

# A Quantitative Assessment of Utility Reporting Practices for Reporting Electric Power Distribution Events

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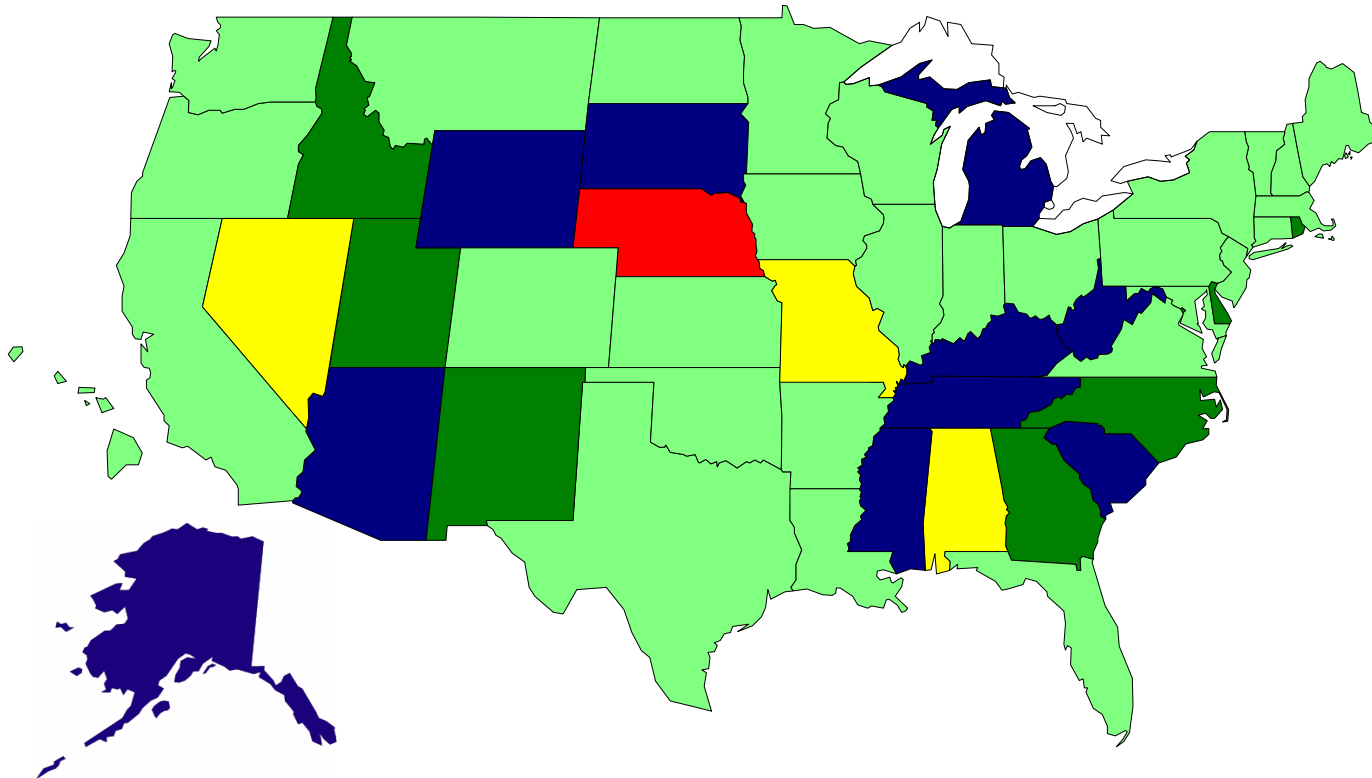
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# Today's Presentation: Findings Drawn from *Publicly Available Reliability Performance Information Collected by State PUCs*



- With assistance from the NARUC Electricity Reliability Staff Subcommittee, we contacted state PUCs to obtain *publicly available* information on utility reliability performance
  - Sample is a snapshot of practices circa 2006
  - Sample is biased toward inclusion of IOUs
- The information we collected offers insights into:
  - Evolving state requirements and utility practices
  - Effect of variations in utility reporting practices (e.g., with respect to IEEE 1366-2003)

# We Collected Electricity Reliability Performance Information For 123 Utilities From 37 State PUCs



- The 123 utilities represent nearly 80% of U.S. electricity sales by IOUs (or nearly 60% of total U.S. electricity sales)
- We find that 10 additional states (35 total) now require reporting or monitoring of reliability events compared to the number reported in a 2004 NRRI/NARUC survey

- LBNL received data for >1 utility
- LBNL received data for only 1 utility
- No data received because not required to be submitted routinely
- No data received because considered confidential
- No regulated utilities

# Simple Analyses of Reported Information Can Be Misleading

	SAIDI
Average	150
Median	136
St. Dev.	86
N	123

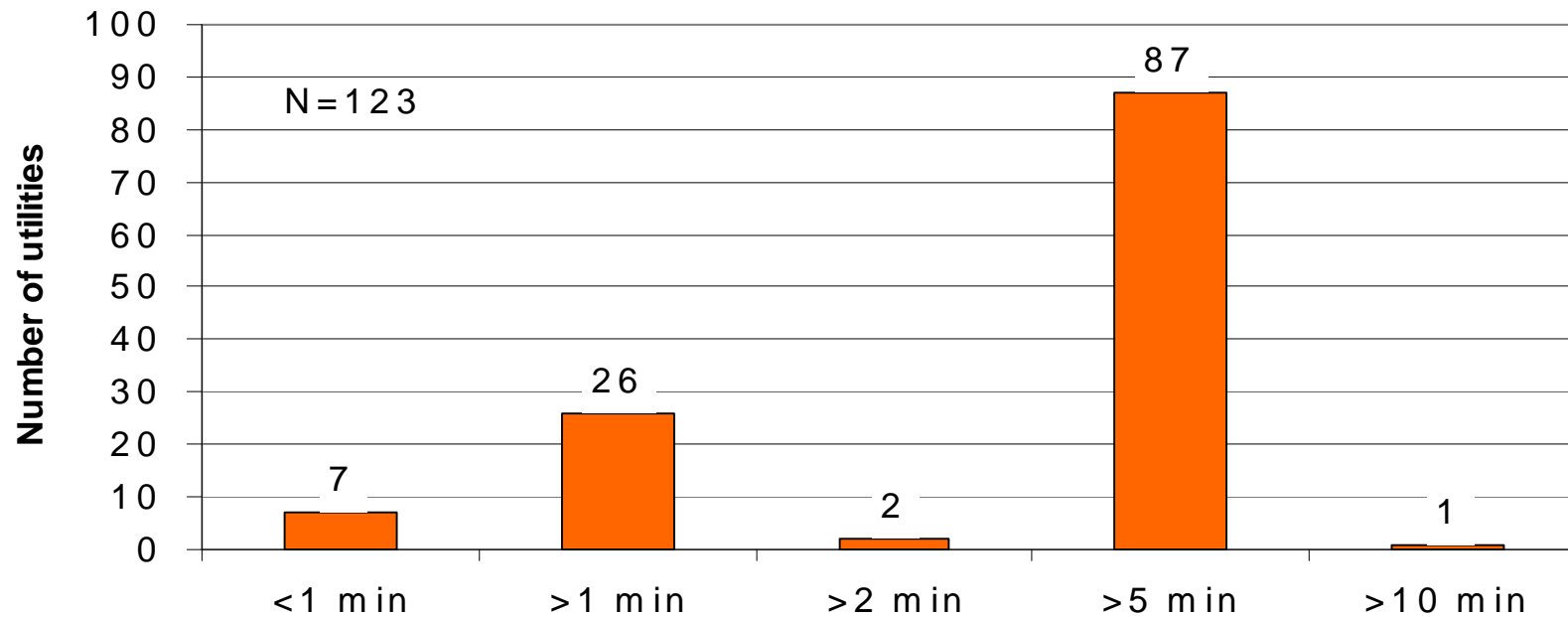
  

	SAIFI
Average	1.3
Median	1.3
St. Dev.	0.5
N	123

There are important differences among utility data reporting practices:

- Definition of sustained interruption
- Inclusion/exclusion of Major Event Days
- Definition of Major Event Days

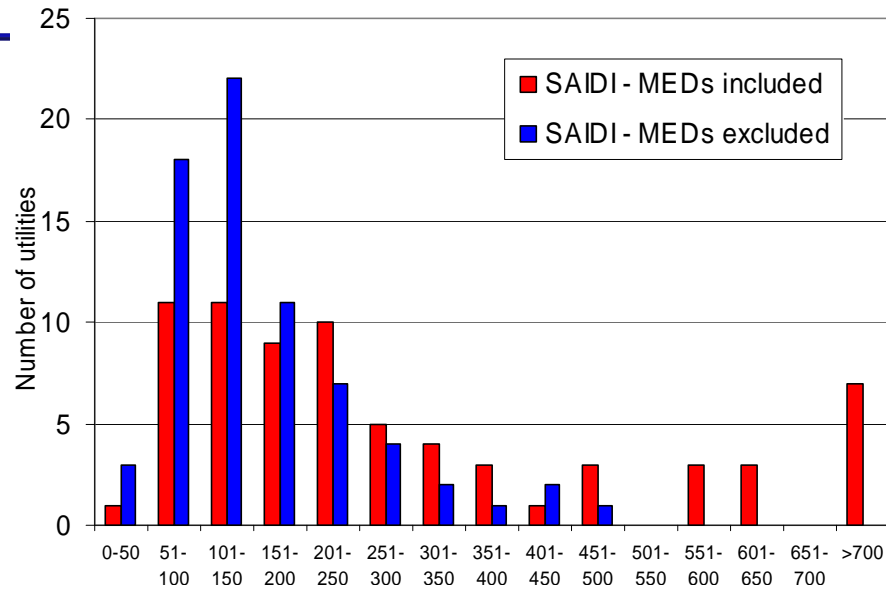
# Utility Definitions For Sustained Interruption Vary In Duration



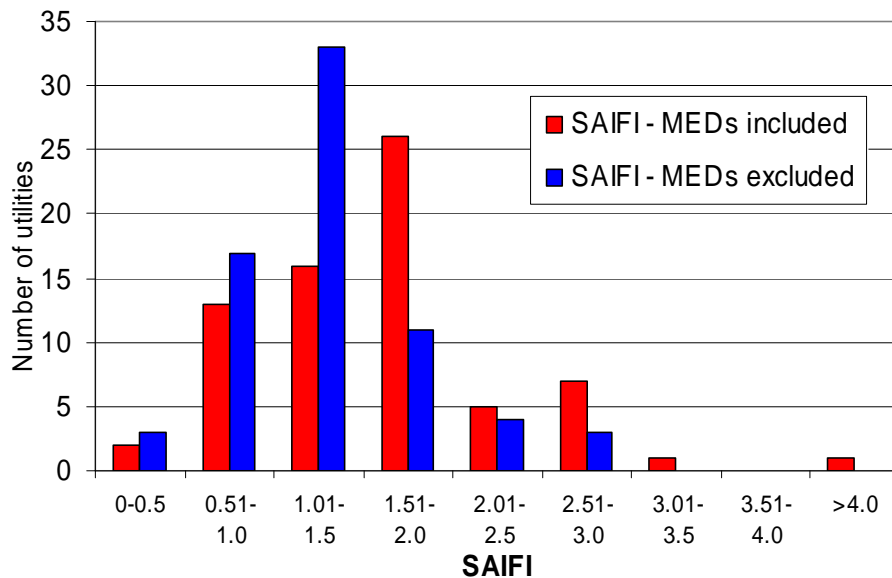
	SAIDI		SAIFI	
	5 min	1 min	5 min	1 min
<b>Average</b>	165	143	1.3	1.4
<b>Std Dev</b>	97	63	0.5	0.7
<b>Median</b>	145	151	1.3	1.3
<b>N</b>	78	19	78	19

↖ All utilities  
 ↖ w/o Major Events

# Inclusion/Exclusion Of Major Events Is A Critical Factor in Assessing Utility Reports

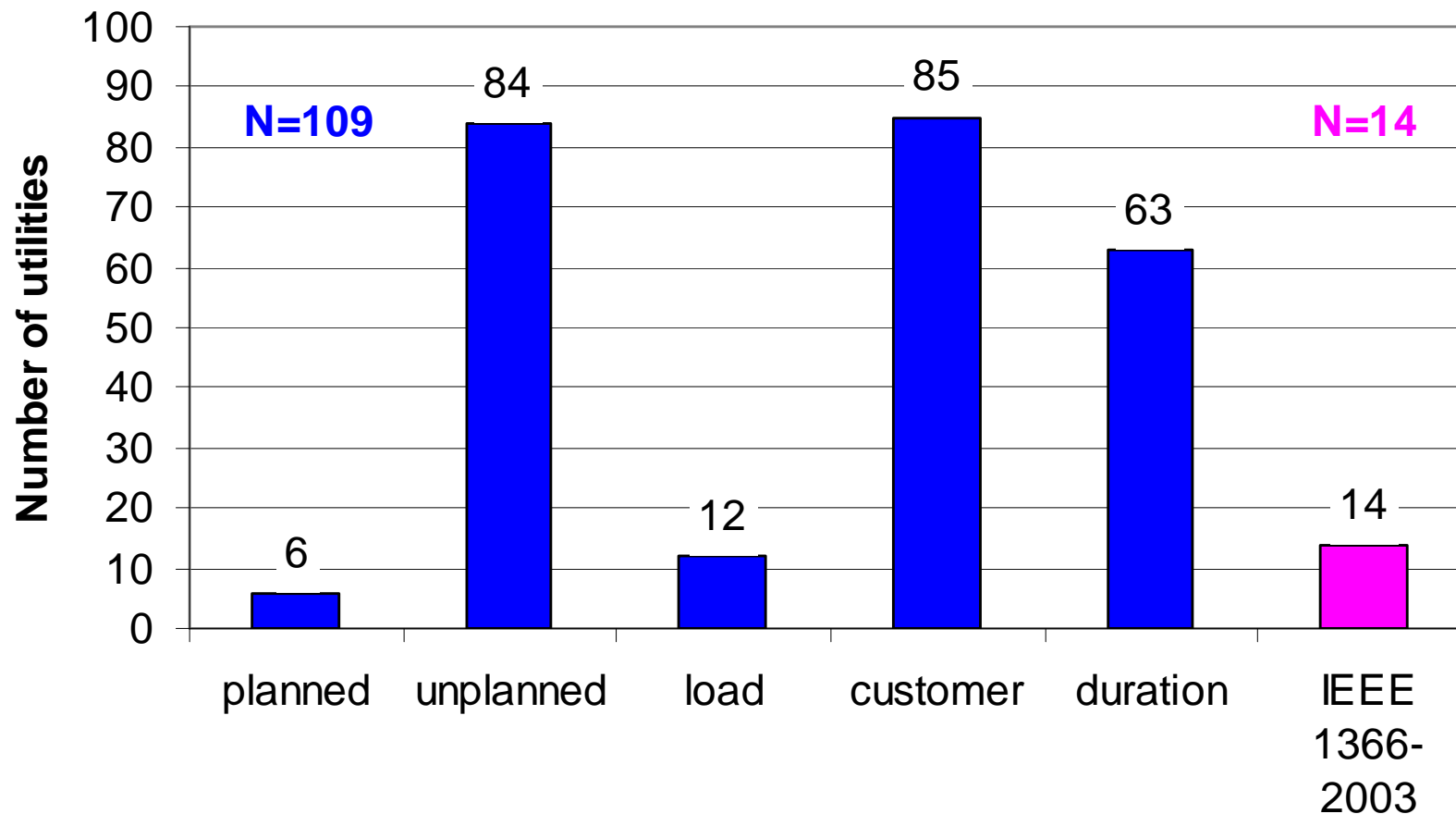


SAIDI	MEDs included	MEDs excluded	% Diff
Average	344	155	-55%
Median	213	130	-39%
St. Dev.	499	97	-81%
N	71	71	



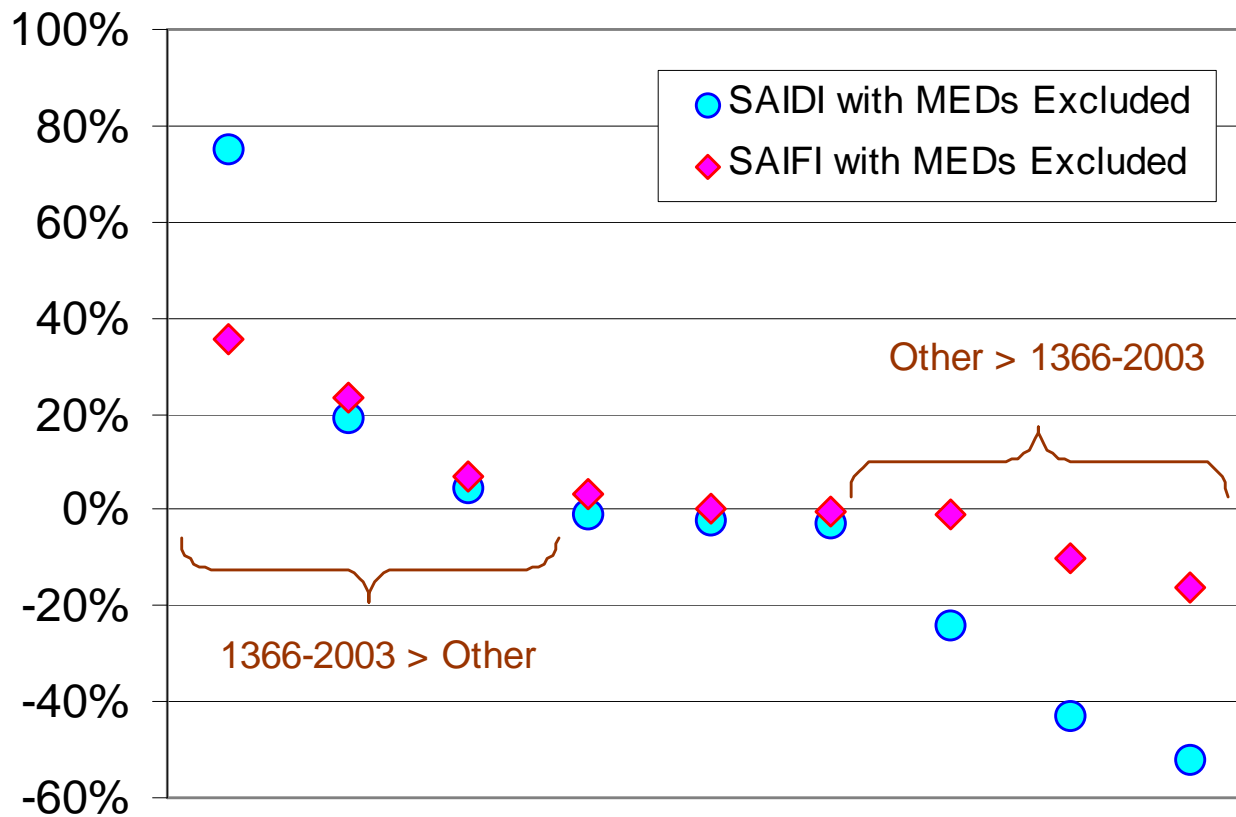
SAIFI	MEDs included	MEDs excluded	% Diff
Average	1.6	1.3	-21%
Median	1.6	1.2	-24%
St. Dev.	0.7	0.5	-28%
N	71	71	

# Definition Of Major Events Is An Equally Important Factor To Take Into Account



# We Did Not Find Systematic Bias In Use Of IEEE 1366-2003

## By Comparing SAIDI And SAIFI For Utilities Using Both Methods





# Conclusions

- There is wide variation in information reported by utilities on their reliability performance
  - Some variation is due to real differences, some may be due only to differences in reporting practices and conventions
  - Meaningful comparisons among utilities are hampered by differences in reporting practices and conventions
- IEEE 1366-2003 offers one means for ensuring greater comparability among future reports
  - The IEEE Standard, per se, does not appear to bias results
  - Reporting of metrics, both w/ and w/o Major Event Days, as well as listing of each Major Event may address concerns regarding use of more standardized reporting