

Utah Service Quality Review Group Benchmarking at PacifiCorp

February 22, 2006

Performance Comparisons

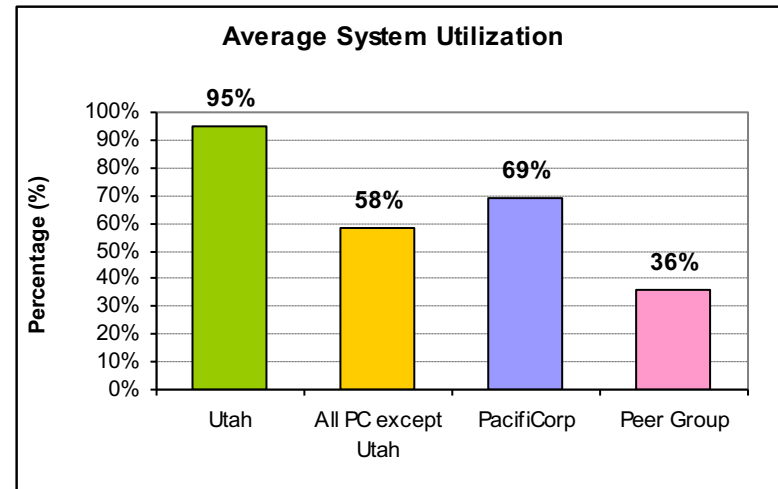
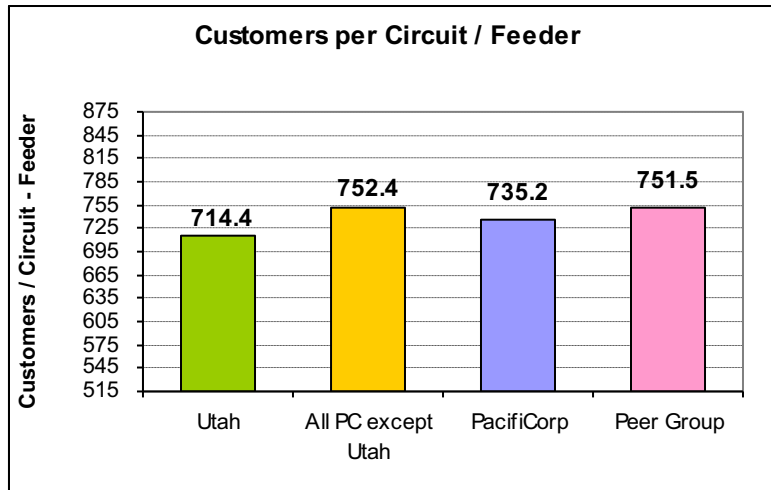
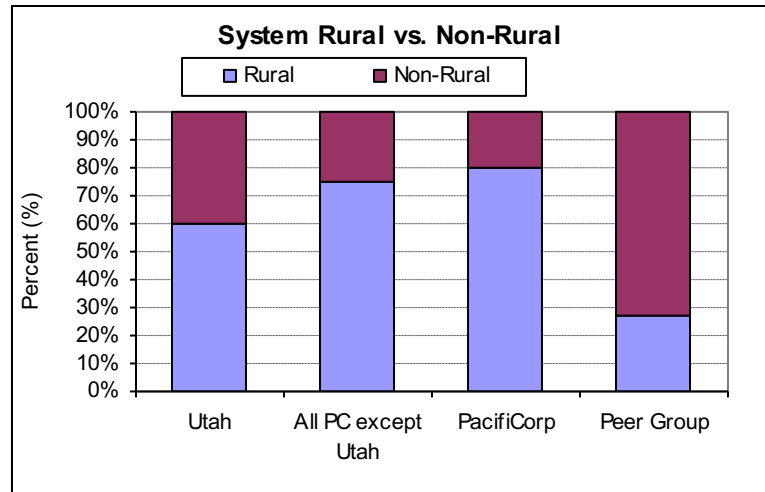
- ePerformance
- PA Consulting
- Within PacifiCorp
- IEEE Distribution Reliability
- Other benchmarks

Benchmarking requires:

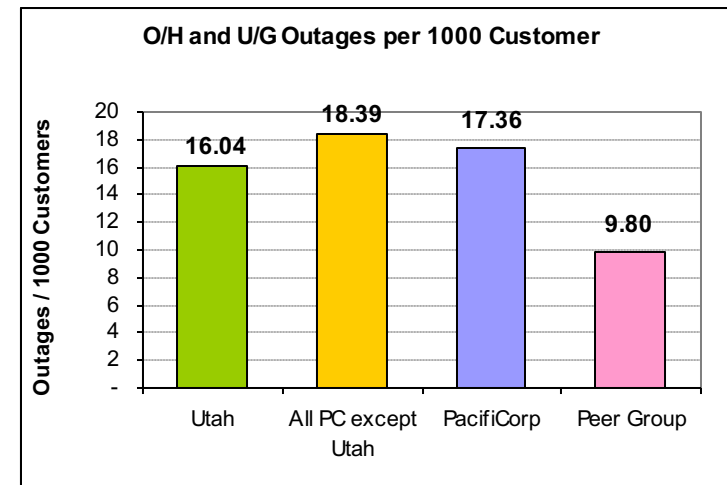
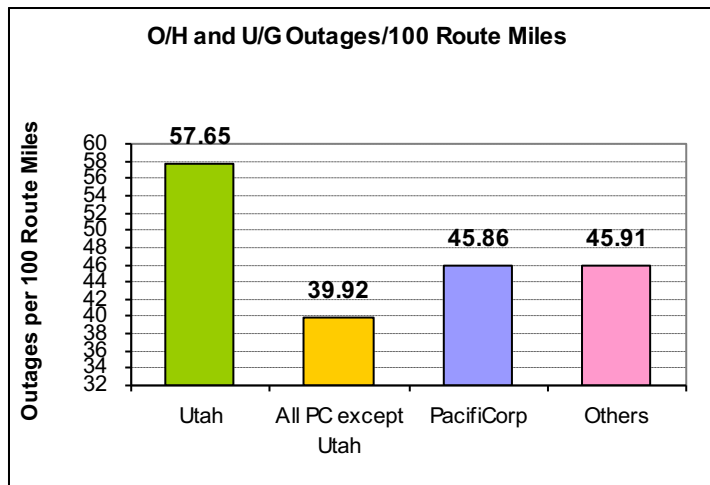
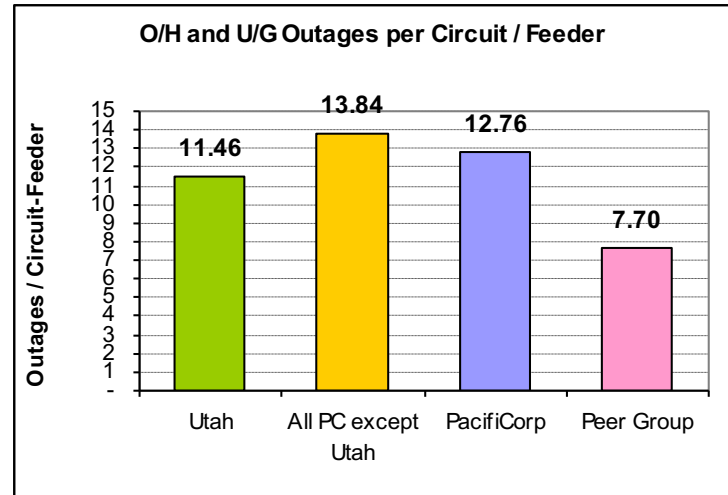
- Identifying how data is derived
- Comparing types of systems
- Looking for other explanatory variables
- Determining differences in practices that may lead to different results
- Identifying opportunities for utilizing other practices to improve performance

System Characteristics ePerformance

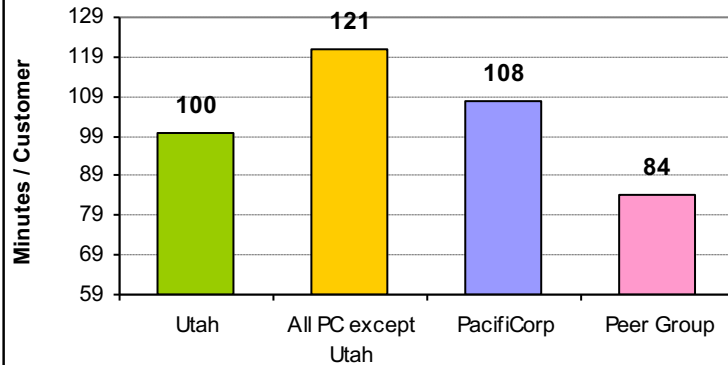
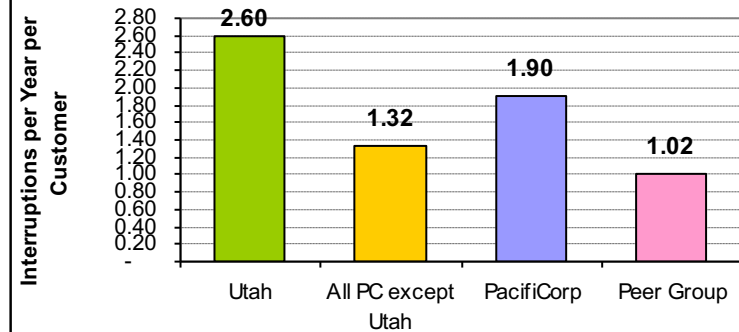
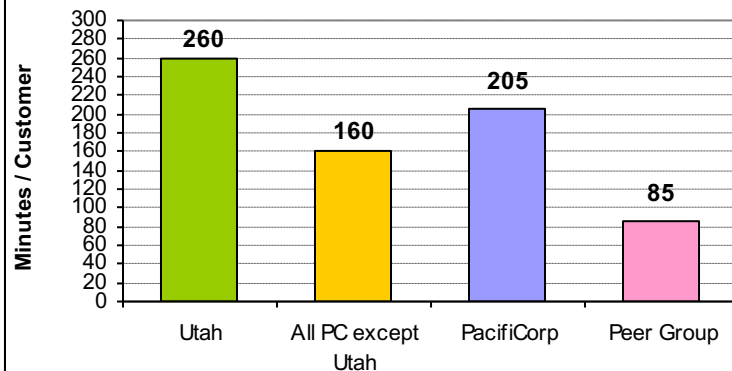
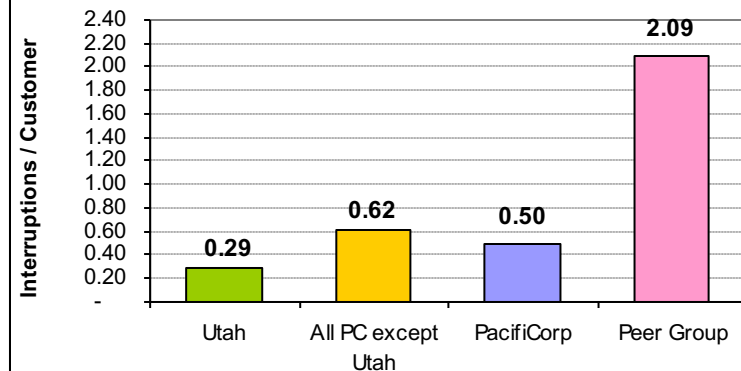
System Characteristics



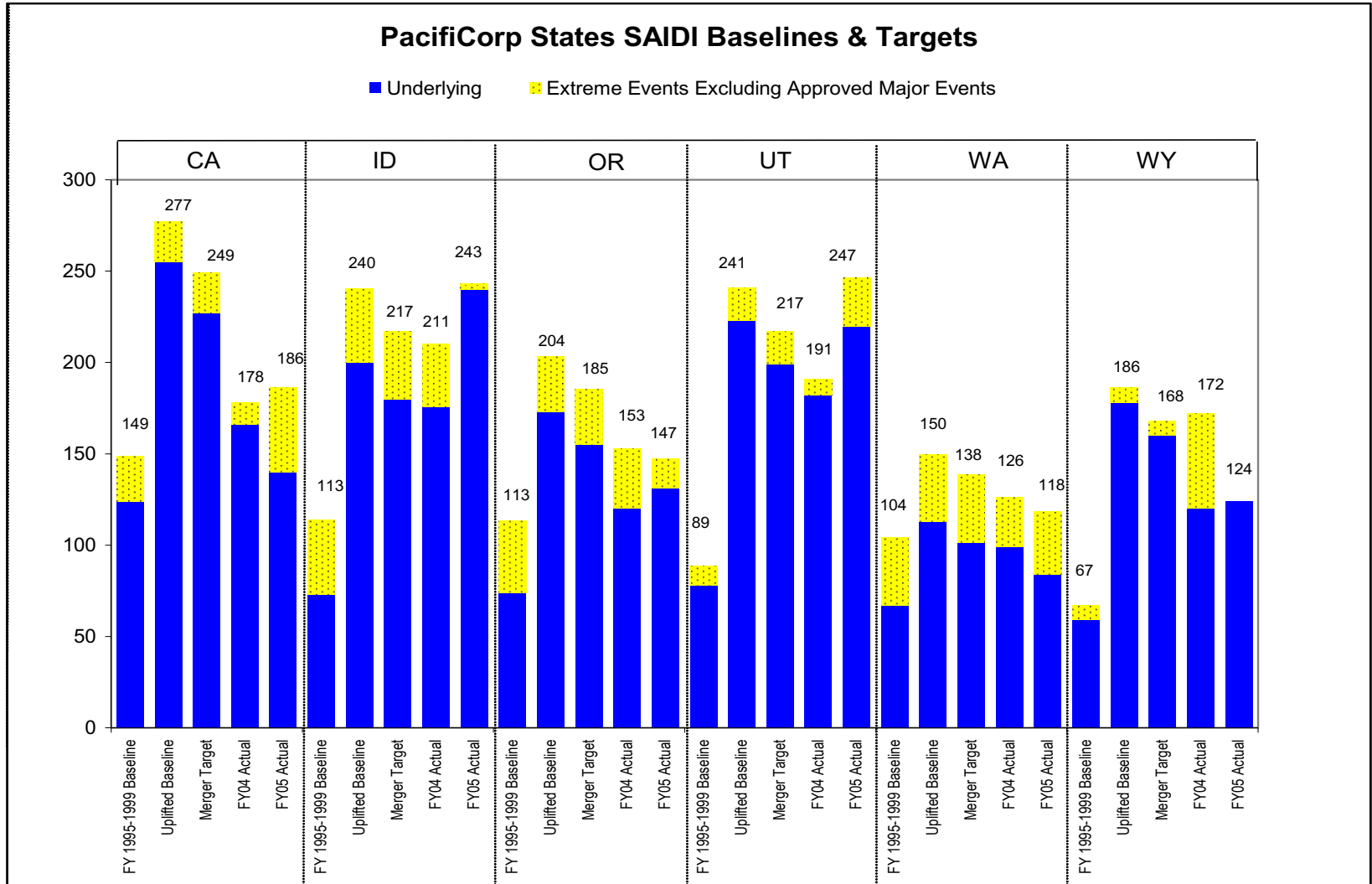
System Characteristics, cont'd.



Outage Metrics

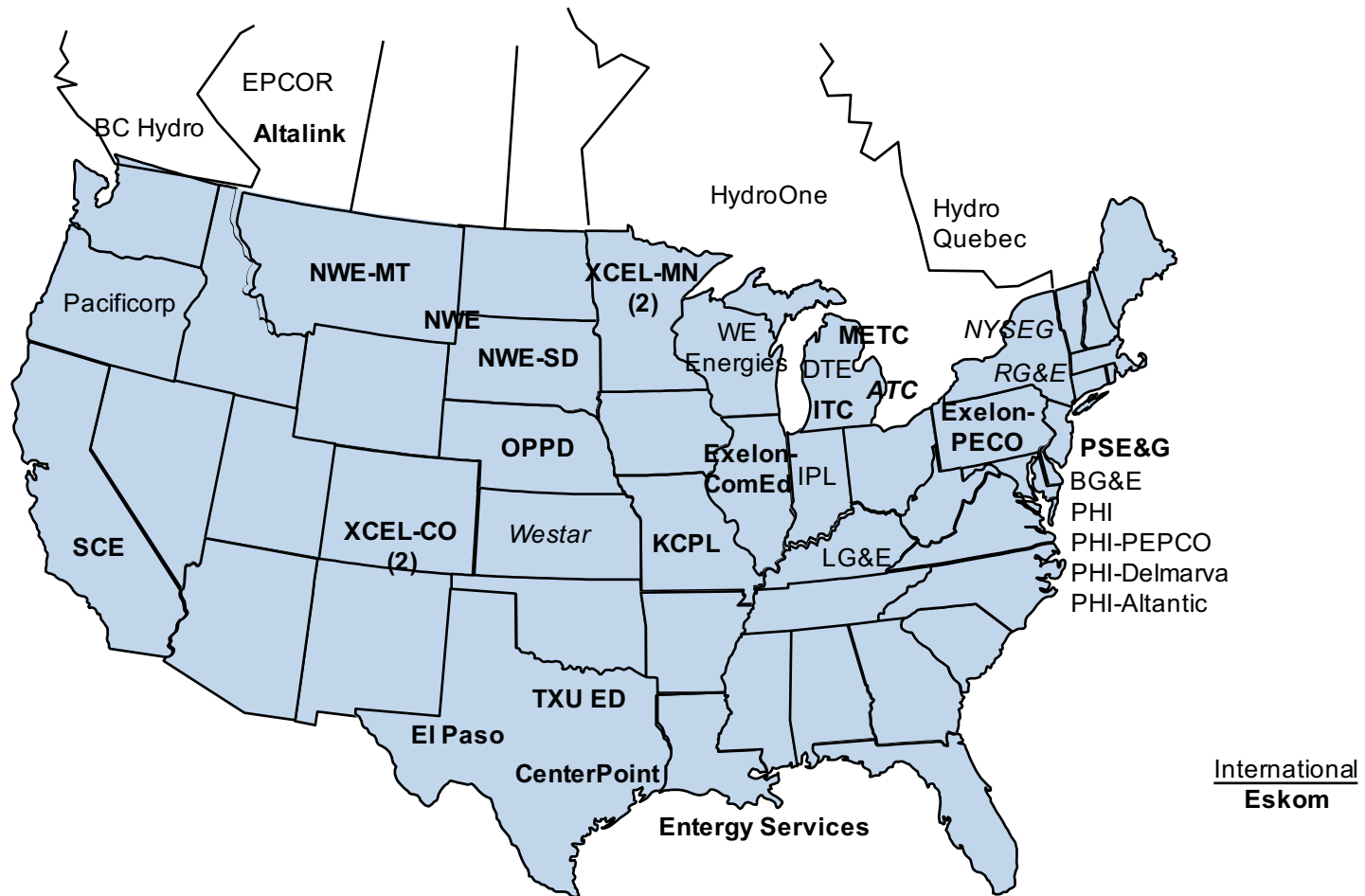
CAIDI (Duration)**SAIFI (Frequency)****SAIDI (CAIDI x SAIFI)****MAIFI**

Merger Commitment Targets & Results



PA Consulting Benchmarking Results

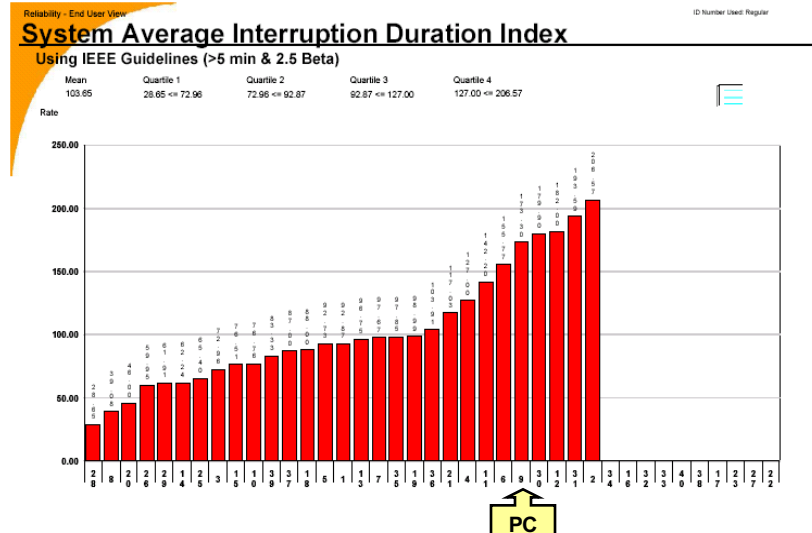
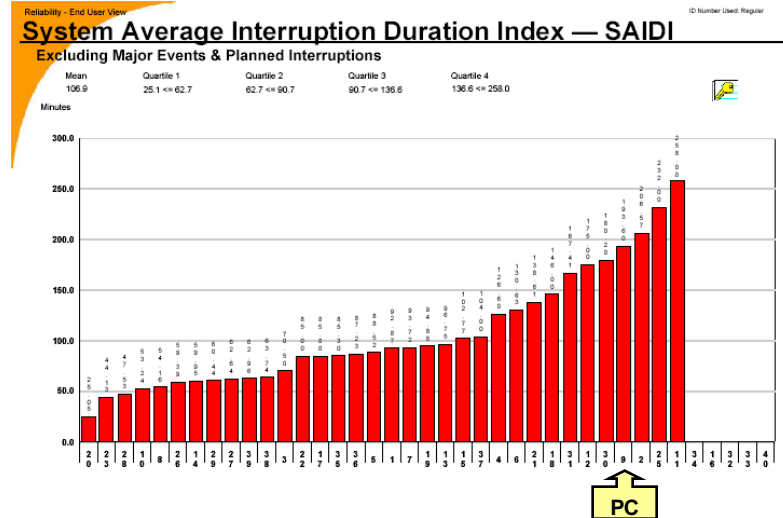
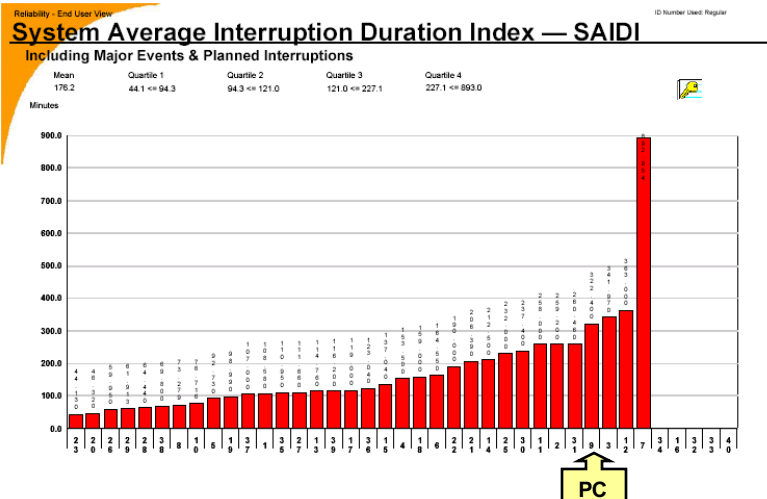
PA Consulting – T&D Benchmarking Study 2005 (for Calendar 2004) Participants



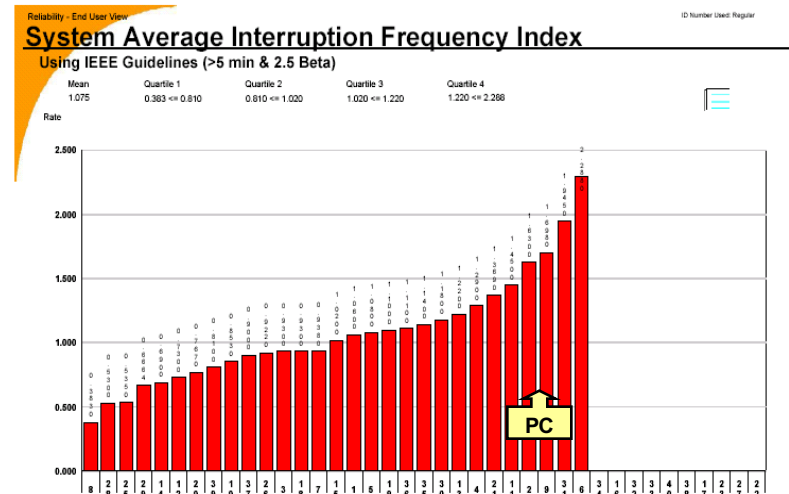
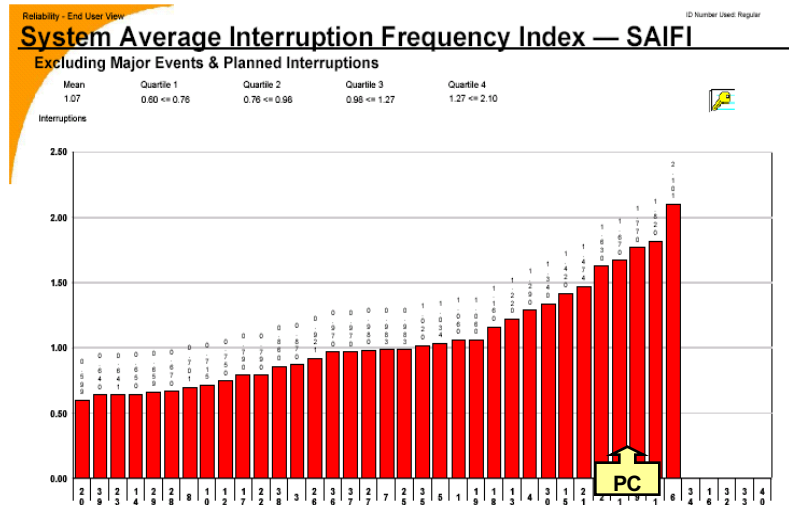
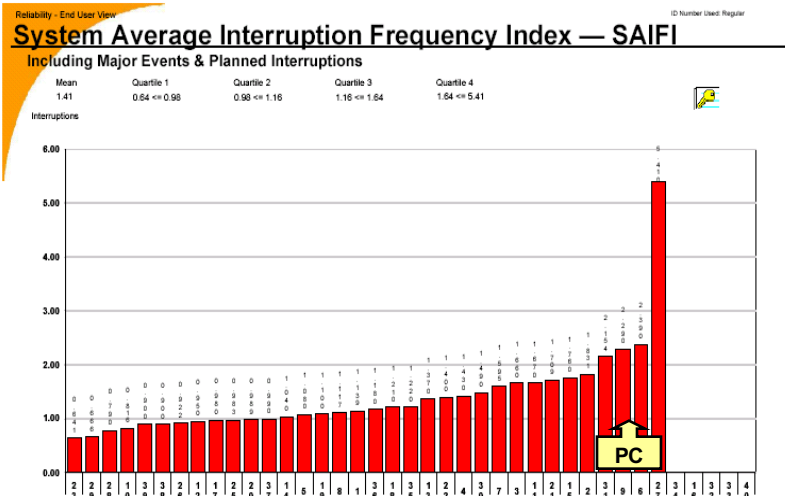
PA Benchmarking Characteristics

PA Benchmarking Characteristics				
Distribution Line				
Characteristic:	N=	Median	PacifiCorp	Utah
Distribution Customer/Square Mile	35	86	11.8	19.9
kWH Transmitted /Total Customers	38	29,571	34,434	35,771
New Distribution Line Growth Rate	20	1.63%	1.60%	1.04%
% Commercial and Industrial Customers	34	11.70%	14.40%	11.14%
% Underground Distribution Circuit Miles	29	26.90%	24.68%	38%
Trees/Overhead Pole Mile	16	106	156	98
Trees/Overhead Distribution Circuit Mile	22	101	119	81
Average Wage Rate	25	29	33	33
Sparsity (Circuit Miles/100 Customers)	31	2.7	3.5	2.7
% New Miles Underground	21	68.60%	88.60%	55.6%
Streetlights/Circuit Mile	22	4.1	2.3	1.75
% Underground Concrete-encased Duct	21	13%	1%	0%

SAIDI: Overall Outage Duration



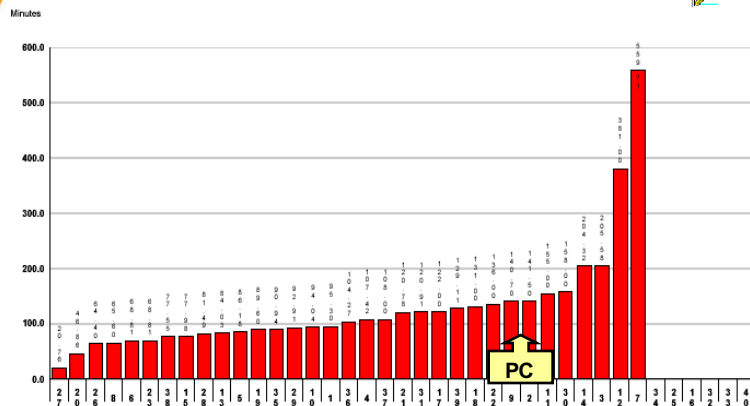
SAIFI: Outage Frequency



CAIDI: Outage Responsiveness

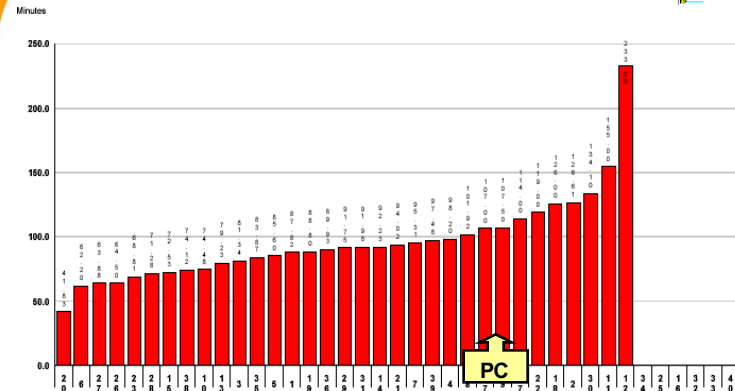
Reliability - End User View Customer Average Interruption Duration Index — CAIDI Including Major Events & Planned Interruptions

Mean 128.2 Quartile 1 20.8 <= 81.5 Quartile 2 81.5 <= 104.3 Quartile 3 104.3 <= 136.0 Quartile 4 136.0 <= 559.7



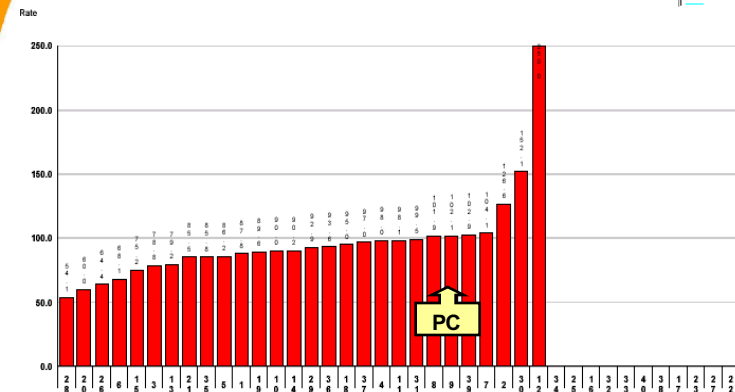
Reliability - End User View Customer Average Interruption Duration Index — CAIDI Excluding Major Events & Planned Interruptions

Mean 96.2 Quartile 1 41.8 <= 74.5 Quartile 2 74.5 <= 91.8 Quartile 3 91.8 <= 107.0 Quartile 4 107.0 <= 233.0



Reliability - End User View Customer Average Interruption Duration Index Using IEEE Guidelines (>5 min & 2.5 Beta)

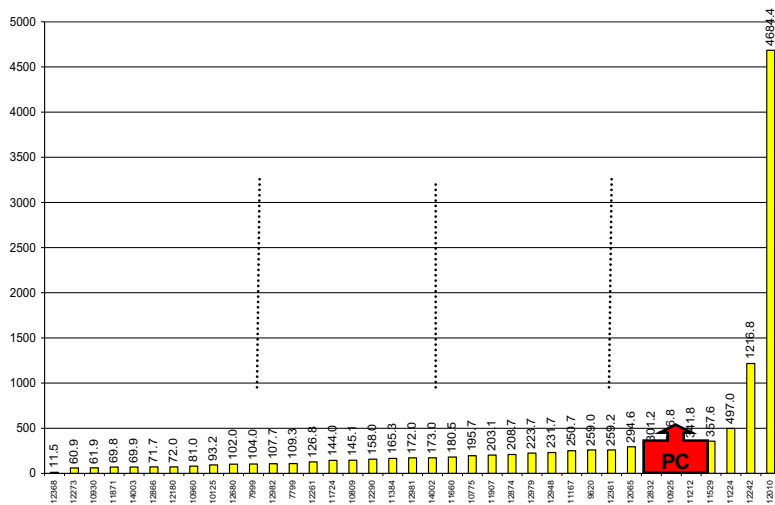
Mean 96.7 Quartile 1 54.1 <= 83.9 Quartile 2 83.9 <= 91.6 Quartile 3 91.6 <= 100.1 Quartile 4 100.1 <= 250.0



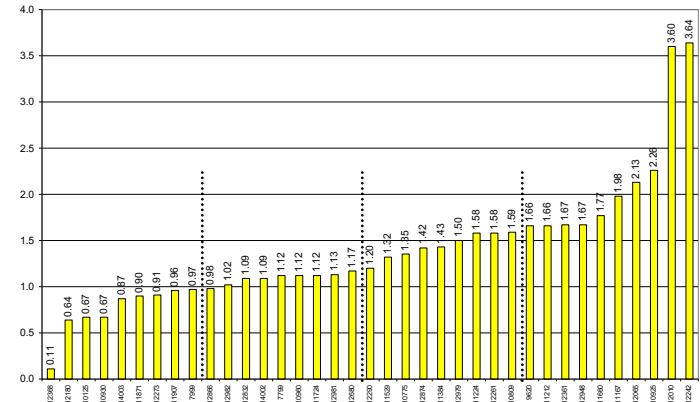
Florida Power & Light Benchmarking Results

FPL Benchmark Results: Calendar 2004 w/ Major Events

2004 SU - Transmission, Substation, & Distribution
(Including Major Events)

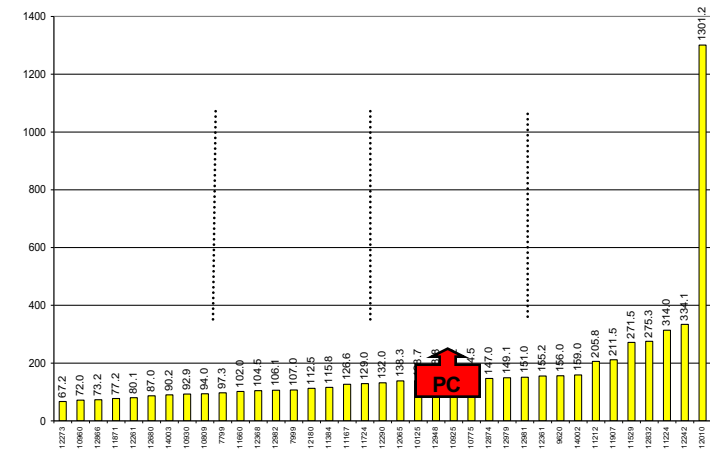


2004 SAIFI - Transmission, Substation, & Distribution
(Including Major Events)



PC

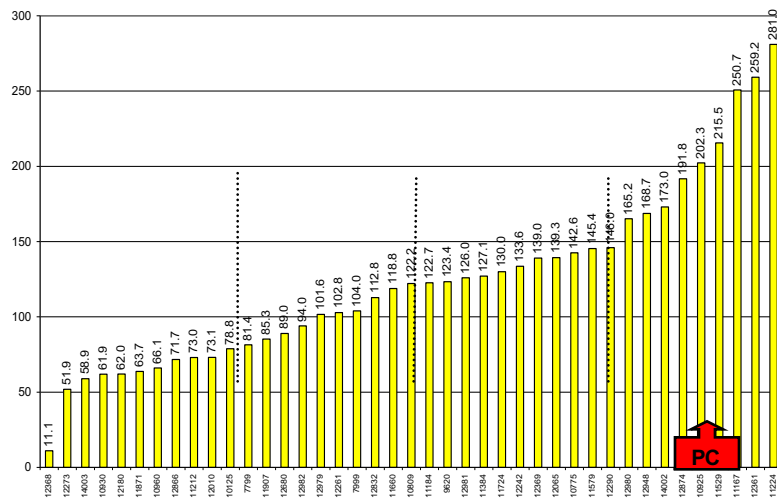
2004 CAIDI - Transmission, Substation, & Distribution
(Including Major Events)



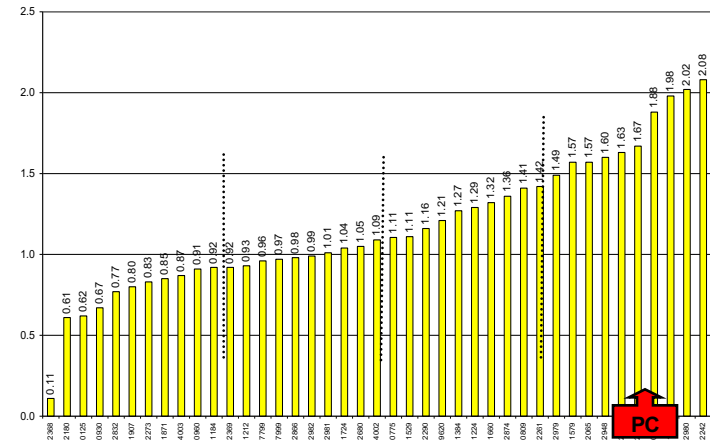
PC

FPL Benchmark Results: Calendar 2004 w/out Major Events

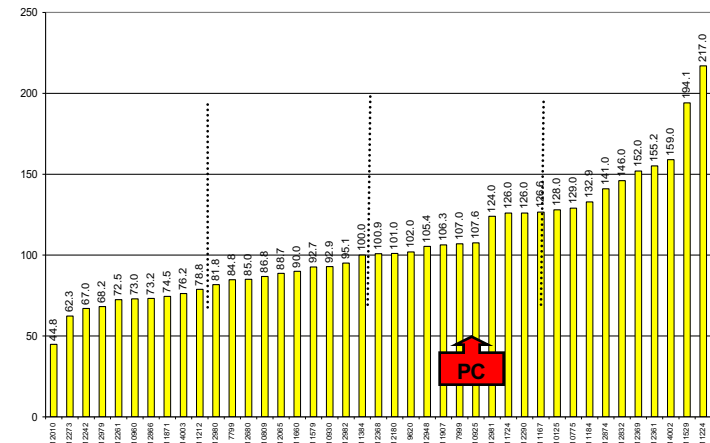
2004 SU - Transmission, Substation, & Distribution
(Excluding Major Events)



2004 SAIFI - Transmission, Substation, & Distribution
(Excluding Major Events)



2004 CAIDI - Transmission, Substation, & Distribution
(Excluding Major Events)



IEEE Benchmarking Results

IEEE Reliability Benchmark

- ▶ 105 Companies have responded at some time
- ▶ 2004 Survey
 - ▶ 78 responded in 2004
 - ▶ 56 provided details
 - ▶ 40 were same as 2003 respondents

All Respondents 2004						
Quartile	SAIDI IEEE	SAIDI All	SAIFI IEEE	SAIFI All	CAIDI IEEE	CAIDI All
1	70.32	102.69	0.90	1.07	73.46	85.52
2	99.85	144.76	1.09	1.26	91.16	107.30
3	146.25	284.61	1.42	1.80	105.31	139.30
4	313.23	1113.20	3.66	4.73	472.81	472.81
PacifiCorp	172.89	315.73	1.68	2.25	102.66	140.26

Questions

Appendix

Outage Metrics by State

State	IEEE 1366- 2001	CAIDI	CAIFI	SAIDI	SAIFI	MAIFI	Major Storm defined	State-set Benchmark s & Performanc e Standards	Comments
Alabama									No Standards
Alaska							x	x	Minimum for Voltage
Arizona									No Standards
Arkansas	x	X		x	x	x			
Colorado		x		x	X		X	x	
Connecticut									No Response
Delaware		x		x	x				Get Update
Florida		x		x	X	x		x	Trial Standards
Georgia									No Standards
Hawaii									No Standards
Illinois	x	x	x		x		x	x	
Indiana		x	x	x					Utility set
Iowa							x		Get Update
Kansas	x	x		x	x		x	x	
Kentucky		x	x	x	x	x			Utility set

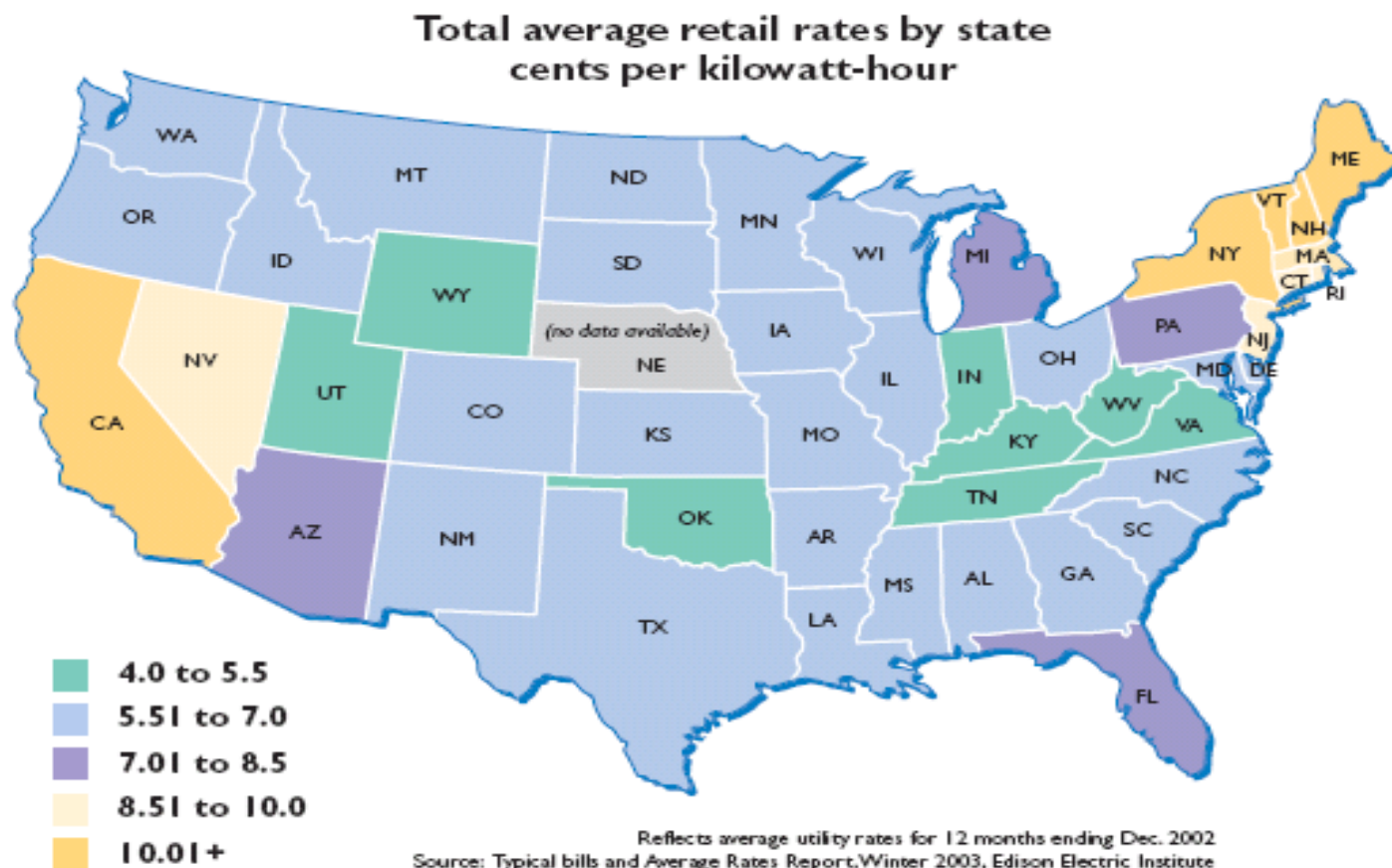
Outage Metrics by State

State	IEEE 1366- 2001	CAIDI	CAIFI	SAIDI	SAIFI	MAIFI	Major Storm defined	State-set Benchmarks & Performance Standards	Comments
Louisiana				x	x			x	
Maine	X	x			x		x		
Maryland	X	x		x	x		x		Utility set
Massachusetts	X			x	x		x	x	See DTE Website
Michigan									Reporting
Minnesota				x	x				Utility Specific
Mississippi									No Response
Missouri		x		x	x				Utility set
Montana									No Standards
Nebraska									No Standards
Nevada				x	x	x	x		
New Hampshire									No Response
New Jersey									No Response
New Mexico									No Response
New York	X	x	x	x			x	x	

Outage Metrics State

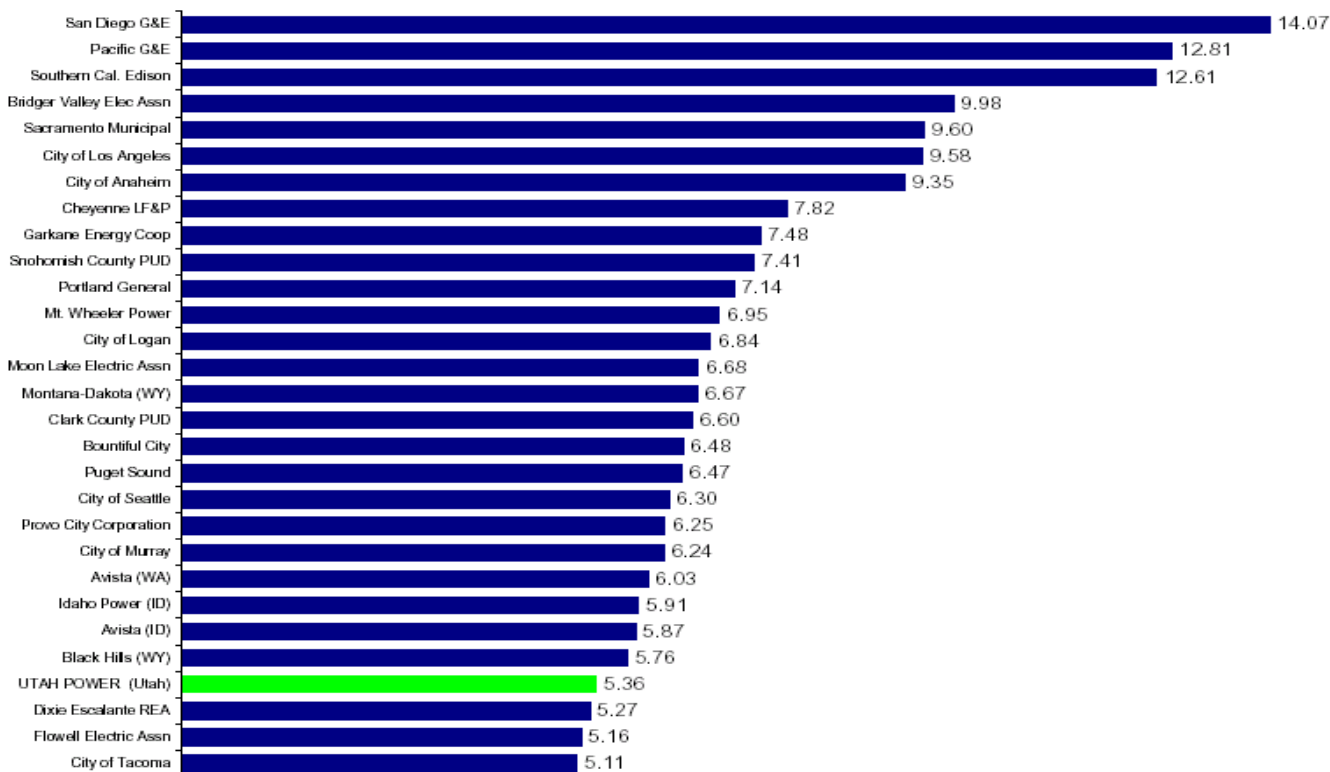
State	IEEE 1366- 2001	CAIDI	CAIFI	SAIDI	SAIFI	MAIFI	Major Storm defined	State-set Benchmarks & Performance Standards	Comments
North Carolina									No Standards
North Dakota									No Standards
Ohio		x		x	x	x			
Oklahoma								x	Filings in July 2004
Pennsylvania	X	x		x	x	x	x		
Rhode Island									No Response
South Carolina									No Response
South Dakota									No Standards
Tennessee									No Standards
Texas	X			x	x				
Vermont		x				x			
Virginia	X			x	x				Utility set
Washington DC	X	x		x	x		x		
West Virginia									No Standards
Wisconsin		x		x	x				

Average Retail Rates by State



Utah Power Rates vs. Western Utilities

Utah Power Estimated Average Rates in Utah
Compared to Western Utilities Average Rates
Reflects \$65M Utah Power Price Change



Source: Edison Electric Institute Summer 2003 Average Rates report and Energy Information Administration Form 861 for 2002, preliminary results.

12/1/2003