in 1997/98. This was attributable in large measure to the adoption of ScottishPower best practices and a management focus on safety.

Q. Has ScottishPower also been able to deliver increased system performance as a results of efforts to transform Manweb?

A. Yes. We have been able to achieve substantial improvements in customer service, as evidenced by a 74% reduction in the number of Manweb failures of Guaranteed Standards -- as shown in Figure 4 below -- and a 38% reduction in complaints to OFFER, the U.K. electricity regulator, as shown in Figure 5 below. Another measure of

the improved customer service is the 28% reduction in underlying customer minutes lost, from 75 minutes in 1995-96 to 54 minutes in 1997-98.

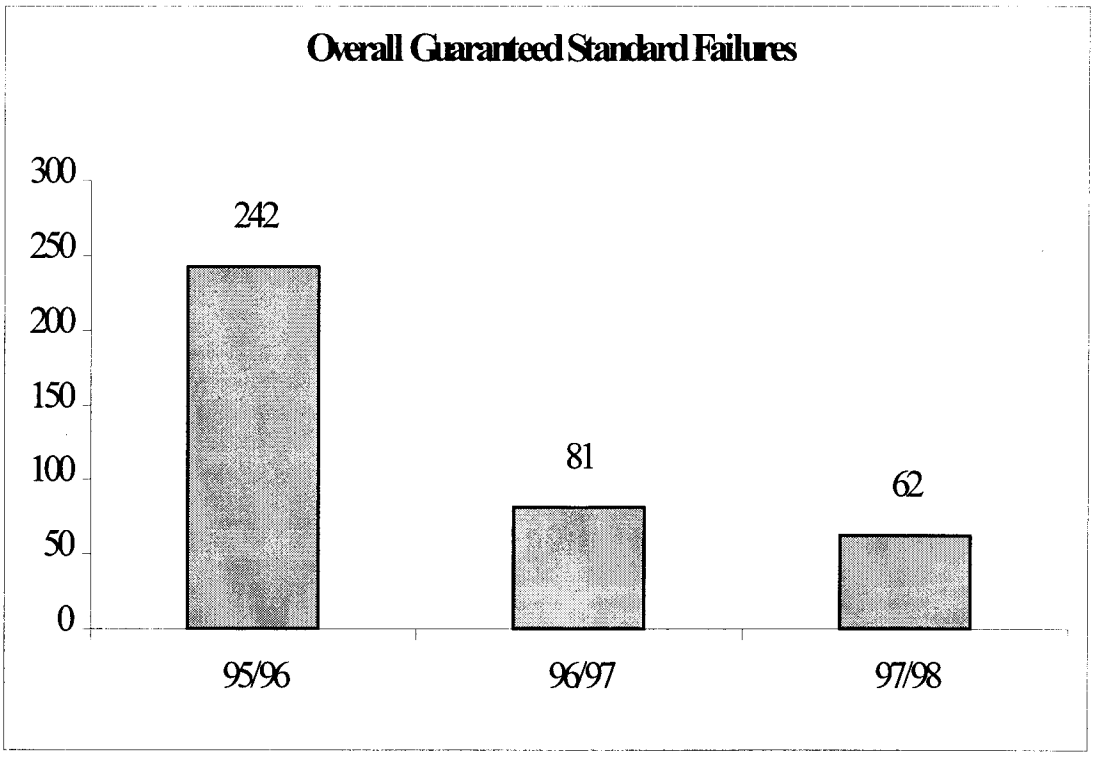


**FIGURE 4**

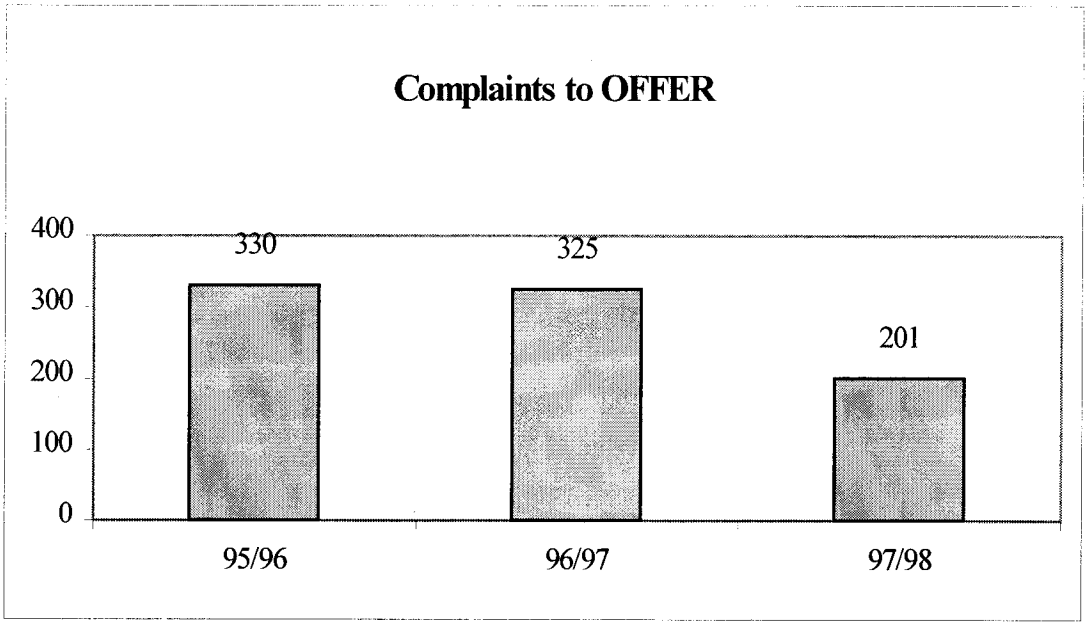


**FIGURE 5**

Q. Have rates been reduced for Manweb's customers since the transformation of the company?

A. Yes. The average residential customer's bill in the Manweb service territory (3,300 kWh annual usage) has declined from £357.69 in 1993/94 -- the year before the acquisition -- to £267.78 in 1998-99 (measured in constant May 1998 prices), which represents a 25% reduction. Figure 6 below shows these price reductions.

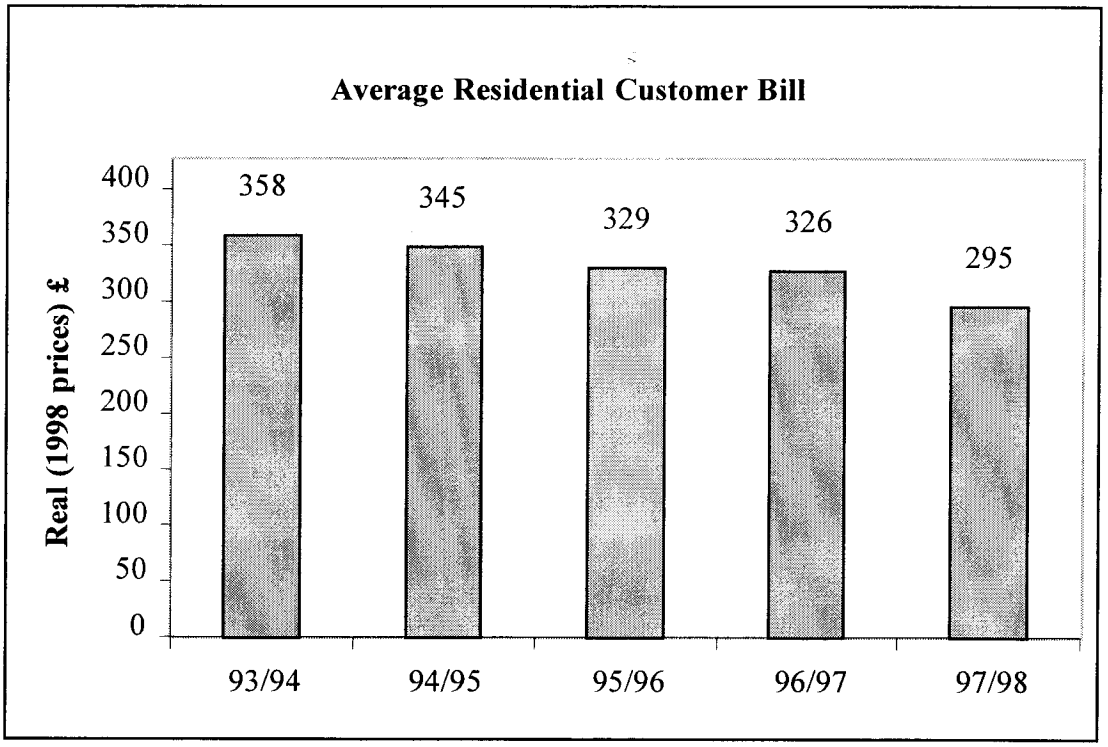


**FIGURE 6**

Q. Can Utah customers expect similar impacts on their rates if this transaction is approved?

A. The opportunities for cost reductions are different in Utah, but definitely real. The Manweb situation involved the combination of two electric utilities operating in nearby geographic areas, and thus presented greater opportunities for cost savings by eliminating duplicative functions and combining electric operations. This transaction presents limited opportunity for savings achieved in this manner. At the same time, however, the reduction in business operating costs shown in Figure 1 included savings which went beyond those attributable to elimination of duplicate functions. We are confident we can achieve significant efficiencies in PacifiCorp's operations, and the resulting cost

reductions will be captured through the ratemaking process to produce rates for customers that are lower than had the transaction not occurred. We are confident as well that we can achieve measurable improvements in the quality of service while at the same time reducing costs, as we did in the case of Manweb.

## USE OF SPECIAL CONTRACTS

Q. The LCG and UIEC issues list refers to the question of ScottishPower's approach with respect to special contracts. How will ScottishPower handle economic, non-tariff or special contracts?

A. As we have stated previously, after the transaction, PacifiCorp will honor all of its contractual obligations. We value our relationship with all our customer classes, and it may be appropriate to evaluate the issue of special contracts following completion of the transaction. This evaluation must be done in parallel with the work of the task force recently appointed by the Commission to examine this issue. The Public Service Commission of Utah issued a Report and Order on March 4, 1999 in Docket No. 97-035-01 establishing a task force to study the standards the Commission should employ in approving special contracts and the regulatory treatment of all special contracts stating that:

> We conclude that the Task Force desired by the Company and the Division, which we herein establish, should re-examine the previous Task Force guidelines and definitions for regulatory treatment of special incentive contracts, with particular emphasis on how risk should be shared between the Company and its customers. We also want an evaluation of the appropriateness of the confidential treatment customarily given to the rates and terms of service in Utah special contracts in an increasingly

competitive environment.

The Commission has therefore established a procedure to examine the issue of special incentive contracts. PacifiCorp will participate in this process and add its resources to the task force. Prior to completion of the transaction and until the Commission's task force has finished its work, however, the discussion regarding special contracts is premature and should not be an issue in this docket.

## THE "PREFERENCE SHARE" HELD BY THE U.K. GOVERNMENT

Q. What is the "preference share" or "special share" referred to in the issues list of LCG and UIEC?

A. I presume the reference is to the "special share" which was retained by the U.K. government when ScottishPower was privatized. This special share has a nominal value of £1, and prevents a person (or persons acting in concert) from owning or controlling more than 15% of the voting rights of ScottishPower without the U.K. government's consent. The practical effect of the "special share" is to require government approval before control of ScottishPower may be transferred, much like the regulatory statutes in many of the states which require utility commission approval before control of a regulated utility passes to another. It comes into play only if a transfer of ownership of ScottishPower is involved, and does not in any way impose any restrictions on the actions which ScottishPower may take with respect to its own businesses or PacifiCorp.

## SUMMARY

Q. Could you please summarize your supplemental testimony, Mr. Richardson?

A. Yes. The proposals we have put forth in Utah overwhelmingly satisfy any requirement to demonstrate net positive benefits to customers from the transaction. Our proposals, taken together, will provide substantial benefits to Utah customers which are quantifiable, monetarily and otherwise. We are committing to immediate cost savings through a $10 million reduction in corporate costs annually -- which is equivalent to about $100 million on a net present value basis -- and our proposed network system improvements will produce benefits to customers which, if quantified in the manner suggested in my testimony, are in the range of $60 million annually. Beyond these immediate commitments, we are confident that we will achieve other significant cost savings in the future, building upon our successes in transforming ScottishPower, Manweb and Southern Water. Given this compelling demonstration of benefits, the public interest would be well served by approval of the transaction.

Q. Does this conclude your supplemental testimony?

A. Yes, it does.

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# BENEFITS TO CUSTOMERS FROM THE TRANSACTION

## I. CUSTOMER SERVICE

### A. Network Performance

1. System Availability. On the five-year anniversary of the completion of the transaction,[1] the underlying System Average Interruption Duration Index (SAIDI) for PacifiCorp customers in the State of Utah will have been reduced by 10%.

2. System Reliability. On the five-year anniversary of the completion of the transaction, the underlying System Average Interruption Frequency Index (SAIFI) for PacifiCorp customers in the State of Utah will have been reduced by 10%.

3. Momentary Interruptions. On the five-year anniversary of the completion of the transaction, the Momentary Average Interruption Frequency Index (MAIFI) for PacifiCorp customers in the State of Utah will have been reduced by 5%.

4. Worst Performing Circuits. The 5 worst performing circuits in the State of Utah will be selected annually on the basis of the Circuit Performance Indicator (CPI),[2] as calculated over a three-year average excluding extreme events. Corrective measures will be taken within 2 years of implementation of the performance targets to reduce the CPI by 20%.

5. Supply Restoration. For power outages because of a fault or damage on PacifiCorp's system, PacifiCorp will restore supplies on average to 80% of customers within 3 hours.

6. Penalties. For each of the standards not achieved in the State of Utah at the end of the five-year period, ScottishPower will pay a financial penalty equal to $1.00 for every customer served by PacifiCorp in Utah.

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[1] Reference to "completion of the transaction" throughout this document means the closing of the transaction pursuant to the Amended Merger Agreement.

[2] The CPI is a weighted, composite index based on the following four factors: (1) MAIFI, (2) SAIDI, (3) SAIFI, and (4) number of lockouts.

7. Implementation. Specific terms and conditions relating to the implementation of the Network Performance Standards are set forth in Appendix A.[3]

**B. Customer Service Performance**

1. Telephone Service Levels. Within 120 days after completion of the transaction, 80% of calls to PacifiCorp's Business Centers will be answered within 30 seconds. This target will be increased to 80% in 20 seconds by January 1, 2001 and 80% in 10 seconds by January 1, 2002.

2. Complaint Resolution.

a. Non-Disconnect Complaints. Within 90 days after completion of the transaction, PacifiCorp will investigate and provide a response to all complaints referred by the Commission within 3 business days.[4]

b. Disconnect Complaints. Within 90 days after completion of the transaction, complaints related to service disconnection will be responded to within 4 business hours.[5]

c. Commission Complaints. Within 90 days after completion of the transaction, ninety percent of complaints referred to PacifiCorp by the Commission will be resolved within 30 days. This percentage will be increased to 95 percent by 2001.

3. Implementation. Specific terms and conditions relating to the implementation of the Customer Service Performance Standards are set forth in Appendix A.

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[3] Initial benchmarks for SAIDI, SAIFI and MAIFI will be established based upon PacifiCorp's historical performance, adjusted as necessary where the change in measurement and monitoring accuracy results in a change in the reported (but not actual) reliability indices, as discussed in Mr. Moir's testimony at page 7.

[4] Business days are defined as Monday through Friday excluding company holidays.

[5] Business hours are defined as 8:00 a.m. to 5:00 p.m.

## C. Customer Service Guarantees

1. Restoring the Customer's Supply.

a. Guarantee. If the customer loses electricity supply because of a fault in PacifiCorp's system, PacifiCorp will restore the customer's supply as soon as possible.

b. Penalty. If power is not restored in 24 hours, customers can claim $50 for residential customers and $100 for commercial and industrial customers. For each extra period of 12 hours the customer's supply has not been activated, the customer can claim $25.

2. Appointments.

a. Guarantee. PacifiCorp will keep all mutually agreed appointments with the customer, whether over the phone or in writing. Beginning in the year 2001, PacifiCorp will offer the customer a morning appointment, between 8 AM and 1 PM, or an afternoon appointment, between 12 Noon and 5 PM.

b. Penalty. If PacifiCorp fails to meet its guarantee, PacifiCorp will automatically pay the customer $50.

3. Switching On the Customer's Power.

a. Guarantee. Upon customer request, PacifiCorp will activate the power supply within 24 hours provided no construction is required and all government requirements are met.

b. Penalty. If PacifiCorp fails to meet its guarantee, it will automatically pay the customer $50. In addition, for each extra period of 12 hours the customers power supply has not been activated, PacifiCorp will automatically pay-out $25 to the customer.

4. Estimates for Providing a New Supply.

a. Guarantee. Upon request by a customer for new power supply, PacifiCorp will call the customer back within 2 business days of the customer's initial call and schedule a mutually agreed appointment with an estimator. If PacifiCorp

needs to change its network, it will provide a written estimate to the customer within 15 business days of the customer's initial meeting with the estimator. If PacifiCorp does not need to change its network, it will provide an estimate to the customer within 5 business days of the customer's initial meeting with the estimator.

b. Penalty. If PacifiCorp fails to meet its guarantee, PacifiCorp will automatically pay the customer $50 for each failure.

5. Response to Bill Inquiry.

a. Guarantee. PacifiCorp will investigate and respond within 15 business days of a customer's inquiry about its electric bill.

b. Penalty. If PacifiCorp fails to meet its guarantee, PacifiCorp will automatically pay the customer $50 for each failure.

6. Problems with the Customer's Meter.

a. Guarantee. PacifiCorp will investigate and report back to the customer within 15 business days if the customer suspects a problem with its meter.

b. Penalty. If PacifiCorp fails to meet its guarantee, PacifiCorp will automatically pay the customer $50 for each failure.

7. Planned Interruptions.

a. Guarantee. PacifiCorp will give the customer at least 2 days notice if it is necessary to turn the customer's power supply off for planned maintenance work or testing.

b. Penalty. If PacifiCorp fails to meet its guarantee, customers can claim $50 for residential customers and $100 for commercial and industrial customers.

8. Power Quality Complaints.

a. Guarantee. Upon notification from a customer about a problem with the quality of electric supply, PacifiCorp will either initiate an investigation within 7 days or explain the problem in writing within 5 business days.

b. Penalty. If PacifiCorp fails to meet its guarantee, it will automatically pay the customer $50.

9. Implementation. Specific terms and conditions relating to the implementation of the Customer Service Guarantees are set forth in Appendix B. Data calculations to measure performance will be audited by the company and an outside auditor.

10. Reporting.

a. To Customers. PacifiCorp will issue a report to the customer by June 30 of each year regarding its record in improving Performance Standards and how well it has performed against its Customer Guarantees. Each report will contain an overview of standards, targets and guarantees and describe the performance results for that year. The report will also discuss any new targets PacifiCorp will be applying in the coming year.

b. To Commission. PacifiCorp will provide an annual report to the Commission by May 31 of each year that will discuss implementation of ScottishPower's programs and procedures for providing improved performance. The report will provide a general summary of how PacifiCorp performed according to the standards, targets and guarantees. The report will: (i) provide performance results for each standard, target or guarantee; (ii) identify excluded exceptions; (iii) explain any historical and anticipated trends and events that affected or will affect the measure in the future; (iv) describe any technological advancements in data collection that will significantly change any performance indicator; (v) discuss any "phase in" of new standards, targets or guarantees; and (vi) include the name and telephone numbers of contacts at PacifiCorp to whom inquiries should be addressed. If the company is not meeting a standard, target or guarantee, the report will: (i) provide an analysis of relevant patterns and trends; (ii) describe the cause or causes of the unacceptable performance; (iii) describe the corrective measures undertaken by the company; (iv) set a target date for completion of the corrective measures; and (v) provide details of any penalty payments due.

## II. REGULATORY OVERSIGHT

### A. Access to Books and Records

1. PacifiCorp will maintain its own accounting system, separate from ScottishPower's accounting system. All PacifiCorp financial books and records will be kept in Portland, Oregon, and will continue to be available to the Commission upon request at PacifiCorp's offices in Portland, Salt Lake City, Utah, and elsewhere in accordance with current practice.

### B. Cost Allocation, Affiliated Interest Transactions

1. By the end of the third year following the completion of the transaction, ScottishPower will have achieved a net reduction of $10 million annually in PacifiCorp's corporate costs ($15 million of annual cost savings in corporate costs which, when offset by $5 million of cost increases, will produce a net reduction of $10 million annually in corporate costs). ScottishPower will commit to reflecting this reduction in PacifiCorp's results of operations filed with the Commission.

2. ScottishPower will provide an analysis of its proposed allocation of corporate costs within ninety days after completion of the transaction.

3. To determine the reasonableness of allocation factors used by ScottishPower to assign costs to PacifiCorp and amounts subject to allocation or direct charges, the Commission or its agents may audit the records of ScottishPower which are the bases for charges to PacifiCorp. ScottishPower will cooperate fully with such Commission audits.

4. ScottishPower and PacifiCorp will provide the Commission access to all books of account, as well as all documents, data and records of their affiliated interest, which pertain to any transactions between PacifiCorp and its affiliated interests.

5. ScottishPower and PacifiCorp agree to comply with all existing Commission statutes and regulations regarding affiliated interest transactions, including timely filing of applications and reports.

6. ScottishPower will not subsidize its activities by allocating to or directly charging PacifiCorp expenses not authorized by the Commission to be so allocated or directly charged.

7. Neither ScottishPower nor PacifiCorp will assert in any future Commission proceeding that the provisions of the Public Utility Holding Company Act of 1935 preempt the Commission's jurisdiction over affiliated interest transactions.

### C. Transaction Costs

1. ScottishPower and PacifiCorp will exclude all costs of the transaction from PacifiCorp's utility accounts.

### D. Financial Issues

1. ScottishPower intends to achieve an actual capital structure equivalent to that of comparable, A-rated electric utilities in the U.S., with a common equity ratio for PacifiCorp of not less than 47%.

2. PacifiCorp will maintain separate debt and, if outstanding, preferred stock ratings.

3. ScottishPower and PacifiCorp will provide the Commission with unrestricted access to all written information provided to common stock, bond, or bond rating analysts, which directly or indirectly pertains to PacifiCorp.

## III. COMMITMENT TO THE ENVIRONMENT

### A. Renewable Resources

1. PacifiCorp will develop an additional 50 MW of renewable resources (wind, solar and/or geothermal) at an anticipated cost of approximately $60 million within five years after completion of the transaction.

2. Within 60 days after completion of the transaction, PacifiCorp will file applications in each state for a "green resource" tariff.

3. PacifiCorp will contribute $100,000 to the Bonneville Environmental Foundation for use in the development of new renewable resources and fish mitigation projects.

**B. Environmental Management**

1. PacifiCorp will have environmental management systems in place that are self-certified to ISO 14001 standards at all PacifiCorp operated thermal generation by the end of 2000.

2. ScottishPower will include PacifiCorp operations in ScottishPower's comprehensive annual environmental report with appropriate specific goals.

3. ScottishPower will include a PacifiCorp officer on the Environmental Policy Advisory Committee.

4. ScottishPower will develop a process to gather outside input on environmental matters, such as the establishment of an Environmental Forum.

## IV. COMMITMENT TO COMMUNITIES

**A. Financial Contribution**

1. ScottishPower will contribute $5 million to the PacifiCorp Foundation upon completion of the transaction.

2. ScottishPower will maintain the existing level of PacifiCorp's other community-related contributions, both in terms of monetary and in-kind contributions.

**B. Programs**

1. ScottishPower will develop, in consultation with the appropriate Utah state educational authorities and the local business community, a "School to Work" initiative. Skill development opportunities will be made available through the Open Learning Centers, work experience mentoring, and work shadowing.

2. ScottishPower will maintain the existing Regional Advisory Boards.

### C. Low-Income Customers

1. ScottishPower will commit $1.5 million per year (in addition to PacifiCorp's existing commitment of $1.5 million annually) to programs that encourage the economic well-being of communities, including the following:

a. ScottishPower will double the number of customers assisted by the heat assistance funding program for those customers who qualify under the Federal Low Income Energy Assistance Program and will reintroduce the matching concept with PacifiCorp matching customer donations to heat assistance programs annually.

b. ScottishPower will establish a debt counseling service for those customers who have difficulty in paying their monthly electric bills.

c. ScottishPower will expand the commitment to educate customers regarding energy efficiency in order to help customers with payment difficulties, and to promote electricity safety for all customers.

## V. COMMITMENT TO EMPLOYEES

### A. Existing Labor Agreements

1. ScottishPower will honor existing labor contracts with all levels of staff.

### B. New Programs

1. ScottishPower will introduce the following programs in the PacifiCorp service territory, upon completion of the transaction, at a start-up cost of approximately $3 million and estimated annual expenditures of approximately $1 million:

a. ScottishPower will develop one "best-in-class" training center in each of Oregon and Utah. These centers will provide employees with opportunities to improve their work-related skills.

b. ScottishPower will phase in the introduction of the ScottishPower Open Learning centers. At these Open Learning centers, employees will be able to

supplement their work-related skills with other skills designed to enhance their overall knowledge.

c. ScottishPower will establish partnerships with local colleges and universities to develop management training programs.

## C. Occupational Health

1. ScottishPower will examine the appropriateness of introducing for PacifiCorp employees its successful programs already adopted in the U.K. to encourage a healthy lifestyle for employees.

[BA991050.008]

# BENEFITS TO CUSTOMERS FROM IMPROVED SYSTEM PERFORMANCE

## Introduction

There are significant customer benefits from the improvements in system performance proposed by ScottishPower. These benefits result primarily from improved customer service. While these improvements can be expected to result in higher levels of overall customer satisfaction, it is not easy to quantify the benefits associated with most of the planned service quality and system performance improvements prior to their implementation. As described in the testimony, this exhibit sets forth an approach which produces an estimate of the value to customers from improvements in reliability. The results of this analysis are presented in the following discussion.

## Overview

This analysis estimates the value to PacifiCorp's customers from reductions in SAIDI and MAIFI.

### SAIDI

The economic value of improvements in SAIDI can be estimated by multiplying the expected net reduction in SAIDI proposed to be achieved by ScottishPower times the estimated average interruption cost per unserved customer minute for the different types of customers served by PacifiCorp. For example, the five year weighted average SAIDI for the composite system served by PacifiCorp was 78 minutes per year.[1] A 10% reduction in the average SAIDI of the system would be about 7.8 minutes per year. The economic value of this reliability improvement can be obtained by multiplying the average reduction in SAIDI (i.e., 7.8) times the average cost per minute of interrupted service to PacifiCorp customers. The estimated average customer interruption cost per outage minute was obtained from a 1990

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[1] This average excludes Montana and assumes that the historical reliability levels experienced in California are equal to the average reliability in Oregon, Idaho, Utah, Washington, and Wyoming.

survey of residential, commercial and industrial customers performed for utility customers in the Pacific Northwest by the Bonneville Power Administration ("BPA") in cooperation with the Electric Power Research Institute ("EPRI").

**MAIFI**

The estimated economic value of improvements in MAIFI can be estimated by multiplying the expected net reduction in MAIFI proposed to be achieved by ScottishPower times the estimated average cost per customer interruption for momentary outages. The estimated average customer interruption cost per momentary outage was also estimated from the data in the BPA/EPRI customer survey referenced above.

**Development of Measures of Interruption Costs**

Interruption or outage costs are the economic costs customers experience as a result of electric supply interruptions. They are estimated using statistical surveys employing different cost measurement protocols for residential and non-residential customers. Normally, the parameters obtained from the statistical surveys are the average interruption costs given by customers for outages occurring at different times of the day, week and season and lasting different amounts of time.

To estimate interruption costs for non-residential customers, a two-stage survey design is usually employed. In the first stage, a representative sample of non-residential customers is contacted by telephone to identify the person within the business who is most familiar with production cost impacts of outages. In the second stage of the survey, after the appropriate party has been located at the sampled business, interruption cost information is collected for the sampled business either in-person or by mail.

In surveys of non-residential customers, the measurement effort is normally focused on obtaining measurements of the direct worth of costs that will result from service interruptions. This is done by describing different sets of outage circumstances called *scenarios* to respondents and asking them to describe the consequences for their business and any resulting costs. The scenarios involve variations in onset time, season, day of week and duration. In this way it is possible to observe differences in interruption costs arising from the range of outage circumstances that will occur. The survey form and procedures are designed to assist

the customer in estimating the costs that will result from the different kinds of outages that are described.

Interruption costs for residential customers are not usually measured using direct worth measurement protocols because it is very difficult for residential customers to assess accurately the losses they experience as a result of outages. Instead, interruption costs for these customers are measured indirectly using what are called "willingness to pay" or "willingness to accept" compensation techniques. In general, these techniques involve contacting a representative sample of residential customers and asking them to indicate the amount they would be willing to pay to purchase a backup power system capable of avoiding the circumstances described in an outage scenario (varying onset time, duration, etc.). They are also asked in these surveys how much they think it would be fair to compensate them in the event they experience an outage of the kind described in the survey.

**Estimates of Interruption Costs for PacifiCorp's Customers**

Table 1 below summarizes the interruption costs that were used to develop a rough estimate of the economic value of reliability improvements for PacifiCorp's customers. Both the 1990 and 1999 tables are included to show the development of the requisite information.

## TABLE 1

### 1990 AVERAGE INTERRUPTION COSTS PER EVENT

| | CUSTOMER TYPE | | |
|---|---|---|---|
| OUTAGE DURATION | RESIDENTIAL | COMMERCIAL | INDUSTRIAL |
| Momentary Interruption * | $ 2.71 | $ 100.19 | $ 3,348.89 |
| Fifteen Minute Outage | n/a | $ 630.06 | $ 8,060.53 |
| One Hour Outage | $ 3.16 | $ 910.84 | $ 10,465.27 |
| Four Hour Outage | $ 4.93 | n/a | n/a |
| Eight Hour Outage | $ 6.83 | $ 3,150.46 | $ 16,465.92 |

### 1999 AVERAGE INTERRUPTION COSTS PER EVENT

| | CUSTOMER TYPE | | |
|---|---|---|---|
| OUTAGE DURATION | RESIDENTIAL | COMMERCIAL | INDUSTRIAL |
| Momentary Interruption * | $ 3.41 | $ 126.15 | $ 4,216.64 |
| Fifteen Minute Outage | n/a | $ 793.32 | $ 10,149.14 |
| One Hour Outage | $ 3.98 | $ 1,146.85 | $ 13,176.98 |
| Four Hour Outage | $ 6.21 | n/a | n/a |
| Eight Hour Outage | $ 8.60 | $ 3,966.79 | $ 20,732.50 |

* The residential momentary interruption cost figures were estimated by doing a regression analysis of the survey data. The commercial and industrial momentary interruption cost figures were estimated by applying the factors described below of 11% and 32%, respectively, to the cost of a one hour outage.

The interruption costs for PacifiCorp's customers shown in Table 1 were derived from an analysis of several data sources. As stated earlier, the average costs for a one hour outage for residential, commercial and industrial customers were obtained from the 1990 BPA/EPRI survey of interruption costs experienced by electricity customers in the Pacific Northwest.[2] The residential interruption costs included in Table 1 were obtained from Table 3-2 on page 3-10 of the study report. The commercial and industrial interruption costs were obtained from Table 5-18 on page 5-28 of the study report. The cost estimates from this table were adjusted for inflation using the U.S. city average for all items of the Consumer Price Index (CPI-U) for all urban consumers to develop the 1999 results.

**The Cost of Momentary Interruptions – Estimation Approach**

The BPA/EPRI study did not, however, directly measure the economic costs resulting from momentary outages. The shortest duration outage measured in that study was 15 minutes. To estimate the momentary interruption costs experienced by residential customers, a linear regression was calculated on the relationship between outage duration and interruption cost for these customers. The intercept from the regression model is the average value of the interruption cost as the duration of the outage approaches zero hours. The imputed outage cost for an outage of slightly more than zero hours duration (i.e., a momentary outage) is $2.71. Escalation for inflation between April 1990 and January 1999 brings the cost of the momentary outage to $3.41.

Momentary interruption costs for industrial and commercial customers were obtained by multiplying the interruption cost for the one hour interruption costs reported in the BPA/EPRI survey by a constant proportion observed in prior studies which measured both the cost of a one hour interruption and the momentary interruption. For industrial customers the constant fraction was 32%. That is, momentary interruption costs for industrial customers were estimated to be 32% of the

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[2] The methods, procedures and results of the survey are summarized in Cost Benefit Analysis of Power System Reliability: Determination of Interruption Costs – Volume 2: Measurement of Interruption Costs for the Bonneville Power Administration.

cost of a one hour outage.[3] For commercial customers, the constant fraction was estimated to be 11%.[4] This approach was used instead of the regression model for commercial and industrial customers because the relationship between duration and magnitude of interruption costs for these customers is non-linear and the number of observations for industrial customers in the BPA/EPRI survey was relatively small.

**Interruption Costs - Results**

The interruption costs shown in Table 1 are a reasonable approximation of the value customers place on avoiding outages of varying durations. In the case of commercial and industrial customers, the above described interruption cost estimates are reasonable measures of the tangible economic losses businesses experience as a result of service interruptions.[5] For residential customers, they represent the economic value customers say they would be willing to pay to avoid service interruptions. These cost estimates were obtained using the methods and procedures that are generally accepted today for estimating the economic value of electric service interruptions.[6] They have been shown to produce consistent results for a number of different utilities including, but not limited to, Bonneville Power Administration, Pacific Gas and Electric, Southern California Edison, Southern Company, Duke Energy, Cinergy and Niagara Mohawk.

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[3] This approach was taken with a view to generating a conservative result on this point. For particular industrial customers, especially in process industries, there may be no difference between the impact on the production process between a momentary and a longer duration outage. For a discussion of the 32% result, see Michael J. Sullivan, Terry Vardell and Mark Johnson, "Power Interruption Costs to Industrial and Commercial Customers of Electricity", IEEE Transactions on Industry Applications, Vol. 33, No. 6, November/December 1997.

[4] Discussions with Michael J. Sullivan (identified in note 2 above).

[5] There is a large range in interruption costs depending on the type and size of the industrial or commercial customer. The statistics presented in this exhibit are averages for each customer class and do not reflect the unique size differences of PacifiCorp's customer base.

[6] See Electric Power Research Institute, Outage Cost Estimation Guidebook, EPRI TR-106082, December 1995.

For example, a value of service study for Southern California Edison found that residential customers' willingness to pay to avoid a one-hour outage ranged from $2.84 to $3.06, compared to the BPA/EPRI survey result of $3.16[7] In addition, ScottishPower's own customer research in the U.K. supports the approximations of interruption costs shown in Table 1.

## Estimates of the Benefits to PacifiCorp's Customers of Improved System Performance

### MAIFI

The economic worth of a 5 percent improvement in MAIFI is obtained by estimating the reduction that will occur in the number of momentary interruptions and multiplying this reduction by the estimated total system cost per momentary interruption obtained from the outage cost surveys. For example, the composite weighted average number of system momentary interruptions is 6.35 per year. That is, on average customers on the PacifiCorp system experience about 6.35 momentary interruptions per year. A 5% reduction in the number of momentary interruptions is equivalent to about .31 momentary interruptions per year. According to Table 1 above, the average cost per momentary interruption for each of PacifiCorp's 1,226,502 residential customers is $3.41. The economic value of a 5% reduction in the number of momentary interruptions experienced by residential customers is thus equal to (.32 x 1,226,502 x $3.41) or $1.3 million per year. To obtain the economic worth of a 5% reduction in momentary interruptions for all customers on the system, equivalent calculations are made for commercial and industrial customers and summed.

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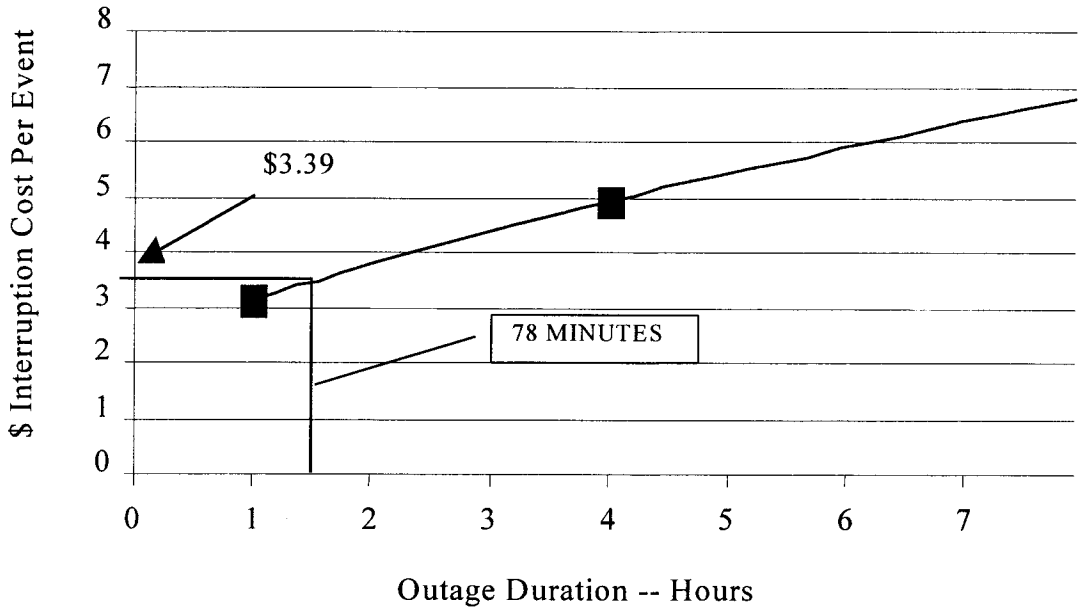
[7] RCG/Hagler, Bailly, Inc., Customer Value of Service Reliability Volume Two: Residential Customers at 2-6, 2-8 (1989) (report submitted to Southern California Edison, October 1989). SCE recently published updated estimates of residential customers' willingness to pay (WTP) to avoid outages of various durations. SCE's 1998 WTP estimates for residential customers ranges from $4.38 to $4.72 for a one-hour outage, $5.36 to $$5.65 for a hour-hour outage and $8.22 to $8.27 for an eight-hour outage. These estimates are comparable to the 1999 estimates used in this exhibit and shown in Table 1. See Southern California Edison Company's Distribution PBR Interim Report, filed with the California Public Utilities Commission on March 1, 1999.

**SAIDI**

The economic worth of an improvement in SAIDI is calculated in a slightly different way. The first step in calculating the economic worth of a 10% improvement in SAIDI is to calculate the economic worth of the service interruptions experienced on the average by customers. This is done by scaling the interruption costs per hour reported in Table 1 so that they correspond with the average extended outage duration and frequency (i.e., SAIDI and SAIFI) for the system. The composite system SAIDI for the PacifiCorp system is approximately 78 minutes. This means that, on average, PacifiCorp customers receive a total of about 78 minutes of interruptions each year. The SAIFI for the composite system is approximately 1. Thus on average, customers on the PacifiCorp system receive one outage of approximately 78 minutes duration each year. At issue is the economic value of an outage lasting 78 minutes.

The economic value of an outage of 78 minutes duration can be obtained for each type of customer on the PacifiCorp system from the information in Table 1 by interpolating between the point estimates for the 15 minute, 1 hour, 4 hour and 8 hour outage costs. Figure 1 below displays the relationship between outage duration and interruption cost for residential customers.

Figure 1



It is apparent in the figure that the relationship between interruption cost and duration is approximately linear between 1 and 8 hours duration. Taking account of the linear relationship between duration and interruption cost, it is possible to estimate the average cost of a 78 minute outage. The estimated average interruption cost (1990) for an outage of this duration is $3.39 ($2.71 + $.52 x the total number of hours out, or 1.3).

The same procedure is used to scale the average interruption costs for commercial and industrial customers to the average duration of outage experienced by customers on the PacifiCorp system. For commercial customers, the cost (1990) of a 78 minute interruption is approximately $988 ($567 + $323 x the number of hours out, or 1.3). For industrial customers, the average cost (1990) of a 78 minute interruption is approximately $10,722 ($10,465 + $857 x the number of hours in excess of one, or .3). The next step in calculating the economic worth of a 10% reduction in SAIDI is to calculate the economic cost of the composite system level SAIDI. This is obtained by multiplying the costs of the 78 minute outage identified above, times the number of customers experiencing those costs. For example, in 1999 dollars, the cost of a 78 minute outage for residential customers is approximately $4.27 (3.39 x 162.3/128.9 for inflation). The total cost of extended outages experienced by PacifiCorp's residential customers is thus ($4.27 x 1,226,502) or about $5 million. If SAIDI is reduced by 10% -- from 78 minutes to 70 minutes – the cost of outages to residential customers will be reduced by about $500,000. Equivalent calculations are made for commercial and industrial customers and summed with the values for residential customers to obtain composite system level costs of SAIDI and the value of reductions in SAIDI. (Please refer to the attached workpaper labeled "Regression Analysis Results for Residential and Commercial Customers & the Straightline Analysis Results for Industrial Customers.")

**Conclusion**

Table 2 below summarizes the results of this analysis. It indicates that customers will receive benefits of about $60 million per year from the improvements to SAIDI and MAIFI proposed by ScottishPower. This represents a significant benefit to customers in the form of reduced outages and improved service quality.

It should be emphasized that this $60 million in benefits associated with improved system performance is not a one-time event. Rather, these benefits will

continue into the future for a period long after ScottishPower takes the steps to improve system performance.

[BA991060.031]

## Table 2

| | Average Cost | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | (CxAxD/1,000,000) | (CxB/1,000,000) |
| | Momentary Interruption (1999) | Seventy-Eight Minute Outage (1999) | Number of Customers[1] | Number of Momentaries | Cost of System Momentaries ($ millions) | Cost of System Extended Outages ($ millions) |
| Residential | $ 3.41 | $ 4.27 | 1,226,502 | 6.35 | 27 | 5 |
| Commercial | $ 126.15 | $ 1,243.47 | 168,145 | 6.35 | 135 | 209 |
| Industrial | $ 4,216.64 | $ 13,500.79 | 11,784 | 6.35 | 316 | 159 |
| Total | | | | | **477** | **373** |
| Economic Worth of 5% and 10% Reductions | | | | | 24 | 37 |
| **Total** | | | | | | **61** |

1. Excludes customers in Montana

ATTACHMENT

# Regression Analysis Results for Residential and Commercial Customers & the Straightline Analysis Results for Industrial Customers

## REGRESSION SUMMARY OUTPUT - Residential

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.99809 |
| R Square | 0.99618 |
| Adjusted R Square | 0.99236 |
| Standard Error | 0.16042 |
| Observations | 3.00000 |

*Input Data*

| Hour (s) | Residential 1990 | Residential 1999[3] |
|---|---|---|
| 1 | 3.160 | 3.979 |
| 4 | 4.930 | 6.207 |
| 8 | 6.830 | 8.600 |

**ANOVA**

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1.00000 | 6.71153 | 6.71153 | 260.79 | 0.03937 |
| Residual | 1.00000 | 0.02574 | 0.02574 | | |
| Total | 2.00000 | 6.73727 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 2.713- **A** | 0.168 | 16.164 | 0.04 | 0.580 | 4.846 | 0.580 | 4.846 |
| X Variable 1 | 0.522 - **B** | 0.032 | 16.149 | 0.04 | 0.111 | 0.932 | 0.111 | 0.932 |

## REGRESSION SUMMARY OUTPUT - Commercial

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.99990 |
| R Square | 0.99980 |
| Adjusted R Square | 0.99961 |
| Standard Error | 27.29128 |
| Observations | 3.00000 |

*Input Data*

| Hour (s) | Commercial 1990 | Commercial 1999[3] |
|---|---|---|
| 0.25 | 630.06 | 793.32 |
| 1 | 910.84 | 1146.85 |
| 8 | 3150.46 | 3966.79 |

**ANOVA**

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1.00 | 3,814,972.29 | 3,814,972.29 | 5122.05 | 0.00889 |
| Residual | 1.00 | 744.81 | 744.81 | | |
| Total | 2.00 | 3,815,717.10 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* | *Lower 95%* | *Upper 95%* |
|---|---|---|---|---|---|---|---|---|
| Intercept | 567.528 - **C** | 21.025 | 26.993 | 0.024 | 300.38 | 834.67 | 300.38 | 834.67 |
| X Variable 1 | 323.110 - **D** | 4.515 | 71.568 | 0.009 | 265.75 | 380.48 | 265.75 | 380.48 |

## STRAIGHTLINE ANALYSIS - Industrial

| Hour (s) | Industrial 1990 |
|---|---|
| 0.25 hours | 8,006.530 |
| 1 hour - **E** | 10,465.27 - **G** |
| 8 hours - **F** | 16,465.92 - **H** |

| [(H - G) / (F - E)] = | 857.235 - **I** |
|---|---|

## RESULTS

| | 1990 | Formula | g = 1.30<br>1999[3] |
|---|---|---|---|
| Residential[1] | 3.390 | >> (A + (B x g) | 4.270 |
| Commercial[1] | 987.570 | >> (C + (D x g) | 1,243.468 |
| Industrial[2] | 10,722.440 | >> (G + I x (18/60)) | 13,500.792 |

1. A regression analysis, using 1990 dollars, was used to determine the value of a 78 minute interruption
2. Derived from an interprelation of a straightline analysis between 1 and 8 hour outages
3. Escalated figures. Escalation factor = 1.300

CERTIFICATE OF SERVICE

I hereby certify that I caused the foregoing ***Supplemental Testimony of Alan V. Richardson for ScottishPower*** to be served upon the following persons by mailing a true and correct copy of the same, postage prepaid, to the following on April 16, 1999:

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**ScottishPower, Richardson**
**Ex. SP ___ (AVR-1), p. 11**
**No. 98-2035-04**
**Supplemental Testimony**
**Exhibit A**

# Performance Standards

| Standard | Clarification |
|---|---|
| System Availability (SAIDI) | SAIDI will exclude extreme events (storms). This allows measurement of the underlying performance of the asset base. |
| System Reliability (SAIFI) | SAIFI will exclude extreme events |
| Momentary Interruptions (MAIFI) | MAIFI will exclude extreme events |
| Worst Performing Circuits | CPI will exclude extreme events. It will also exclude instances where the company is delayed due to the company's inability to obtain the appropriate planning consents. |
| Supply Restoration | Restoration time will exclude extreme events. It will also exclude situations where a customer agrees to remain without power or where PacifiCorp is unable to restore supply due to problems with the customer's facility, or where PacifiCorp does not have access. |
| Telephone Service Levels | Telephone service levels will be defined as percent of calls answer within targeted time frame. Telephone service levels will be measured from the time the customer selects a menu option and is placed in queue until a CSE or interactive voice response (IVR) unit answers the call. |
| Commission Complaint Resolution | The company may request an extension of time to respond to a complaint, which may be granted by Commission Staff. Business days are defined as Monday through Friday excluding company holidays. Business hours are defined as 8:00 a.m. to 5:00 p.m. |

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April 26, 1999

**HAND DELIVERED**

RECEIVED
APR 26 4 37 PM '99
UTAH PUBLIC SERVICE COMMISSION

Public Service Commission of Utah
Heber M. Wells Building, 4th Floor
160 East 300 South
Salt Lake City, UT 84111

Re: PacifiCorp/ScottishPower - Docket No. 98-2035-04

Dear Commissioners:

Enclosed please find for filing an original and 15 copies of Exhibits A and B to Exhibit SP ___ (AVR-1) of the Supplemental Testimony of Alan V. Richardson for ScottishPower in the above-referenced docket. These exhibits were inadvertently omitted in the April 16, 1999 Supplemental Testimony filing. Please attach these exhibits to the Exhibit SP ___ (AVR-1).

Thank you for your cooperation in this regard. If you have any questions, please feel free to contact me.

Sincerely yours,

CALLISTER NEBEKER & McCULLOUGH

Brian W. Burnett

BWB:ias
Enclosures
cc: Service List

250613.1

CERTIFICATE OF SERVICE

I hereby certify that I caused the foregoing ***Exhibits A and B to Exhibit SP___ (AVR-1) of the Supplemental Testimony of Alan V. Richardson for ScottishPower*** to be served upon the following persons by mailing a true and correct copy of the same, postage prepaid, to the following on April 26, 1999:

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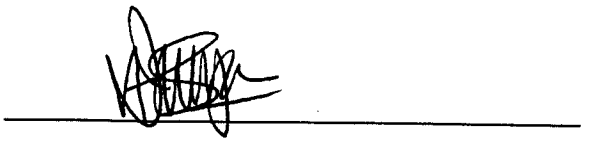

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