

*Review of PacifiCorp's
Storm Response Report
Utah Holiday Storm – December 2003*

May 13, 2004



STATE OF UTAH
DEPARTMENT OF COMMERCE
DIVISION OF PUBLIC UTILITIES

 **PACIFICORP**

 **UTAH POWER**

Making it happen.

WCI *Williams Consulting, Inc.*

Volume II - Appendices

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1 Compliance with TOR

The following tables provide a consolidated summary of the degree of compliance with the Terms of Reference for each chapter. The tables indicate two items: 1) were the TOR items addressed?, and 2) was the response adequate in our opinion. Please note that these comments are based on the report dated 4/29/2004 and may change as WCI completes its review of more recent versions (if any) and the final report when issued. We have marked the "Response Adequacy" column with an "N" if we are not satisfied with the response, either due to missing information or other issues yet to be resolved.

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
1. The Storm				
<i>Was the storm, in fact, unusual?</i>				
• Describe, in detail, the characteristics of the storm:	X		Y	Section 5.2
duration (hours, days)	X		Y	
coverage (square miles)	X		Y	
intensity (temperatures, snow depths, moisture content of the snow, etc.)	X		Y	
• Compare, using third-party meteorological data where possible, this storm with others				Section 5.2.1
<i>Did it cause more damage/customer interruptions than other storms?</i>				
• Describe the nature and extent of the damage	X		Y	Section 5.3
• Quantify where possible:	X		Y	Section 5.3
number of customers impacted (total interruptions, peak interruptions, etc)	X		Y	Section 5.3
number of tree-related incidents	X		Y	Section 5.3
number of poles/wire down, etc.	X		Y	Section 5.3
number of circuit lockouts	X		Y	Section 5.3
• Compare, using actual records where possible, with other storms (number of customers interrupted, extent of damage, etc.)	X		Y	Section 5.3.1

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
2. PacifiCorp's Response				
<i>Describe the company's response to the storm</i>				
Document the company's actions at each stage of the event (including preparedness in advance of the storm, timing of resource availability) (including out-of-area and third-party resources),	X		Y	Section 6.7 Section 6.8
decision to switch off CADOPS/IVR, implementation of back-up systems, materials, vehicles, etc.)				Section 6.4 Section 6.5.1 Section 6.5.2
<i>Why did it take up to five days to restore some customers?</i>				
• Provide a chronology of the restoration effort (as far as is possible given data problems)	X		Y	Section 6.3
• Describe, again, the nature and extent of the damage	X		Y	Section 5.3
• Describe the way in which the restoration effort was organized/prioritized (including why some customers were restored before others)	X		Y	Section 6.10
• Estimate, to the fullest extent possible, the impact of the technology failure on restoration efficiency and duration (including communication systems used by line crews and dispatchers, etc.)	X		Y	Section 6.5
<i>How did the company deal with emergency/dangerous situations, customers with special needs, etc ?</i>				
• Describe the procedure for dealing with high priority cases (example includes comment on live line on ground for seven days in Ogden)	X		Y	Section 6.10, and Section 6.11
• Share the output of a separate but related exercise with Salt Lake City and County to review communications protocols and procedures during extended outages	X		N	Section 6.10, Section 6.5, and Section 6.6
<i>What planning/contingencies does the company undertake for situations like this?</i>				
• Provide details of emergency response/business continuity plans (i.e. PDEAC, EAC, CSEAC activation, etc.)	X		N	Section 6.9
• Describe changes to emergency response plans as a result of experiences learned from this event	X		Y	Section 6.7, and Section 6.12
• Provide details of mutual assistance agreements and consider other sources of help	X		N	Section 6.9.4

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
3. Technology Issues				
<i>Why exactly did the outage management system (CADOPS) fail?</i>				
• Describe the sequence of events leading up to the failure of CADOPS	X		Y	Section 7.2 (really 7.4)
• Establish the root cause of the technology failure	X		Y	Section 7.6
<i>How did the failure impact restoration and call center performance?</i>				
• Describe the normal operating function of the CADOPS system in managing outages (including fault location identification, the rolling up of outages, dispatching of troubleshooters/crews, etc.)	X		Y	Section 7.3 (in 7.2)
• Describe how this was impacted by the technology failure	X		Y	
• Describe the linkage between the CADOPS and IVR systems	X		Y	Section 7.4 (in 7.3)
• Describe normal call center operation (including the role of messaging, IVR, automated trouble orders, call center agents, etc.)	X		Y	Section 7.3, and Section 7.5 Section 7.7
• Describe how this was impacted by the technology failure	X		Y	Section 7.8
• Describe what improvement can be made to improve feedback to customers during outages	X		Y	Section 7.9
• Describe the impact of other technology problems (including 21st Century outboard calling)	X		Y	Section 7.4, Section 7.7 Section 7.8, and Section 7.9
<i>What are you doing to prevent similar failures in the future?</i>				
• Evaluate what actions may have been taken to prevent or mitigate the impact of the failure	X		Y	Section 7.10
• Describe technology improvements already in the pipeline (e.g., CADOPS Infrastructure Upgrade)	X		Y	Section 7.11
• Evaluate the potential to avoid "collateral damage" to the IVR system as a result of CADOPS failure	X		Y	Section 7.12
• Describe stress tests that have been used and will be used to assure CADOPS will withstand future demands during major events	X		Y	Section 7.13
• What is our reliance on telecoms systems for system monitoring	X		Y	Section 7.14
• Examine best practice use of the CADOPS system and benchmark performance U.K. outage management	X		N	Section 7.15
<i>What are you doing to improve back-up systems?</i>				
• Review and evaluate the business continuity plan for the loss of the outage management system	X		Y	Section 7.16
• Review and evaluate the disaster recovery plan for failures of the CADOPS and IVR systems	X		Y	Section 7.17
• What warranties are included with the outage management system	X		Y	Section 7.18

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
4. Vegetation Management				
<i>Is the company's tree trimming program adequate for Utah?</i>				
• Provide at least 10 years of budget history plus current 10-year plan numbers (total company with state specific, compare UPL, PacifiCorp, post SP funding levels if possible)	X		Y	Section 8.9 and Section 8.10
• Describe what we believe to be the optimal tree trimming program/cycle and where we are relative to it	X		Y	Section 8.15.1
<i>Is the work completed efficiently and effectively?</i>				
• Provide details and trends of Trees Inc's performance (cost per tree, customer satisfaction, etc.) and benchmarking data if available	X		Y	Section 8.11
• Provide details of customer communications material	X		Y	Section 8.3
• Describe who is responsible for trimming trees near service drops	X		Y	Section 8.5.3
• Review October 2000 presentation made to commission on tree trimming program, are we there yet	X		Y	Section 8.12
<i>Are current clearances an issue?</i>				
• Describe current clearance policy (Transmission, Distribution, and Services)	X		Y	Section 8.5
• Discuss pros and cons of increasing clearances	X		Y	Section 8.15.2
• Describe if storm levels are considered with clearance policy	X		Y	Section 8.5
<i>Is enforcement of clearances/rights of way/easements an issue?</i>				
• Describe our rights with respect to rights of way/easements	X		Y	Section 8.13
• Describe legal and other impediments to enforcing rights (including details of access denials, were any outages related at sites where customers previously denied access)	X		Y	Section 8.7, Section 8.7.1 and Section 8.7.2
• Describe rights/obligations of the customer	X		Y	Section 8.12
• Describe our inspection policy (how often is necessary)	X		Y	Section 8.15.1
• Describe Oregon tree trimming program (include all states)	X		Y	Section 8.6
<i>Respond to allegations that you have failed to act on requests to trim trees</i>				
• Describe the process for dealing with customer requests	X		Y	Section 8.4.2
• Quantify, if possible, the number of requests received and the response made, if any	X		Y	Section 8.4.2

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
5. Investment and Standards				
<i>Is the company investing adequately in the electricity infrastructure in Utah?</i>				
• Provide at least 10 years of budget history plus current 10-year plan numbers (total company and Utah specific)	X		Y	Section 9.2
• Describe current investment initiatives (including Quantum Leap, Utah generation, DSM, etc.)	X		Y	Section 9.2
• Describe future investment strategy (capacity, automation, redundancy, etc.)	X		Y	Section 9.2
• Describe the tools we use to plan investment levels (e.g., land use planning, growth rates, etc.)	X		Y	Section 9.2
<i>Why aren't the assets better able to withstand storms?</i>				
• Describe how equipment and construction standards are arrived at – use examples (e.g., underground cable)	X		Y	Section 9.3
• Respond to the allegation that the company is using inferior underground cable	X		Y	Section 9.3
• Describe how standards differ across various parts of our service territory (e.g., based on climatic factors), describe contributions of ice and snow for line failures if trees are not involved	X		Y	Section 9.3
• Describe key determinants of asset condition/life (e.g., outage history, loading, number of operations, etc.)	X		Y	Section 9.3
<i>Why doesn't the company underground all its electricity lines?</i>				
• Provide detailed cost estimates of underground versus overhead for various categories/voltages of assets	X		Y	Section 9.4
• Describe current underground policy (e.g., when and why do we underground assets)	X		Y	Section 9.4

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
6. Reliability and Maintenance				
<i>Is it true that reliability is, in fact, deteriorating?</i>				
• Describe reliability metrics (SAIDI, SAIFI, etc.) and measurement techniques	X		Y	Section 10.2
• Provide several years history (adjusted for reporting accuracy) of key metrics broken down by month, year, etc. location (total company, state, Wasatch Front, etc.) with and without "Major Events"	X		Y	Section 10.2
• Update reliability analysis from May 30, 2002, report to DPU	X		Y	
• Explain why some customers' reliability is better/worse than others (can a single residence's downed service line cause interruption to other customers)	X		Y	Section 10.3
• Describe program for inspecting distribution lines and equipment (what are your current plans for future, role of current maintenance level associated with storm damage, etc.)	X		Y	Section 10.5, Section 10.6 Section 10.7 and Section 10.8
<i>What are you doing to improve reliability?</i>				
• Describe impact of recent reliability initiatives (e.g., Quantum Leap)	X		Y	Section 10.4
• Explain how reliability dollars are targeted (e.g., worst-performing feeders)	X		Y	Section 10.4
• Explain how patterns of reliability are used to inform investment and maintenance plans	X		Y	Section 10.5
• Explain what specifically is done to improve reliability (e.g., rebuild/reconductor, autoreclosers, tree-trimming, etc.)	X		Y	Section 10.5
<i>Is the company spending enough money on maintaining its assets?</i>				
• Provide at least 10 years of budget history plus current 10-year plan numbers (total company and Utah specific)	X		Y	Section 10.7
• Describe maintenance plan and philosophy (e.g., maintenance intervals, which assets are maintained and which are not, etc.)	X		Y	Section 10.6
• Describe current initiatives to refine maintenance plan (prioritization based on "asset criticality," separation of operations budgets from maintenance budgets, etc.)	X		Y	Section 10.8

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
7. Organization and Resourcing				
<i>Do you employ enough people in the state of Utah to operate the business effectively?</i>				
• Describe the recent "Resource Review" and its findings	X		Y	Section 11.4
• Describe recent initiatives to increase the number of employees, control costs and improve response time (e.g., second shift, contractor exchange, etc.)	X		Y	Section 11.4 and Section 11.5
• Explain why some activities are outsourced (e.g., tree-trimming, large construction projects, etc.)	X		Y	Section 11.3
• Describe how equipment standards/technology have impacted the requirement for field-based employees	X		Y	Section 11.3
<i>Explain why more activities/functions aren't based in Utah</i>				
• Describe the prevailing organizational design/model (and, in particular, where and why a functional or a geographic approach is employed)	X		Y	Section 11.4
• Clarify what functions are based in Utah (including Operations, Dispatch, Wasatch Customer Service Center, Field Engineering, etc.)	X		Y	Section 11.4
• Share plans to increase senior-level representation in the state	X		Y	
• Decisions — who makes them: Portland or Salt Lake	X		Y	
<i>Why have you let so many experienced people leave the organization?</i>				
• Give detail (timing, rationale, etc.) of voluntary work force reduction initiatives (focus on line personnel and responders)	X		Y	Section 11.2 and Section 11.3
• Provide details of current age profile		X	N	
• Provide details of apprentice program revitalization (in both Power Delivery and Generation)	X		Y	Section 11.4

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
8. Comparative Performance and Benchmarking				
<i>How does PacifiCorp/Utah Power's performance compare with other utilities?</i>				
• Assemble available benchmarking information (Note: it is notoriously difficult to compare utilities on a like-for-like basis due to the lack of published, normalized performance data)	X		Y	Section 12.2
• Provide details of outage duration for other storms and for other utilities (PGE, PSE, etc), and include information for Utah municipalities (Murray, Bountiful, Kaysville)	X		Y	Section 12.2
<i>Respond to the allegation that the quality of service has declined with each merger</i>				
• Provide key performance indicators for each of the following periods (to the extent records exist): Pre-PacifiCorp merger Post-PacifiCorp merger Post-ScottishPower merger	X		Y	Section 12.3
• Metrics to include: Customer service indicators Investment levels Reliability measures Safety statistics etc.	X		Y	Section 12.3

Terms of Reference - Chapter	Addressed?			Reference
	Yes	No	Adequacy	
9. Major Event Definition and Compensation				
<i>Is the number and frequency of "major events" increasing?</i>				
• Document all major events since inception and comment on any observed pattern	X		Y	Section 13.4
<i>Should the major event definition be revisited?</i>				
• Review history of the Customer Guarantee and Performance Standards programs	X		Y	Section 13.6
• Describe purpose of the "major event" exclusion (e.g., to track "underlying" performance)	X		Y	Section 13.2.1
• Describe linkage between the definition/targets/payments/etc.	X		Y	Section 13.2
• Work with regulators to review major event definition (describe major event definition in other states served by company)	X		Y	Section 13.2.1
• Include consideration of technology failures/performance issues in determining major event criteria	X		Y	Section 13.1
<i>Should customers receive compensation/guarantee payments given the extent of the inconvenience during long outages?</i>				
• Examine the costs and benefits of a "backstop" compensation plan (regardless of major event declaration)	X		Y	Section 13.6
• Describe UK customer service guarantee programs (what is major event, are payments made, etc.)	X		Y	Section 13.6
• Boxing Day Storm in UK (describe what ScottishPower did for customers)	X		Y	Section 13.6

2 Appendix A: Data requested and data received from Company

Item	Resolution
1. Are service guarantees accounted below the line?	Yes
2. Organization charts showing top 3-4 levels prior to and following Scottish Power merger, including reporting staff counts	Preliminary sets provided, but promised better and more detailed charts
3. Refusals and complaints information (vegetation) last four years	Provided week of 4/2/04 in Excel
4. Resource Review Report	Provided
5. Field staff counts by category showing both PacifiCorp and contractor FTEs last ten years and forward plan (for Utah)	Provided explanation
6. Underground cable failure rates	Provided Excel doc
7. Design parameters for lateral fusing and pole height for both single and three-phase primary and secondary – especially in back lot configurations	Provided Word doc
8. Inspection policies and actual performance for OH distribution	Provided Excel doc
9. Data relative to Figure 7.5-3, page 89 excluding MED	Delete question
10. Call center locations and staffing levels	In report
11. Existing roll-over capabilities in place prior to storm and planned for CADOPS and IVR	In report
12. Details for the Quantum Leap program	Provided details
13. Is there an equivalent program for inspection and maintenance at distribution like Quantum Leap is for Capital?	No
14. Provide list of peer utilities and criteria for inclusion in UMS ePerformance survey – relative to Benchmarking section	Provided PDF doc
15. Figure 11.3.1-10 please provide total number of complaints	Updated in figure
16. Confirm 11.3.3-1 on what is included (UG/OH, T&D), provide actual performance as well as standard/goal	Changed in report to reflect OH
17. Report to Utah DPU (Appendix 6)	Provided in PDF doc
18. Description of uplift methods of calculation for reliability	Provided explanation
19. Documentation on Network Initiative, Operation Summer 2001 and Every Minute Counts initiatives.	Provided in Word doc
20. Maintenance policies (Rich Vail appendix)	Provided in multiple PDF docs
21. Count of Line Patrolmen in Utah	Appears to be covered in response section
22. Executive Summary (recommendations), Utah Power's Response, Organization and Resourcing.	Delivered 4/8/2004
23. Section 13.7 – figure on maintenance spend – historical, does this include only maintenance and if not, can this be split to show maintenance and operations separately?	Explanation provided – and updated in 4/20/04 report.
24. Complete report on CD.	Delivered 4/8/2004
25. Provide Williams with details of the reference from the TOR table to the report.	Appears to be included in 4/20/04 report version (several still have Word errors)
26. P56 – define service areas for clarity.	Provided PDF doc
27. Define whether reference on p191 is current standard or performance.	Updated in report
28. Page 208/209 – include text stating what inferences/conclusions can be drawn from each table.	Provided on PDF doc

Item	Resolution
29. Page 215 – Confirm 2001 or 2003 standard.	2001, updated by phone calls
30. Describe the criteria used to determine Peer Group. Can Peers be identified?	Same as above
31. Benchmarking – ratios for customer facing employees, ratios for field employees.	No industry comparisons provided for employee ratios.
32. Was there the capability to hot swap CADOPS systems/data between PDX vs. SLC?	Explanation provided
33. (New) SAIDI and SAIFI annual figures for Utah for the 1990 through 2003 period. We understand that the earlier figures (pre 2000) are from data prior to implementation of CADOPS and will differ materially from the “uplifted” figures for 2000 onward. We can work with the unadjusted figures or if you wish to provide pro-forma “uplifts” for the pre-2000 data, that is fine, but we would like to see the original data as well	Provided
34. (New?) FPI inspection database	Not provided and not required – some information provided via teleconference 5/3/04
35. Employee Surveys for 2001 and 2003	Provided

3 Appendix B: Questions and clarifications requested and Company's responses, etc.)

3.1 Initial review questions on draft report dated 4/7/04

Initial review questions on draft report dated 4/7/04, discussed during 4/13/04 teleconference and emailed to PacifiCorp 4/21/04.

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
1. Page 38 Table: Utah Retail average rates – are these inflation adjusted?	Not answered, and not relevant to our conclusions
2. Table 6.1.1 – provide information on snow levels for these areas	Described in 5.2 (as of 12/26) American Fork: 3-4 inches Jordan Valley: 3-4 inches Layton: 17-19 inches Ogden: 17-19 inches Park City: ? Salt Lake Airport: 12 inches Salt Lake Benches: >20 inches Tooele: ?
3. 6.2, page 57, please explain why 80,000 customers were out at 1030 – snow accumulation could not have been that much, were there other causes?	No other causes. This number was calculated using SCADA and customer call data. At 10:30, this is when the maximum number of breakers was open, and number of customer calls associated with transformers off. Transformers impacted were on feeders that did not have the breaker open.
4. Figure 6.2-1 please change color of plotted lines to differentiate	Appears to have been done in 4/20 report
5. Table 6.2.1-1 Who classified this storm as “Mega Storm”	National Climatological Data Center. Definition: 10 or more inches of snow in a 24 hour period.
6. Table 6.2.1-3 – Please explain why 12/26 Utah and 12/29 Oregon storm calls so different (much higher for Utah)	<i>Oregon customer density is 1/5 of Utah, plus Utah customers tend to call in more often.</i>
7. Page 71, Tree Incidents – what is correlation with tree-related outages	Tree incident: A tree crew is required to remove vegetation before power can be restored. Tree contact: Tree crew is NOT required. Tree branch fell clear of line.
8. Table 6.3.1-3 – service wire – how many services were re-hung vs. replaced?	Estimated: over 1300 service wires replaced, over 2000 re-hung.
9. Page 89 – please clarify PS5	<i>Performance Standard 5</i>
10. Figure 7.5-2 – Please re-order showing < 3 hrs at bottom	Done in 4/20/04 report
11. Page 116 – does CADOPS provide ETS and other info to 21 st Century as well?	Yes
12. Page 117, first line (...CADOPS was malfunctioning and not...) – please provide more and clearer explanation (ETR, etc.)	In 4/29/04 report
13. Page 119 last sentence before section 9.5 – please identify “several initiatives and projects”	Chapter 7.11, page 87 describes.
14. Page 119, section 9.5 – please provide	In 4/20/04 report. Portland, OR and West Valley

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
clarification on: 15. -Where are the call centers? - how is overflow handled? 16. - are calls routed to Oregon?	City, UT. Calls flow via: PCC, WCC, internal IVR, external IVR
17. Page 122, section 9.8 – this section is confusing to read	No answer required
18. Page 122, section 9.9 – please describe the “five-year plan”	<i>An incremental approach to provide improvements as they are identified over time.</i>
19. Page 124 – last paragraph –please provide more information on issue of archiving, when learned it was a problem, etc.	During a review with the vendor in Jan-Feb 2004.
20. Page 125, section 9.12 –please describe why project was not completed in October 2003	<i>Software vendor did not do adequate testing and PacifiCorp undertook its own testing program and did find problems, delaying the implementation.</i>
21. Page 141, section 10.4.1 – the 600 returned customer surveys were what percent of those requested?	Not answered, information not critical to conclusions
22. Page 149, section 4.5.8 – non-insulted is misspelled (and is in 4/20/04 report)	corrected
23. Page 152, Figure 10.7.1-1 – is this chart needed?	Chart removed in 4/20/04 report
24. Page 153 Figure 10.7.2-1 – reorder to put Utah on bottom on chart	corrected
25. Page 155 Figure 10.8.1-1 – is this chart needed?	Chart removed in 4/20/04 report
26. Page 156 Figure 10.8.2-1 – reorder, put Utah on bottom of chart	corrected
27. Page 167, section 10.13 – please provide copy of report	Provided week of 4/5/04
28. Page 167, section 10.13.1 (ECI Recommendations) - what is PacifiCorp’s position on the recommendations?	Under evaluation.
29. Page 175, section 10.14.2.1 – wording is confusing, suggest clarifying (wording in ECI report is better)	No answer and not required
30. Page 177, Figure 10.14.1-6 – typo in heading “Clearnces”	corrected
31. Page 181 Section 10.15 – if PacifiCorp is intending to fund a 3-year cycle, when would the cycle time be met?	FY08
32. Page 190 – did trunk capacity increase post SP merger?	Not answered, but company plans to review capacity as per report
33. Page 211 Figures 11.3.3-12 to -14 – please confirm headers.	completed
34. Page 217 Table 11.4-1 – please indicate year of source data	<i>Stated to be NRRI 2001, updated via phone calls.</i>
35. Page 225 Five year Distribution Planning Studies – are these updated every 2-5 years or completed every 2-5 years/ Are these updated annually?	Depends on load growth. Fast growing areas are done annually.

3.2 Review of Chapters 6 and 11 report dated 4/18/04

Review of Chapter 6 (Utah Power's Response) and Chapter 11 (Organization and Resourcing) report dated 4/18/04, sent via email 4/21/04 to PacifiCorp.

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
<p>Section 6.2 (page 2)</p> <ol style="list-style-type: none"> 1. When did the storm actually start? Figure 6.3-2 (Utah December/January 2004 Outage by Hour – in the previous version page 70 “The Storm” chapter) shows customers out (a few) on 12/24 and 12/25? 2. In the second paragraph, the figure 639 field employees is noted, elsewhere in the report a figure of 800 was used. Please clarify 3. How did PacifiCorp determine that 60 FTEs are required for daily outage restoration? 	<ol style="list-style-type: none"> 1. Late night Dec 25. Outages on the Dec 24 would be from normal daily activity. 2. 639 field employees, 800 includes field support 3. Not answered, methodology expected to be described in recommended staffing study (WCI recommendation)
<p>Section 6.3 (page 4)</p> <ol style="list-style-type: none"> 1. The weather statement says “significant snowfall”, in the context of your area. Is significant snowfall normal or does this forecast indicate worse than usual conditions? 2. Please define the term “Assessors”, what their role is and what trade skill is used (for example, are these foremen, linemen, etc.) Is this a union classification? 	<ol style="list-style-type: none"> 1. Normal 2. inferred from 4/29/04 report that these are effectively the same as troublemen or first responders
<p>Section 6.3.2 (page 6)</p> <ol style="list-style-type: none"> 1. The first two entries on the table note high call volume at the call center. We assume this is the Pacific Power call center. 2. When was the Wasatch call center re-opened (for this storm)? 3. How much snow had fallen, or what other explanation is there for 25,000 customers out by 0230 on 12/26? What were the outage causes for these? 4. On 12/26 at 0519 the table states that “initial media release drafted”. When was this issued and who was handling media relations? Also 12/26 1200, states press release prepared... when was this released and by whom? 	<ol style="list-style-type: none"> 1. Yes. Outage calls are first routed to our Portland Call Center. When calls exceed the number of available agents at Portland Call Center, customers are routed to the Wasatch Call Center. Outage calls are #1 priority in the queue. 2. Dec 26, 7:00 a.m. 3. Customer #'s were estimated by the on-site supervisor in the Dispatch office. Tree limbs breaking and falling into power lines. 4. The first news release was issued just after 4 p.m. Dec. 26. A five-person team from External Communications managed news media relations. Two team members were located in the PDEAC and worked to draft written news releases, vet them for technical accuracy and distribute them via fax and e-mail. Three team members worked in the REAC and were responsible for collecting local technical information for the team and for responding to local news media requests for interviews. The entire team also worked together to draft and have approved talking points that were used to

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
5. 12/26 0630 – noted ETR turned off, thought this happened later? 6. 12/27 0800 – 21 st Century call back halted – please define problems. Seems 21 st Century was on and off a number of times over balance of day ending at 2000 hrs. 7. 12/27 2100 – first communication to customers regarding technical difficulties... Was this related to storm or to the CADOPS failure? 8. 12/29 0800 – Lloyd Center employees called in – was this to support Utah or Oregon storm?	update the news media in between written news releases, which were generally timed to coincide with news media publishing and broadcast deadlines. 5. REAC asked the call center to turn off ETR message. 6. Correct. When CADOPS was shut down, company tried to use TFCC as a mechanism to contact customers to see if they were still out of power. Message system did not work. Caused more confusion for customers. 7. It was related to both. The volume of calls from the scope of the storm was putting extreme pressure on telephone and computer systems, as stated in the release. 8. Both.
Section 6.4.1 (page 8) 1. Are Wasatch Electric and Sturgeon Electric contractors? 2. Figure 6.4.1-1, please explain changes in business center staffing over 12/26 to 12/29. 3. Please provide data for table 6.4.1-1 (Total Workforce per Day)	1. Yes 2. Not answered directly but WCI detail review of other data provided by company answered this question 3. Not answered directly, but company is reviewing staffing requirements for major restorations as per report
Section 6.4.3 (page 13) 1. The “emergency” purchase order took 3 days to fill. Is emergency purchasing usually done with that much lead-time? 2. Was there a shortage of #6 CU, and if so, was other conductor used until a re-supply could be established?	1. No answer, but company claims materials were not a problem during restoration. 2. No. Material was brought in from all company warehouses or vendor stock.
Section 6.5.2 1. How was DMS data used to help set up the grid restoration process, if it was. Please also provide data as to counts of tree and non-tree related issues.	1. In 4/29/04 report
Section 6.5.3 1. CADOPS failed on 12/26 and the grid restoration started on 12/29. What method was used to provide for effective crew dispatch during those 2.5 to 3 days?	1. Used SCADA and manual methods
Section 6.6 (page 14) 1. When was first news release issued and by whom (REAC or PDEAC)?	1. See response to 6.3.2 above
Section 6.9 (page 18) 1. Please provide more background on the functions and processes handled by each of the EACs described. 2. Is there a local media representative(s) at REAC?	1. Provided descriptions and added explanations to report 2. Yes

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
3. It was noted that PDEAC handles resources, is this in regard to corporate resources or do they get involved in REAC resources? 4. Is there a reason that PacifiCorp did not choose to request resources from WEI?	3. Internal and External. If resources are requested from other operating regions or other company's, PDEAC will coordinate this request. 4. Between company resources and contract resources, we believed we had the right amount of personnel to deal with this outage.
Section 6.10 (page 20, item 5) 1. Please describe the sequence of customer notification that they had to repair weatherhead, mast or meter box before the company can effect repairs to service drops. Did Assessors, Troublemens or crews inform them ahead of time or when crews were actually working the grid?	Not answered
Section 11.2 (page 25, 27) 1. Is "Colorado" a typo or was the property disposed of at some point? 2. In the paragraph above the field staff table, a figure of 783 field support staff is mentioned, while the 1990 entry in the table shows 782.	1. Not answered and no answer needed 2. Table updated
Section 11.3 (page 32 second paragraph) 1. It is stated the non-union supervisors were replaced with union general foreman positions. Do the general foremen and foremen actively take part in the work effort or do they mainly supervise? 2. It appears in the last two paragraphs (Re-alignment....) that the actual call center staffing levels for both WCCC and PCCC were from 5% to 10% below plan. Did this affect the ability to respond to customer calls during the outage? Section 11.4 (page 35) 1. Does the Resource Review Report provide detail on the level of overtime for customer-facing classifications? If not, please provide overtime figures by customer-facing classification and geographic division for the past 5 years.. 2. Were the 8 apprentice level positions targeted for March 31, 2004 filled as planned?	Not answered, should be made part of staffing study update Friday 12-26: PCCC/WCCC Staff 218 FTEs ⇒ 159 Regularly scheduled CSEs ⇒ 59 Additional to support outage Saturday 12-27: PCCC/WCCC Staff 113 FTEs ⇒ 55 Regularly scheduled CSEs ⇒ 58 Additional to support outage Staffing levels were augmented to support the outage calls based on call levels. The technology failure was the primary factor impacting customer call performance not staffing levels. Although a reduction in OT was an expected outcome, the details based on customer-facing classifications is not available.
Section 11.5 (page 37)	In attached survey file:

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
1. Please provide copies of the results of the Employee Surveys mentioned in the second paragraph.	34% Agree 21% Neither agree or disagree 45% Disagree
<p>Chapter 15, section 7, Organization and Resourcing</p> <p>1. Please note that the section and page references for this part are missing (housekeeping comment only)</p>	No answer needed

3.3 Review of Chapters 13, 12, 9 and 10

The following comments and questions were developed during review of the report dated 4/6/04. The comments below are numbered according to the 4/6/04 report organization. Since the chapters have been re-ordered, the following cross-reference is provided:

4/6/04 Report	4/28/04 Report	Title
Section 7	Chapter 13	Major Event Definition and Compensation
Section 11	Chapter 12	Comparative Performance and Benchmarking
Section 12	Chapter 9	Investment Standards
Section 13	Chapter 10	Reliability and Maintenance

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
Chapter 13 Section 7 – Major Event Definition and Compensation	
<p>7.3 IEEE Working Group Recommends P1366-2003 Standard</p> <p>1. Under Section 7.3, please delete the last paragraph on the page that reads:</p> <p>In Utah, commission staff has engaged, at the expense of the company, a consultant to review the company's incident inquiry report. The company and commission staff expect this consultant to provide insight about the reasonableness with which the company has designed its system. The consultant is also expected to provide some indication about the reasonableness with which the company has operated its system. Commission staff can consider the results of the consultant's review to establish "reasonable design" or "reasonable operating limits" for future major event consideration.</p> <p>2. Table 7.4 History and Frequency of Major Events – please provide explanation and/or examples of situations in which Design limits or Operating limits were exceeded (the last two columns on the table).</p>	<p>1. Left in but modified wording</p> <p>2. For example, Major Event 6 from Table 13.4-1 above indicates that design limits were exceeded when lightning struck the Ben Lomond substation. PacifiCorp's system components were protected based on industry standards in low-flash zones for faults up to 650kV. The strike was calculated as high as 4,450kV, far in excess of the 650kV, and was unique because of the strike pattern. A policy to protect for strikes at levels higher than 650kV was deemed prohibitively costly for customers. Similarly, Major Event 4 above was a powerful spring storm that exceeded both design and operational limits. Wind gust measurements at</p>

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
<p>3. Following that table, the first paragraph states that only 9 of 302 events were declared as major events. Please correlate to the figures shown in Figure 7.4-1. The sum of the post-merger events amounts to 106.</p> <p>4. Please provide correlation between the x-axis storm dates on Figure 7.5-3 “Historical Comparisons of Outage Durations by Percentage during Weather-Initiated Events” and the mega snowstorms listed in Table 6.2.1-1. Further, the chart is somewhat difficult to interpret, consider alternate charts or tabular presentation methods. At least please put the <3 hrs as the first series.</p>	<p>5 nearby locations were used to estimate wind gusts of 90 m.p.h. in the area of the downed poles. Based on an NESC proscribed design for 70 m.p.h., PacifiCorp concluded the design was exceeded by 20 m.p.h. (Note: Since 1994, design standards exceeding NESC requirements have been used in high-wind areas.) Operational limits were exceeded because the extent of poles and conductor damaged or blown down exceeded the normally anticipated capacity of available crews to restore power within a reasonable timeframe.</p> <p>3. Clarified – the post merger figures are days not events, latest report has added data to conform figures</p> <p>4. Done</p>
Chapter 12 Section 11 – Comparative Performance and Benchmarking	
<p>1. Table 11.2-1 suggest showing Approximate Geographic Span for Bountiful as square miles, rather than a radius (to be consistent). Also, can you provide storm snowfall levels for these cities/companies? Also please provide a map showing their location relative to Utah Power’s areas and their system characteristics, such as OH vs UG percentages.</p>	<p>Corrected</p>
<p>2. Please provide a copy of the EEI “Utility Storm Restoration Response” report quoted.</p>	<p>Downloaded directly from EEI, disregard this question</p>
<p>3. Following Table 11.2-2 in the second paragraph, Mr. Johnson’s report was quoted to indicate 123 customers restored per restoration worker. Please provide a similar estimate for</p>	<p>Not answered</p>

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
the 12/26 storm, given that some customers were out multiple times.	
4. Under Section 11.3.1 Customer Service, in particular “Customer Service Centralized Business Centers (Post 1996-1999)”, is this to mean that period 96-99 only (prior to the Scottish Power merger)?	Yes
5. Please develop a timeline that illustrates call center staffing levels and call volume by hour for December 26, 2003 by hour.	Provided on a day basis only
6. In the first paragraph following the bullet points, the figure of 375 trunk lines is stated and that it is based on industry best practice. What is the trunk line capacity currently and does it provide sufficient capacity to handle both local incoming calls as well as re-routed 21 st Century calls (service agent requests)?	Final report shows recommendation to evaluate trunk capacity
7. Section 11.3.1 Customer Service – please clarify the hours and days of operation for each call center.	Provided
8. Figure 11.3.1-10, please provide the total number of complaints.	Not answered
9. Table 11.3.1-1 – do these call statistics exclude major events.	Not answered
10. Figures 11.3.1-6 through 11.3.1-9, please indicate the time period (year) for these metrics, and provide commentary on each. For example, explain why Utah Power is lower than the balance of PacifiCorp. Also, it seems odd that the peer group’s performance is so much less than PacifiCorp. Finally, these charts do not appear to be consistent with the statement in the paragraph following Figure 11.3.1-2 that rates PacifiCorp 10 out of 12 and 65 out of 77 relative to power quality and reliability. 11. Figure 11.3.2-5 and following paragraphs, please indicate what percent of the capital spend was related to growth and to reliability.	In 4/29/04 report
12. Figures 11.3.3-3 through 11.3.3-18, please indicate the time period (year) for these metrics, and provide commentary on each.	In 4/29/04 report
13. Does the JD Power survey isolate reliability only? It would be useful to see charts for each of the factors individually, i.e., customer service, billing and payment, power quality, reliability, price and value, and company image.	Provided JD Powers report presentation
14. Quality of Service Trends Pre and Post... (page 200) – The first paragraph indicates the fiscal year is March to April – is this correct? Also in the second sentence the figure of “45%” is used, but does not correlate with the graph in Figure 11.3.2-2.	Fiscal year is April to March 45% has been updated

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
15. Table 11.3.2-3 – please clarify the transition from CY to FY in terms of how many months are in 1999 and 2001. Is there a way to show figures for 2000? Also, can the year 2004 figures be updated to include end of FY or at least pro-forma values?	Clarified, data used as presented
16. Figure 11.3.3-1 and 11.3.3-2 – Please provide commentary that explains why Utah's performance is much worse than all except Idaho.	Not answered – not required for report review
17. Figures 11.3.3-3 through 8 – What year do these figures represent?, Who comprises the peer group?	Not answered – not required for report review
18. Figures 11.3.3-9 through 11 – Comments as above. Also, if Utah is experiencing rapid growth, please explain why it's figures are almost the same as all of PacifiCorp.	Not answered – not required for report review
Chapter 9 Section 12 – Investment Standards	
1. Table 12.2-2 – can these figures be grouped by distribution and transmission to permit comparison with historical figures? Also, do these include DSM. If so, in what category? Finally, please identify major initiatives by year, for example, System Reinforcements spike up in FY08/09.	Completed
2. Capital Investment Planning – Equipment maintenance and failure Records – Please describe how these data are captured, in what database and what is the historical period covered in the database.	FPI database
3. Section 12.3 Why aren't the assets..... – In the second paragraph, primary OH conductor replaced comprised #2, #4 and #6. What are the current standards for this type of construction and replacement?	Refer to above question that starts "P 234: 12.3, 2 nd paragraph". Larger wire sizes are dictated by anticipated current and future load growth within the area.
4. Section 12.4 Why doesn't... – The second paragraph lists most of the UG components that represent higher cost, but does not mention UG cable.	The items listed in this paragraph are specific to the responsibility of the customer. The customer completes this work as part of their development. The company comes in later and installs the UG cable, switch cabinets, termination points, and transformers.
5. Overhead Distribution Conversion Estimates – As noted earlier, we believe that providing an estimate of the total cost, including trenching, etc., will avoid misreading the figures stated (\$53,914 for OH and \$36,598 for UG), despite the disclaimer in the following paragraph. Further, consider providing ranges of cost differences for new construction as well as for conversions.	Not answered – does not impact report

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
Chapter 10 Section 13 – Reliability and Maintenance	
1. Figure 13.2-1 through 13.2-5, please clarify what the “Normalizing Events” comprise.	Answered via telephone 5/5/04 – these are events that the Beta method identified as major events, but the Company is not filing as a major event.
2. Section 13.3 – table on page 257 – It appears that this table contains 9 months of data (FY2004 thru Qtr 3). Please provide current 12 months if possible or a 12-month window to avoid misunderstandings on the data. Are these figures actuals and do they include uplifts? Please also explain the outliers, such as those (under Major Events Excluded) for SAIDI > 250 and SAIFI >2.5. Finally, several areas show the same values for both including and excluding major events, please explain.	Commission will get an update on in quarterly report. Data is still being sorted. These figures are actuals. The uplift only pertains to target values. What sections are being considered “outliers” Table updated. When including and excluding major events are the same, we have not categorized any events for that area as major.
3. Section 13.4 – Please provide the total number of feeders in the Utah system, and indicate what percentage of these will be subjected to the worst feeder improvement program through FY 2005. Also, on the following table, please indicate what the terms “Process Improvement” and “O&M Work” mean.	This data was provided previously (circuits); process improvement is where more effective stage restoration or other duration-reducing measures lead to SAIDI improvements; O & M work can mean tree trimming or minor non-capital reconfiguration of the system (ex: replace split cross-arms, insulators, animal protection).
4. Wasatch Front Investment Comparison table – Please indicate if the “Base Plan” represents the “Summer 2001” program. Please define the “Automation Projects” included in the last column. Finally, please clarify what the figures on the third row “No. of customers affected...” indicated: more than one interruption each, those exposed to potential outages under each plan, etc. 5. Section 13.6 Maintenance Plan and Philosophy – for the table on page 269 showing maintenance standards, please indicate the current level of achieving each of these cycle objectives and if not at 100%, please indicate when they are estimated to be reached.	No. Base plan includes planned work for that FY. Automation projects might include: automated substations with PLC devices and smart switches on the distribution feeder. This allows automatic switching w/o human intervention. Isolate faulted section, then switch to secondary source. Data provided during 5/3/04 teleconference
6. Section 13.8 Current Initiatives... Distribution maintenance Management Committee – are there reports/minutes available covering the committee’s oversight and results?	Yes. Basically this group is managing the FY plan vs. actual work completed.
The Storm	
1. One question we did not ask on Tuesday 4/13/04 related to the Storm – was there any significant isokeraunic activity during the storm?	None

3.4 Questions Posed by Regulators

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
General Comments	
Identify 'why we had the outages'	Ninety percent of the outages were estimated to be caused by “TREE Contact with Power Lines.” Trees were unable to withstand the weight of snow, limbs eventually broke and fell into the power lines. Independent consultant states that 80% of the tree contacts were non-preventable. More importantly, no system is designed to withstand mechanical impacts like tree limbs falling into power lines, such as those experienced during the 2003 Holiday storm. Also, more than 85% of the tree contacts were by fast-growing, weak-wooded tree species (i.e. 60% were caused by one problematic species, Siberian elm)
Identify 'what we're going to do about it'	Since 20% of Tree Contacts were determined preventable by the consultant, recommendations include working towards a three-year tree pruning cycle. Non-preventable, we need to discuss with stakeholders a change in policy for trimming clearances, that includes costs vs. value.
The Report does not really identify what caused this outage to be different from the normal snow storm with 20,000 of - what were the differences in damage.	High moisture content per inch of snow. Weight of snow caused tree limbs to break and fall into power lines. Weather service list this storm in top three recorded in past 75 years, measured by moisture per inch of snow.
Most of the outages were impacted by vegetation. Were there other failures relative to equipment, etc that may define another 'cause' grouping to be reviewed for corrective action?	No. Tree contact is the primary cause.
Chapter 5 – The Storm	
Can we identify how many lines were already spliced? When we splice, is it a long term impact to the strength of the line?	No. Splices are a common practice in the industry. No. Splices are designed to be equal or greater than the strength of wire when installed.
Graph 5.3.2 - check the blue cumulative data - it appears to be wrong.	Graph has been updated in the report. Blue represents when CADOPS was “ON”
<p>Show how many customers were out 1 day, 2 days, etc. Show detailed numbers on graph for this data.</p> <p>This is illustrated on Figure 13.5-3, but I think the numbers behind the column for this outage could be included somewhere. (Darrell Hanson-DPU)</p>	<p>If this is the cumulative customer out data, we only have inferential data about outage durations based on customer goodwill payments (the system information was not being captured during the first three days).</p> <p>Goodwill payments through March 31: Total claims received and processed: 16,834 14,396 claims paid 2,438 claims denied</p> <p>Below is a breakdown:</p>

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
	<p>24-47 hours - 2,438</p> <p>48-71 hours - 7,286</p> <p>72-95 hours - 4,332</p> <p>96+hours -2,778</p>
<p>This has probably been responded to in general but leads to the following questions. Most of the discussion has been on trees falling on power lines. However, outages could also be caused by lines failing with snow or ice loading because they were weak or poles went down because they should have been replaced. Was any effort made to identify failures during this storm from these causes? Were repair personnel asked if any lines failed because of weakness? Was any testing done on lines that were replaced? Any similar investigation on poles that failed? The report discusses a testing program for poles. What is involved in the periodic testing of poles? How do you test wires or even identify wires that would be weak from annealing? (Darrell Hanson-DPU)</p>	<p>1. Agree that outages could be caused by other weather elements. However, since only 32 poles were replaced, the data would suggest that the poles held up well. On the other hand, replacing 34 miles of wire indicates tree contact as the primary cause.</p> <p>2. No. Extreme Weather was sufficient cause.</p> <p>3. No. See 2.</p> <p>4. No. See 2.</p> <p>5. No. See 2.</p> <p>6. Poles are inspected on a 16 year cycle by Osmose where a detailed analysis both above and below the ground is performed (pole test and treat). Strength of the pole is evaluated. Poles that do not pass this inspection are either replaced or stubbed. Additionally, all poles are scheduled to have a detail inspection every eight years. While pole strength is not as rigorous as during the pole test and treat the trained inspectors should be testing the pole by sounding the pole (hitting with a hammer to check for hollowness) and visually inspecting the pole for excessive rot and general condition. Utah is currently entering the third year of an eight year cycle for inspecting poles.</p> <p>7. Laboratory. Visual is not sufficient. Wire is sent to an external laboratory and/or our wire alliance partner to be tested for annealing. If we know of a wire (actual measurements or actual observation of a wire sagging) that has been exposed to severe overloading (over the conductor damage curve) then a project to replace that wire is submitted.</p>
Chapter 6 – Storm Response	
<p>What system was used to deal with emergency situations (such as live power lines down or special needs customers) vs. normal reports of outages? How do we identify and then manage special needs, hazards, etc.</p> <p>There was downed lines that got press coverage that you might want to respond to. (Darrell Hanson-DPU)</p>	<p>CADOPS. Hazard code is utilized when the customer service rep enters the outage information provided by the customer.</p> <p>Press: Specific sites are missing to be able to address.</p>
Chapter 7 – Technology Issues	
None	
Chapter 8 – Vegetation Management	
<p>8.2.1-1 The diagram shows zones by fiscal year yet they don't seem to match up with their understanding of reality (what zones have been done in past and what's planned for future).</p> <ul style="list-style-type: none"> Is this FY key the current 6 year cycle or 	<p>This table shows a history of what we have worked since FY01 to present in Salt Lake County and parts of Davis County. Grids that are not colored, example NE1, have not been pruned since FY2001.</p>

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
<p>what it should be for a 3 year or ???.</p> <ul style="list-style-type: none"> • Would also like to expand the geography to include all of Utah not just Wasatch Front. • Why are some areas not in the FY color code - what is there status? • Can we differentiate policy vs actual program being implemented (3 vs 6 year cycle) 	<p>Not practical to do a state grid map with color. We can provide a table that shows what areas have been worked.</p> <p>Their status is that they have not yet been worked between FY01 and present.</p> <p>At the time of the storm, we had trimmed trees on more than 65% of the distribution lines miles in the system during a four year period. At this pace we were on a 6 year cycle. We are working towards a 3 year cycle. That should differentiate between policy and actual. Chapter 8.7.1 shows increased expenditures which were based on certain tree density.</p>
<p>How much is built into Utah rates for tree trimming? John noted that 03 establish rates for tree trimming.</p> <p>What is in rates may be hard to determine. A budget vs. expenditures graph might be more helpful. (Darrell Hanson-DPU)</p>	<p>Not answered and not critical</p>
<p>Chapter 9 – Investment Standards</p>	
<p>I didn't see anything in the report relating to distribution plant investment costs spanning the three corporate cultures (UP&L, PCorp and SPI). We need detailed information going back 20 years for comparison purposes. We also need annual budget documentation for those distribution plant (FERC) accounts that spells out the reasons for increases/decreases in each account.</p>	<p>Table 9.2-1 and Table 9.2-2 describe prior 10 years capital expenditures and 10 year forecast for planned investment. We are not able to do 20 years.</p>
<p>Compared to current levels, the distr. system plant investment cost levels in Utah seem to trend downward in future years.</p>	<p>Table 9.2-2 shows increased investment. Some years have significant increases associated with specific projects.</p>
<p>P 227: Is Quantum Leap on schedule? (Cheryl Murray-CCS)</p>	<p>Yes.</p>
<p>P 235: Paragraph 3. In Utah, the Company's overhead lines are designed for 0.25 inch of ice Does the Company know how frequently the lines accumulate over 0.25 inch of ice and how much over 0.25 inch? (Cheryl Murray-CCS)</p>	<p>No. The challenge is to differentiate between snow and ice accumulation. They have different effects.</p>
<p>Same Paragraph as above. ...the job designer can select a "heavy load". What is the job designer's authority in this regard, ie what approvals must be obtained to use "heavy load"? (Cheryl Murray-CCS)</p>	<p>Once a geographic area has been identified which requires the heavy loading standard, the estimator has complete authority to design to this level. The geographic areas are identified by the area engineer in conjunction with the staff engineering group. Example: Utah is identified as medium loading by the NESC. However, our designs in Davis County typically follow heavy loading because of the canyon winds.</p>
<p>P 272: Inspection Plan and Scheduling Training</p>	<p>The program and training mentioned in this section</p>

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
<p>The draft report mentions the Company's inspection program. This section talks about training to make sure Company policies are followed. Regarding inspection of distribution and local transmission facilities, how is the Company currently performing, are policies being followed? If not, to what degree and in what areas is there deviation? (Cheryl Murray-CCS)</p>	<p>is in addition to the training that currently exists and is part of the new "Off The Shelf" program (think we should include the application name). There is currently a training class titled "FPI for Managers" that trains on the inspection process (includes line patrolmen, managers and others that utilize FPI to record inspections and conditions. This class is held a few times per year. Also, company provides a training class for Osrose inspectors each year at the beginning of the fiscal year. Policies are being followed.</p>
<p>P 234: 12.3, 2nd paragraph. For example...#2, #4 or #6 hard drawn copper. At the time of installation... specifications. What is the current standard and if different when did the change occur? When a standard changes, if the Company has a supply wire of the prior standard is it used until gone or what is the procedure that is followed? (This assumes that the Company would have some amount of ready supply) (Cheryl Murray-CCS)</p>	<p>Minimum wire size for new construction is #2 ACSR.</p> <p>Inventories are maintained at pre-defined minimum levels to support ongoing maintenance of existing wire installed. These stock levels are maintained until such a time that the wire no longer exists at any significant level in the organization.</p>
<p>Has the company made any changes in engineering standards since the merger to respond to weather conditions such as snow, ice or wind? Can we provide specific examples?</p> <p>There is discussion of ongoing changes but is there any specific major changes that could be explained? (Darrell Hanson-DPU)</p>	<p>There have been no changes in the standard since the merger with ScottishPower. The company follows NESC.</p>
<p>Respond to the allegation that properly designed and installed lines should typically withstand wind, snow and ice storms. This is along the lines of Roger's comments - trending cause of failure in order to identify proper corrective action. How do we identify weak lines (inspections, etc)? (Darrell Hanson-DPU)</p>	<p>Overload capacity factors range from 2.2-4.0 for medium and heavy construction. Essentially, we already construct to 2x or more (safety factor) the minimum requirements to accommodate non-typical weather situations. As mentioned earlier, no system is designed to withstand mechanical impacts like tree limbs falling into power lines,</p> <p>SAIDI and SAIFI coupled with a pole inspection administered by the company</p>
<p>Chapter 10 – Reliability & Maintenance</p>	
<p>Check in the number of customers in Utah. Page 264 (section 10, Wasatch Front Investment Comparison Table) shows number of customers affected as 935,000.</p>	<p>This does not infer we have 935,000 customers in Utah. But, rather 935,000 customer events recorded. One customer with five outage events would be recognized as "Five Customer Events"</p>
<p>I didn't see anything in the report relating to distribution system maintenance costs spanning the three corporate cultures (UP&L, PCorp and SPI). We need detailed information going back 20 years for comparison purposes. We also need annual budget documentation for those distribution plant (FERC) accounts that spells out the reasons for increases/decreases in each account.</p>	<p>Figure 10.7-1 and 10.7-2 describe prior 10 years maintenance expenses and 10 year forecast for planned maintenance. We are not able to do 20 years.</p>
<p>Compared to current levels, the distr. system</p>	<p>Figure 10.7-2 shows gradual increases.</p>

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
maintenance cost levels in Utah seem to trend downward in future years.	
Page 267 (13.6 Maintenance Plan and Philosophy), next to last paragraph--indicates that lines are inspected every two years with a detailed inspection every 8 years. Does this schedule include secondaries or service drops?	Yes
<p>P. 261:</p> <ul style="list-style-type: none"> a. How is the uplift for each circuit computed? b. What does "current" mean? Since the completion of the project? Last 12 months? c. Most of the completed projects have Current CPIs below 200, but a few have Current CPIs over the lowest of the Uplifted CPIs for the worst circuits (344 for UN101): RAT22 (544), EUR12 (3141), WCD28 (4295), NIB21 (634), TOQ32 (1836). d. Why are these circuits functioning so badly after remediation? <p>Especially NID21, for which Current CPI is higher than pre-remediation Uplifted CPI? And EUR12 and WCD28, where Current CPI is very high, and only slightly lower than pre-remediation Uplifted CPI. (Cheryl Murray-CCS)</p>	<p>The uplift for SAIDI and SAIFI has been calculated at a state level, and applied to each circuit within the state.</p> <p>The report provided is for fiscal year 2004, through the third quarter, less the missing data identified above. This means through 12/31/2003. For CPI calculations, a three-year blended reliability metric is prepared. Thus current scores summarize data from 1/1/2001-12/31/2003.</p> <p>They are not necessarily functioning badly, nor has remediation necessarily been in place long enough for the metrics to reflect improvements in performance. First, these scores are a method of evaluating system performance, but cannot be taken without additional information. CPI is a 3-year blended metric, so earlier year's poor performance can cause scores to be elevated for 3 years after the remediation has been effected. Additionally, because of how the system is operated, those circuits which normally serve few customers, but that operate as back-up circuits for many customers accrue high SAIDI scores which incorrectly inflates their CPI metric. Customer minutes lost and customer interruptions are accrued against the circuit on an as-operated basis, but SAIDI and SAIFI are calculated based on a more static model for circuit customer counts. (There is recognition in the industry that calculating SAIDI and SAIFI at a circuit level can be problematic.) Thus, the engineer evaluates these metrics knowing that such factors can incorrectly rate a circuit's performance more poorly than it actually is.</p> <p>- Especially NIB21, for which Current CPI is higher than pre-remediation Uplifted CPI?</p> <p>Again, those circuits specified are newly remediated or just in the study stages, which means the scores have not yet been [substantially] influenced by the improvements. In general, those circuits which are new (such as NIB21) or those which function as backup circuits tend to appear to perform poorer than they actually do. This is largely due to the circuit SAIDI and SAIFI calculation.</p> <p>Such is the case for NIB21, TOQ31, TOQ32 and</p>

Item	Response <i>(Italics indicate PacifiCorp Responses)</i>
	WCD28. Additionally, as noted on EUR12, transmission improvements have been performed.
Define “uplift” as that term is used on pp. 248–252, and provide the data and computations involved in computing the uplifted baselines for SAIDI and SAIFI, for PacifiCorp and Utah. (Cheryl Murray-CCS)	Uplift describes the effect of accurate outage reporting on the company’s reliability metrics. On a state-by-state basis, calculations for both SAIDI and SAIFI have been prepared. The calculations utilize statistics with trouble calls, outage events and durations and outage-based customer satisfaction results. The factors are identified below: (i) SAIDI 1. PacifiCorp: 2.52 2. Utah: 2.86 (ii) SAIFI 1. PacifiCorp: 1.84 2. Utah: 2.13
Describe the “normalizing events” as that term is used on pp. 248–252, explain how “normalizing events” differ from “underlying” and provide the data and computations involved in computing the “normalizing events” for PacifiCorp and Utah SAIDI. (Cheryl Murray-CCS)	A normalizing event is an event which exceeds the 2 ½ beta level for a state. When these events and major events are excluded from SAIDI, the resulting performance is classified as “underlying”. Definitions pertinent to the document are included in the Appendix, in Section 3 of Network Performance Report FY2004 thru Quarter 3.
Explain the use of the term “remainder of 2004 plan” in Figures 13.2-1 and 13.2-4. If this is not simply the forecast for underlying events in the remainder of FY 2004, explain what it is. (Cheryl Murray-CCS)	“Remainder of plan” is the net of Operating Plan target less the actual recorded for the year.
State the date through which the actuals are provided in Figures 13.2-1 to 13.2-5. (Cheryl Murray-CCS)	12/31/2003, excluding the data not recorded during 12/26-12/29/2003.
Chapter 11 – Organization & Resourcing	
None	
Chapter 12 – Comparative Performance & Benchmarking	
P 213: Last paragraph. “During the events of December 24, 2003 to January 2.... “ Is Dec 24 the correct date? (Cheryl Murray-CCS)	Report has been updated to reflect December 26 th .
Chapter 13 – Major Event Definition and Compensation	
None	