State of Utah

DEPARTMENT OF COMMERCE
Committee of Consumer Services

Memorandum

To: Utah Public Service Commission

From: Committee of Consumer Services
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Date: May 4, 2005

Subject: Docket No. 04-035-01; Committee of Consumer Services' Recommendations Regarding the December 2003 Holiday Storm Outage and PacifiCorp's May 13, 2004 Storm Report

1. Background

The December 25, 2003 through January 2, 2004 winter storm (2003 Holiday Storm) resulted in approximately 80,600 of PacifiCorp's (PacifiCorp or the utility) customers along the Wasatch Front losing electric service at the height of the storm and about 190,000 customers experiencing a sustained outage during the course of the storm.[1] According to the utility, many customers experienced more than one outage interruption[2]

[1]PacifiCorp's May 13, 2004 Utah Holiday 2003 Storm Inquiry Report (Storm Report), p. 53. The Storm Report, on p. 295, defines a "sustained outage" as "an outage lasting longer than five minutes in duration." On page 52 of the Storm Report, the Company indicates the Holiday Storm as "beginning on Christmas Day 2003 and continuing through January 2, 2004."

[2]*Id.*, p. 61.

and approximately 2,700 customers were without electric power for several days. The storm triggered more than 7,900 separate outage incidents: 58% involved single customers; 29% involved between two and 29 customers; and13% involved 30 or more customers.[3]

The widespread outage caused substantial public outcry and resulted in the Public Service Commission (Commission) opening this investigative docket. At the close of the January 6, 2004 public hearing initiating the inquiry, Commission Chairman Campbell stated:

> I want to just reiterate from the Commission's standpoint, we [view] the recent events as unacceptable as far as the service level, and we are very interested in understanding what needs to change and what we can do as a commission to have changed circumstances.[4]

The utility accepted the responsibility of investigating the factors underlying the massive outage and taking actions necessary to: improve the reliability of the Utah sub-transmission and distribution (T&D) system; address the failure of its CADOPS outage management system; and implement an emergency response plan to deal with major outages in the future. The utility, regulators and other interested parties subsequently met to define "terms of reference," which set forth key issues and served as a compass to guide PacifiCorp's investigation. On May 13, 2004, PacifiCorp responded with a lengthy report entitled "Utah Holiday 2003 Storm Inquiry" (Storm Report). Williams Consulting Inc (WCI), an outside consultant retained by the Division of Public Utilities (Division), provided its response (WCI Response) on May 12, 2004. In its response, WCI raised concerns regarding the maintenance of the affected Utah T&D system and certain aspects of the utility's response effort.

After months of discussions between the Division (along with WCI) and the utility, the Division filed a Memorandum with the Commission on December 6, 2005, wherein the Division recommended:

> "[…] the Commission acknowledge that the Company has made progress in addressing both the recommendations that they suggested and those suggested by WCI in relation to the Utah Holiday 2003 Storm Inquiry."[5]

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[3] *Id.*, p. 59.

[4] Reporter's Transcript of January 6, 2004 Proceedings, p. 100.

[5] Division Memorandum, Dec. 6, 2004, Docket No. 04-035-01, p. 1.

2. Identification of Unresolved Issues

The Committee commends PacifiCorp for the considerable time, effort and commitment spent in preparing the Storm Report, and responding to issues identified in WCI's Response. We agree with the Division's assessment that the utility has made progress in addressing recommendations contained in both its Storm Report and in WCI's Response. However, the Committee believes certain fundamental issues raised in connection with this proceeding regarding the adequacy of prior design and maintenance of the Utah T&D system, and the efficacy of the remedial steps proposed in the Storm Report, remain unresolved. Specifically, the Storm Report has five major deficiencies:

(1) it fails to clearly establish what minimum levels of system reliability should be for severe, but nevertheless periodic, winter storms along the Wasatch Front;
(2) it fails to address why the municipal utilities of Bountiful and Murray had a significantly lower incidence of storm-related customer outages compared to outage levels in PacifiCorp's Wasatch Front service territory;
(3) it fails to provide a detailed cost-benefit analysis of various remedy alternatives along a continuum ranging from implementation of a three-year vegetation management cycle to undergrounding the entire distribution network along the Wasatch Front;
(4) it fails to specify what manpower levels are necessary for adequately maintaining its Utah T&D system, and the reliability implications stemming from the loss of a considerable number of experienced utility personnel over the last few years;
(5) it fails to address what level of local management presence is required in Utah to ensure that reasonable quality of service and reliability standards are met.

The Committee would like to work constructively with PacifiCorp, the Division and other interested parties in an effort to address and resolve our concerns. As set forth later in this memorandum, we suggest that a reasonable way to proceed is for the Commission to schedule a public hearing or meeting to provide the Division and its consultant, WCI, an opportunity to present the results of their review of PacifiCorp's Storm Report.

3. Discussion

3.1 Design and Maintenance of the Utah T&D System

3.1.1 Severity of the Storm

The Storm Report portrays the storm as "one of the worst in 75 years, based on moisture content of the snow;"[6] and the utility describes it as one that "challenged Utah

[6] Storm Report, p. 10.

Power as no other has before."[7] While the utility may have been challenged as never before, the National Weather Service (NWS) records the storm as only the fourth worst snowfall along the Wasatch Front in the last ten years.[8] In its Response, WCI noted that: "The NWS representative we spoke to classified this as a one-in-ten year storm, based on snowfall accumulation."[9]

The information furnished by the NWS raises the issue as to whether a properly designed and maintained T&D system should be able to better withstand a one-in-ten year weather event. That issue is even more relevant when it is understood that the area at risk is a rapidly growing urbanized region where homes, businesses and industries are completely dependent upon reliable electric power to function.[10] The Commission opened this docket to determine what minimum levels of T&D reliability are required for an area that is periodically impacted by severe winter storms; yet this fundamental issue is not addressed in the Storm Report.

3.1.2 Design and Maintenance Issues

The fact that a severe winter storm should be expected to occasionally affect the Wasatch Front leads a reasonable person to suspect something more than a *force majeure* event at work in producing such a massive outage. Serious concerns about the prior design and maintenance of the Utah T&D system were repeatedly raised at the January 6, 2004 public meeting.[11] Those concerns were substantiated by data comparisons included in WCI's Response:

- equipment-related outages on PacifiCorp's system over the 2001-2003 period accounted for 45% of the utility's total outages (excluding major events), compared to a 25% national electric utility average;[12]

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[7] Utah Power Response to Williams Consulting, Inc's Utah Holiday 2003 Storm Inquiry, p. 2. [The response is undated.]

[8] WCI Response, p. 10. In its undated Response to Williams Consulting, Inc's Utah Holiday 2003 Storm Inquiry, PacifiCorp makes statements conveying the impression that both the utility and WCI agree the 2003 Holiday Storm was a very rare event. While technically accurate, the utility's statements are somewhat misleading. The relevant part of the NWS records, as the WCI Response carefully points out, is four of the five "worst storms since 1928" have occurred in the past ten years, and, of those four, the 2003 Holiday Storm was the least severe.

[9] *Id.*

[10] At the April 20, 2005 PUTIC Legislative Meeting, a utility representative, Mr. Rich Walje, remarked that the Wasatch Front was the third fastest growing metropolitan area in the country.

[11] See Reporter's Transcript of January 6, 2004 Proceedings. Remarks of Commissioner Boyer, p. 93; remarks of Commissioner White, p. 96; remarks of former PacifiCorp employee, David Ward, pp. 59-64; remarks of IBEW representative, Byron Nielsen, pp. 82-83; remarks of Dr. Richard Drake, pp. 52-57; and remarks of Irene Rees, Director of the Division of Public Utilities, p. 41.

[12] WCI Response, pp. 29-31.

- PacifiCorp's SAIDI/SAIFI outage data place the utility "well into the fourth (worst) quartile of EEI reporting electric utilities in the United States."[13]

- System maintenance expenditures in Utah for fiscal years 2002 and 2003 of $27/customer and $996/kWH sold are far lower than the industry averages of $45/customer and $2,395/kWH sold.[14]

- System maintenance expenditures in Utah for the seven years prior to fiscal years 2002-2003 were much lower than even the 2002-2003 levels.[15]

WCI also pointedly observed:

> The condition of the network in Utah is generally in worse condition than Oregon due to a historical lack of maintenance in Utah compared to a State-mandated maintenance program in Oregon. Moreover, the maintenance strategy proposed in the Resource Review (the $55 M plan on page 9) will not improve the average condition of the network and is unlikely to do better than sustain present outage performance.[16]

The above concerns generated considerable dialogue among the utility, WCI and the Division, which culminated in an understanding that PacifiCorp would make budgetary, work management, and reporting commitments in the areas of: (1) Maintenance Work Prioritization; (2) Targeted Inspection Programs and Maintenance Plan Audit; and (3) Baseline Maintenance Budgets and Resources.

In fielding questions at a April 4, 2005 Storm Report Update meeting, a utility representative, Mr. Darryl Gerrard, indicated that T&D maintenance budgets in Utah are expected to be 15% and 20% higher in fiscal years 2006 and 2007, respectively. He further stated these increases would ensure that Utah was allocated at least 40% of PacifiCorp's total T&D maintenance budget by fiscal year 2006. While these increases in projected T&D maintenance expenditures are a step in the right direction, the issue remains whether even more funds need to be allocated to Utah given: (1) the rapid and sustained growth occurring in urban areas in Utah; and (2) the apparent need for the utility to mount a "catch up" program to address insufficient T&D maintenance expenditure levels in the past.

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[13] *Id.*

[14] *Id.*

[15] *Id.*

[16] *Id.* p. 30.

3.1.3 *Comparisons of utility outage rates resulting from the December 2003 Winter Storm*

In its Storm Report, PacifiCorp mentions that only 8.2% and 11.3% of customers experienced an outage in the Bountiful and Murray municipal utilities' service areas stemming from the 2003 Holiday Storm, compared to 39% of PacifiCorp customers in the same area who lost power.[17] While PacifiCorp states that the municipal utilities were perhaps able to assess damage and restore power more quickly because of "the relative small and dense size of these systems,"[18] it never attempts to explain those large differences in outage rates identified in the Storm Report. At the April 4, 2005 Storm Report Update meeting, PacifiCorp provided a comparison between the outage experience in the Bountiful municipal service area and that of an adjacent portion (Centerville) of the utility's Wasatch Front service area. However, its effort to show that the outage experience of the two systems was similar missed the mark when asked to explain the much worse outage experience in the remainder of the utility's Wasatch Front service area. Utility representatives responded it would take them some time to be able to definitively answer that question.

3.1.4 *Discrepancies in the SAIDI/SAIFI Data*

PacifiCorp claims that it has made annual improvements in its SAIDI/SAIFI[19] outage statistics since 1999. However, outage data the Company regularly supplies to the Division show that the annual number of "weather outages" on PacifiCorp's Utah system has increased ***every year*** since the ScottishPower merger. In 2001 outages totaled 1811, of which 138 were classified as weather outages. By 2004 (through October), the total number of outages had risen to 2557, of which 322 were weather outages.[20] The numbers show the frequency of weather-related outages is increasing and a pattern is emerging that, in addition to the 2003 Holiday Storm watershed event, appears to signal something is seriously amiss with how the utility has designed and maintained its Utah T&D system. The discrepancy between the utility's claim that SAIDI/SAIFI performance is improving every year and the outage data it otherwise provides to the Division needs to be explained and reconciled.

3.1.5 Adequate Manpower Levels and Loss of Journeyman Experience

Connected to the overall issue of T&D maintenance are the issues of adequate

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[17] The chart on p. 230 of the Storm Report listing these figures does not define what it means by "Customers Affected by Event."

[18] Storm Report, p. 229.

[19] SAIDI = System Average Interruption Duration Index; SAIFI = System Average Interruption Frequency Index.

[20] Outage data provided by PacifiCorp to the Division, which is informally referred to as "Power Outages Annual Summary."

manpower levels and the experience of utility personnel. Chapter 11 of the Storm Report reviews the utility's cost savings in recent years, which were partially derived from significant reductions in utility personnel levels. Despite those sharp reductions, PacifiCorp concluded that its current staffing plan is appropriate.

In its Response, WCI takes issue with the above conclusion:

- The utility has not provided any comparative industry staffing benchmarks to provide support for the reasonableness of its staffing levels;[21] and

- From 1990 through 2002, the utility reduced its customer facing work force in Utah from 1831 employees to 895 employees, a decrease of 51%. Despite replacing some of that staffing loss by outside contracting, it is questionable whether the utility is sufficiently staffed to handle the increasing workload resulting from the 31% customer growth that occurred during the 1994 -2004 period.[22]

The manpower reductions that occurred between 1990-2002 also raise concerns regarding the experience of current utility personnel. After the ScottishPower merger the utility implemented an "Enhanced Retirement Program" and a "Voluntary Targeted Enhanced Severance Program" to entice the voluntary departure of experienced senior staff.[23] According to the Storm Report, "the result of this [voluntary retirement and severance program] was a great deal of attrition in the journeyman ranks due to the demographics of those positions."[24] Despite noting the significant manpower reductions and the high "attrition" of experienced journeymen, the Storm Report fails to address the extent to which such measures affected the utility's ability to continue to properly design and maintain its Utah T&D system. Its observation that an internal resource review committee in 2002 recommended that 155 new linemen and supervisory positions be added to current staff levels and contract work be reduced[25] further underscores the Committee's concerns about adequate manpower levels and the effect of the loss of experienced utility personnel on maintaining a reliable T&D system in Utah.

3.2 Cost-Benefit Analysis

The implicit premise of the Storm Report is that outages were due to a *natural disaster,*

[21] WCI Response, p. 43.

[22] *Id.*

[23] Storm Report, p. 218.

[24] *Id.*

[25] Storm Report, p. 222.

which customers living along the Wasatch Front must from time-to-time endure. Yet, as utility representatives plainly recognized in an April 4, 2005 Storm Report Update meeting, a range of remedy alternatives exist which could substantially reduce storm-related outages in the future. The task is to determine a range of alternatives and weigh the costs of each option in relation to the benefits achieved. Some alternatives may be very effective but too expensive to seriously consider; conversely, less expensive alternatives may have limited effectiveness. A detailed cost-benefit study applied to a range of alternatives is needed, but absent in the Storm Report.

For example, in the Storm Report the utility discusses implementing a more intensive, three-year vegetation management program. However, PacifiCorp concludes that even if trees along the Wasatch Front had been trimmed according to current "clearance zone" specifications, 80% of the outages would still have occurred.[26] Such a conclusion would seem to indicate the limited benefit of such a remedial program and raises an additional question relating to the appropriateness of the current clearance zone specifications for trimming primary, secondary and service lines.

On page 23 of its April 4, 2005 Storm Report Update, PacifiCorp discusses (under Action Items #16 and #17) the possibility of increasing the clearance zones on primary, secondary and service lines, but concludes that costs exceed benefits and "this decision is consistent with industry standards and practices." Given the significant difference in outage levels on the Bountiful and Murray utility systems vis-à-vis the PacifiCorp system, PacifiCorp should be required to provide (and explain) the cost-benefit analysis that supports such a conclusion.[27]

3.3 Lack of Corporate Management Presence

The 2003 Holiday storm outage amplified existing Utah customer concerns that the loss of a credible local utility management presence commensurate with the value of the utility's Utah business operations was negatively affecting the quality and reliability of

[26] Page 117 of the Storm Report states:

> PacifiCorp commissioned Environmental Consultants, Inc., to investigate the effect of tree damage on the holiday storm. As noted in Chapter 5.3, 90 percent of the outage incidents were caused by tree contacts with power lines. *The ECI report indicates that 80 percent of the outages caused by tree contact were non-preventable. Non-preventable means the outage occurred due to failure of a tree part that occurred beyond the required trim zone or due to failure of a large leader within a trim zone.* [Emphasis added].

[27] As shown on page 5 of the April 4, 2005 Storm Report Update, the Bountiful Municipal Utility has greater clearance zone standards for trimming secondary and service wires compared to PacifiCorp. Whether the Bountiful Utility actually trims lines according to those clearance zone specifications is unclear. In addition, if the Bountiful Utility's trimming tree practices actually comport with its specifications, it would be useful to compare the level of customer resistance to vegetation management activities in Bountiful versus PacifiCorp's Wasatch Front service territory.

local electric service. The key issue for regulators is whether the present management and corporate structure of the largest public utility in Utah impedes its ability to provide service to its Utah customers that is "in all respects adequate, efficient, just and reasonable."[28] In approving the 1988 Utah Power-Pacific Power merger, the Commission ordered that a substantial local utility management presence remain in Utah.[29] While the1999 ScottishPower merger placed utility ownership accountability further from Utah, it need not have dismembered local utility management and staffing. A 2002 Division consultant report on PacifiCorp's distribution system[30] describes PacifiCorp's centralizing of corporate and management functions in Portland in terms of "improving operational efficiency;"[31] and the Storm Report paints the Portland consolidation as a logical imperative.[32] The correctness and value of those judgments need to be examined.

Gaining greater efficiencies may be "sound logic,"[33] but that does not, of itself, make consolidation in Portland superior to consolidation in Salt Lake City. Nor does consolidation of a particular corporate function in a particular location necessarily mean all corporate functions are best consolidated at a particular location. From the standpoint of Utah customers, greater utility efficiency is not necessarily a more important objective than being responsive to local customer concerns and needs. The Storm Report's assertion that the Commission signed off on the "economics and strategic parameters of the Consolidation," is overly presumptive. The *only* organizational or corporate structure the Commission's 1999 order validates is the one that best ensures the proper operation of the public utility in Utah:

> The Utah Power/Pacific Power merger creating PacifiCorp electric operations doing business in Utah as Utah Power has taught this Commission that when made at a distance corporate decisions may

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[28]Utah Code § 54-3-1 states, in part:

> Every public utility shall furnish, provide and maintain such service, instrumentalities, equipment and facilities as will promote the safety, health, comfort and convenience of its patrons, employees and the public, and as will be in all respects adequate, efficient, just and reasonable.

[29]Report and Order, September 28, 1988, Docket No. 87-035-27, p. 104.

[30]May 30, 2002 Report to the Division of Pubic Utilities - Regarding the Planning and Engineering of Electric Distribution Facilities of PacifiCorp.

[31]*Id.*, p. 214.

[32]Storm Report, p. 216.

[33]On page 216 of its Storm Report, PacifiCorp argues the Division supported the "sound logic" of the consolidation of business and management operations in Portland.

> reflect a ranking of investment options different from that a local perspective may have achieved. We do not expect to alter this situation, which is, we believe, a matter or management prerogative. Nevertheless, distant corporate decisions must neither rank nor allocate resources in a manner harmful, in either the short or the long run, to the public service requirements of this utility in Utah.[34]

A lack of an adequate Utah focus is even detectable in PacifiCorp's response to the WCI's recommendation for a "maintenance plan audit." According to the utility:

> PacifiCorp instituted a maintenance audit program in our west territory where various levels of Power Delivery management perform audits of all aspects of our inspection/correction results. Results are used to improve the overall process to collect data and prioritize work plans. These programs are being phased into our east territory beginning in fiscal year 2006.[35]

Why was the utility's maintenance audit program initially implemented in its western service territory? Given the rapid growth occurring in its urban centers in Utah, why was implementation of the maintenance audit program delayed until fiscal 2006?

Many Utah customers perceive the 2003 Holiday Storm outage as a wake-up call for how far PacifiCorp has departed from the once-unquestioned notion that a major Utah public utility needs to have a management presence commensurate with the size and value of its Utah business. That notion is based upon many factors, not the least of which is the understanding and appreciation of local needs that only local management can provide. Some of the outage management problems identified in the Storm Report, such as lack of control and 'silo vision'[36] may have been either minimized or avoided had corporate management been living and working in the Wasatch Front area. Issues relating to local control and corporate management presence in Utah require further dialogue among representatives from the utility, regulatory agencies and other interested parties.

4. Conclusion and Recommendations

At the January 6, 2004 public meeting, Commission Chairman Campbell stated:

> "We as a Commission have received more customer complaint calls on this issue [2003 Holiday Storm Outage] in the short period of time than we have any other

[34]November 23, 1999 Commission Order, Docket No. 98-2035-04, p. 31.

[35]Utah Power Response to WCI's Utah Holiday 2003 Storm Inquiry, p. 7.

[36]Storm Report, pp. 100-101.

issue in the past 30 years. And there are major problems here we need to get fixed."[37]

Utah customers deserve an answer pertaining to whether the major problems associated with the 2003 Holiday Storm have been fixed, or are in the process of being fixed, and at what cost. In particular, residential, small commercial and irrigation customers in Utah – a good share who were either significantly impacted or inconvenienced by the widespread outage -- need assurances that the $116 million (12.1%) in rate increases afforded to PacifiCorp over the last year is being appropriately spent on capital investment, utility personnel and services to deliver reliable electric power to their homes, businesses and farms.

The Committee therefore recommends the Commission do the following:

(1) Schedule a public hearing or meeting to allow the Division and its consultant, WCI, to publicly present the results of their investigation, and discuss the various agreements reached between the Division and PacifiCorp regarding issues examined in WCI's inquiry. This would enable the Commission and other interested parties to ask questions and gain a better understanding of how the differences between WCI and the utility on key issues such as T&D system reliability, maintenance budgets, utility manpower levels, etc. were resolved to WCI's satisfaction.

(2) Direct PacifiCorp to provide a detailed cost-benefit study of remedy alternatives ranging from implementing a three-year vegetation management cycle to undergrounding the entire T&D network along the Wasatch Front.

(3) Direct PacifiCorp to provide additional information and explanation regarding why customers on the Bountiful and Murray utility systems sustained lower outage levels compared to customer outage levels realized in PacifiCorp's service territory.

(4) Resolve the apparent discrepancy between PacifiCorp's claim that SAIDI/SAIFI outage numbers have improved over the last few years and the weather-related outage information provided to the Division.

(5) Consider establishing a separate docket to investigate the nexus between corporate management presence and local control issues such as quality of service and reliability in Utah.

[37]Transcript of January 6, 2004 Proceeding, p. 2.