

The Board's Role in Monitoring Utility Performance

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Jeff Tarbert worked for APPA for 37 years, retiring in March 2013 as senior vice president, where he oversaw member services programs, and specialized in the areas of utility governance, strategy, executive leadership and measuring/monitoring utility performance. He is now executive consultant to APPA, providing effective governance and strategic planning consulting and facilitation services to public power and other organizations.

While at APPA he also conceived of, developed and served as board chair of APPA's for-profit utility service subsidiary, Hometown Connections, which is in business to give public power utilities a competitive advantage by providing discounts on strategic products and a variety of consulting services.

Dr. Tarbert has degrees in political science, public administration and higher education administration from Wittenberg University, Springfield, Ohio; and George Washington University, Washington, D.C., where he previously served as adjunct professor in the Graduate School of Education.

He is the former mayor of the City of Falls Church, Virginia, and served two terms as chair of the Falls Church School Board. He was also appointed to the board, and elected chair, of the Northern Virginia Community College, the nation's second largest community college, with more than 72,000 students on 8 campuses.

Jeff Tarbert is a former board member of the National Energy Foundation; and currently serves on the board of the Northern Virginia Regional Park Authority. He is also a volunteer ranger with the U. S. National Park Service at the C&O Canal/Great Falls Historic Park in Potomac, Maryland.

Disclaimer: The information presented in this webinar is the opinion of the presenter, and may not necessarily represent the positions of the American Public Power Association.

Why Discuss

- Governing boards held to higher standards
- Rating agencies – more stringent
- Key element in utility strategic planning
- Important to board/management relationship
- Helps meet due diligence responsibility

Effective Governance

1. Comply with statutory/fiduciary duties
2. Set strategic direction, priorities
3. Assure an effective chief executive
4. Monitor and improve organization performance
5. Evaluate/improve board performance

Performance Monitoring

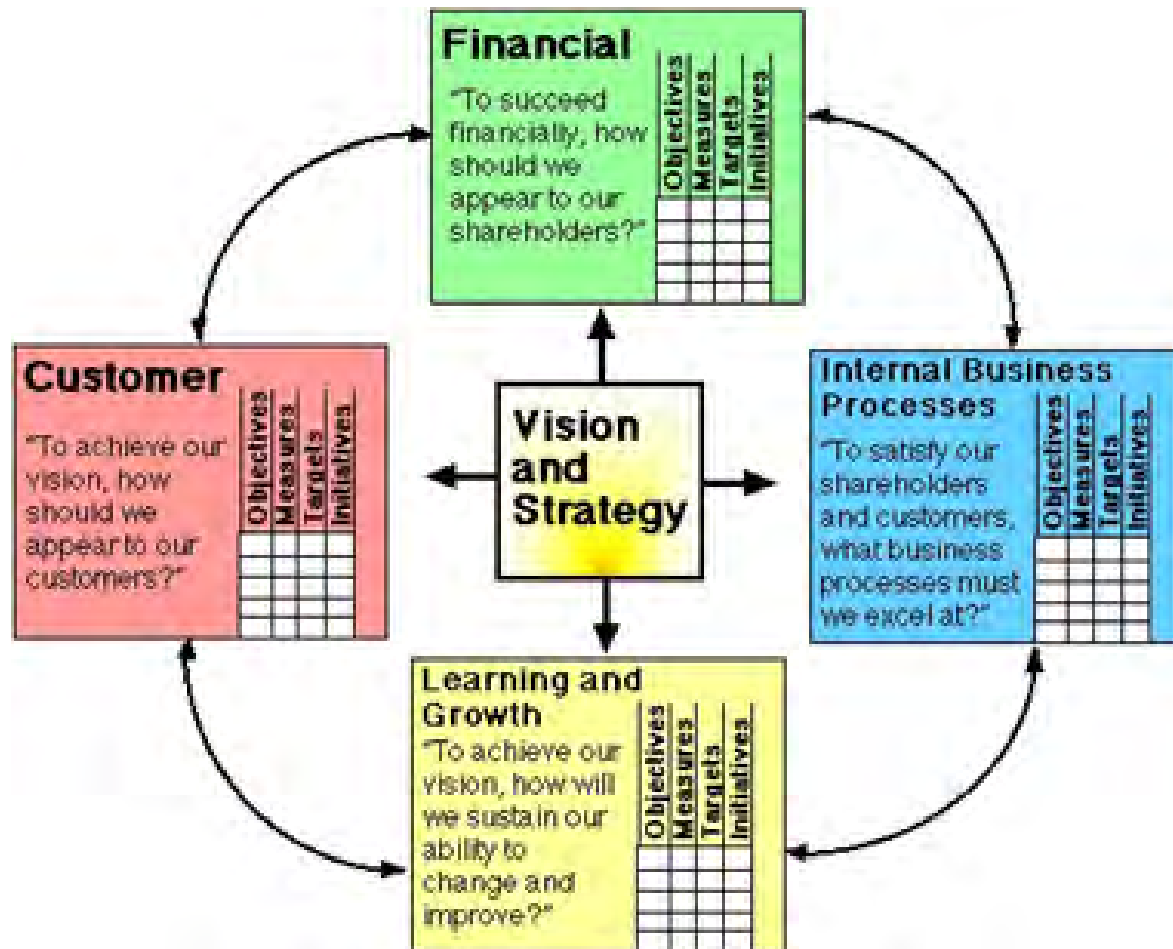
Board's role: Collaborate with CEO to develop key performance data that reflects the efficiency and effectiveness of the organization; used to enhance the value of the organization

- Approve/align strategic plan, goals, objectives, outcomes
- Agree on key performance areas and indicators
- Agree on specific measures/metrics for indicators
- Measure periodic and annual progress
- Develop leading indicators where future issues/risks may arise
- Consider operational + governance excellence models

How Performance Is Measured

- Subjective assessments
- Expenditures / workload volume
- Benchmarks / standards
- Balanced scorecard
- Third parties / bond ratings
- Ratio comparisons
- Key performance indicators

Balanced Scorecard



* From the Balanced Scorecard Institute, 2012.

Third Parties – Rating Agencies

	Moody's	Standard & Poor's	Fitch
Best Quality	Aaa	AAA	AAA
High Quality	Aa1	AA+	AA+
	Aa2	AA	AA
	Aa3	AA-	AA-
Upper Medium Grade	A1	A+	A+
	A2	A	A
	A3	A-	A-
Medium Grade	Baa1	BBB+	BBB+
	Baa2	BBB	BBB
Junk	Baa3	BBB-	BBB-

Moody's Key Factors

- Participant credit quality (cost recovery framework)
- Resource risk management
- Cost/rate competitiveness
- Financial metrics
 - Liquidity
 - Debt ratio
 - Fixed obligation coverage ratio
- Willingness to recover costs (with sound metrics)

Ratio Comparisons

APPA Selected Financial
and Operating Ratios of
Public Power Systems,
2012 Data

Published November 2013



1875 Connecticut Ave, N.W.
Washington, D.C. 20009-5715
202/467-2900

www.publicpower.org

Financial and Operating Ratios*

Financial Ratios	No. of Utilities	Median
1. Revenue per KWH		
a. All Retail Customers	137	\$0.087
b. Residential Customers	137	\$0.099
c. Commercial Customers	137	\$0.096
d. Industrial Customers	129	\$0.072
2. Debt to Total Assets	113	0.340
3. Operating Ratio	135	0.872
4. Current Ratio	119	2.80
5. a. Times Interest Earned	113	3.09
b. Debt Service Coverage	109	3.09
6. Net Income per Revenue Dollar	133	\$0.039
7. Uncollectible Accounts per Revenue Dollar	132	\$0.0020

* From APPA Selected Financial and Operation Ratios of Public Power Systems, 2012 Data, November 2013.

Financial and Operating Ratios*

(continued)

Operating Ratios	No. of Utilities	Median
8. Retail Customers per Non-Power Generation Employee	156	283
9. Total O&M Expense per KWH Sold	156	\$0.063
10. Total O&M Expense (Excluding Power Supply Exp.) per Retail Customer	156	\$497
11. Total Power Supply Expense per KWH Sold	156	\$0.049
12. Purchased Power Cost per KWH	156	\$0.051
13. Retail Customers per Meter Reader	134	6,749
14. Distribution O&M Expense per Retail Customer	146	\$145
15. Distribution O&M Expense per Circuit Mile	141	\$5,704
16. Customer Accounting, Service, and Sales Expense per Retail Customer	146	\$110
17. Administrative and General Expense per Retail Customer	146	\$169

* From APPA Selected Financial and Operation Ratios of Public Power Systems, 2012 Data, November 2013.

Financial and Operating Ratios*

(continued)

Other Ratios	No. of Utilities	Median
18. Labor Expense per Worker-Hour	150	\$39.39
19. OSHA Incidence Rate (per 100 employees)	146	2.9
20. Energy Loss Percentage	150	3.53%
21. System Load Factor	152	58.5%

* From APPA Selected Financial and Operation Ratios of Public Power Systems, 2012 Data, November 2013.

KPAs and KPIs

Key Performance Areas (“Strategic Drivers”)

Primary areas of utility operations that must be executed exceedingly well to be competitive

Key Performance Indicators (“Vital Signs”)

Numerical or other definable indicators that permit tracking performance over time and/or comparison of performance with similar organizations

Leading Indicators (“Red Flags”)

Indicators of future problems/risks where action may be needed to avoid a negative impact on the utility

Corporate KPIs: Customers

- Customer Satisfaction
- Billing Process Accuracy
- Duration of Customer Interruptions (CAIDI)
- Duration of System Interruptions (SAIDI)
- Frequency of Interruptions – Electric (SAIFI)
- Response Time to Cut Gas Lines/Leaks
- Response Time to Water Leaks/Breaks
- Typical Monthly Bill Comparisons

Greenville Utility Commission, N.C. Used with permission.

Corporate KPIs: Financial

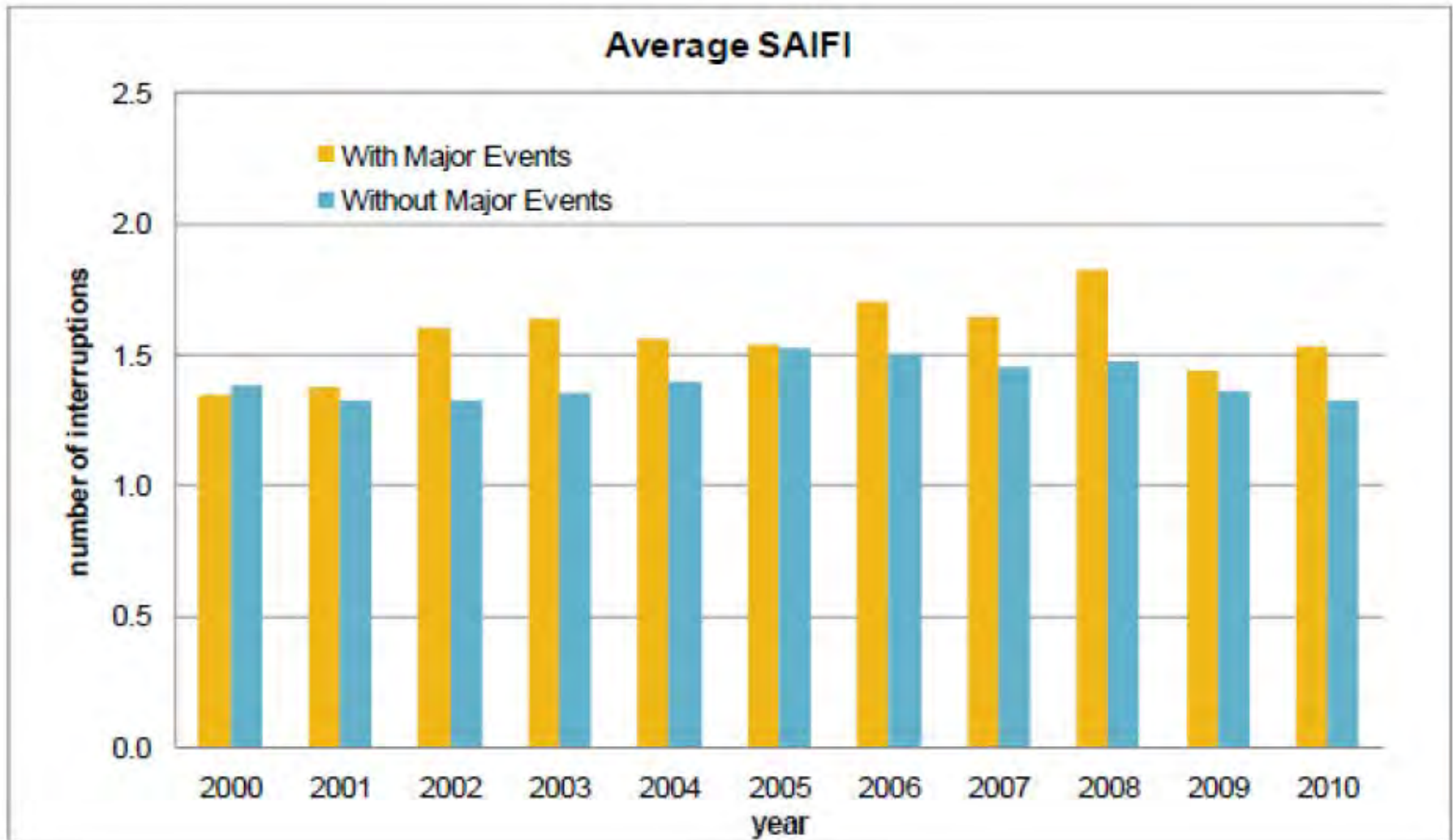
- Overtime Costs
- Bond Rating
- Operating Cash On Hand (liquidity)
- Debt Service Coverage
- Fund Balance (available for appropriation)
- Net Margin
- Return on Equity

KPIs: Internal Business Processes

- Safety – Lost Time Accidents (OSHA)
- Preventable Vehicle Accident Rate
- Connections Per Employee
- Operating Costs Per Customer
- System Losses – Electric
- System Losses – Gas
- System Losses – Water

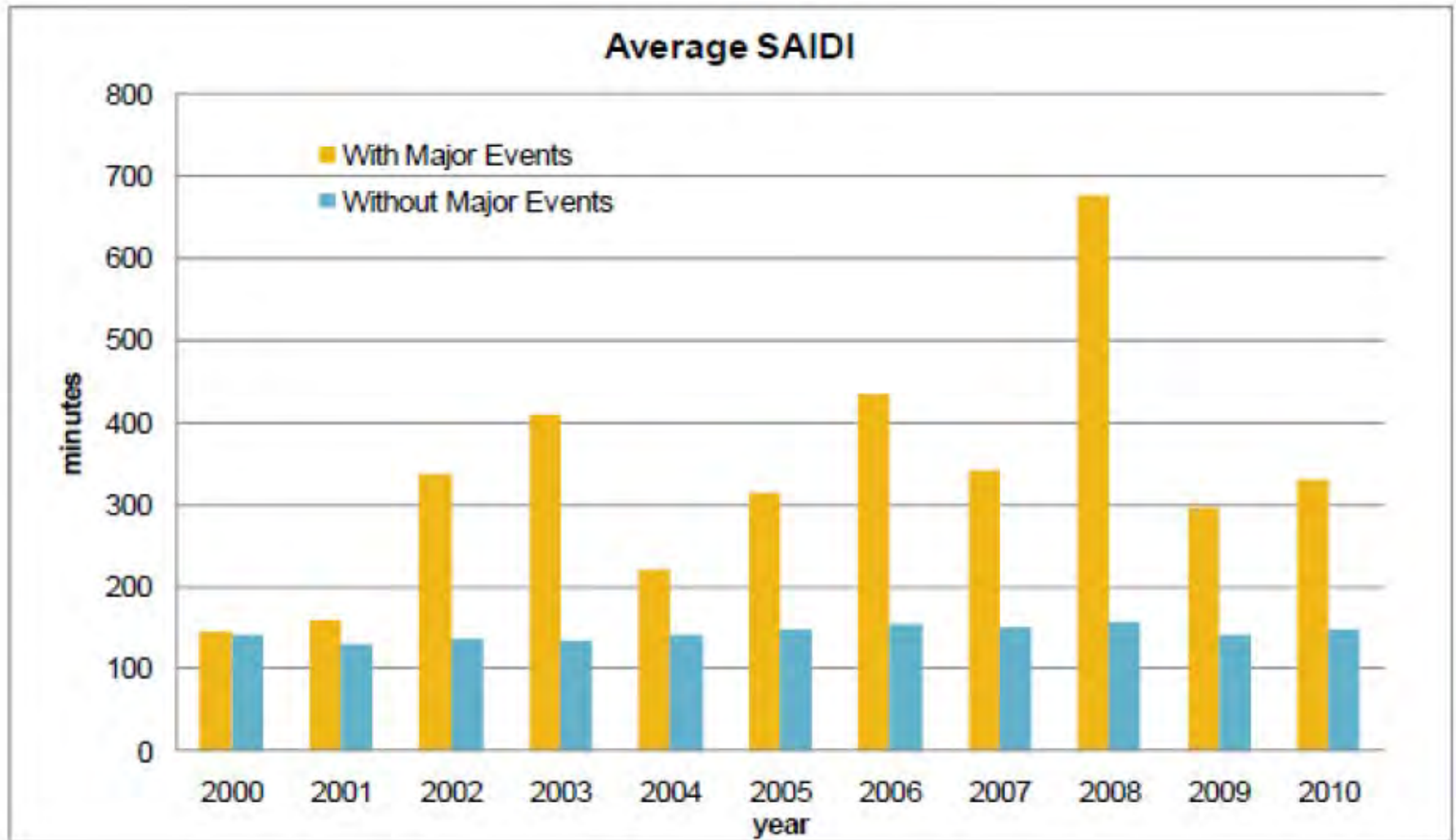
Greenville Utility Commission, N.C. Used with permission.

KPI: Reliability Measures



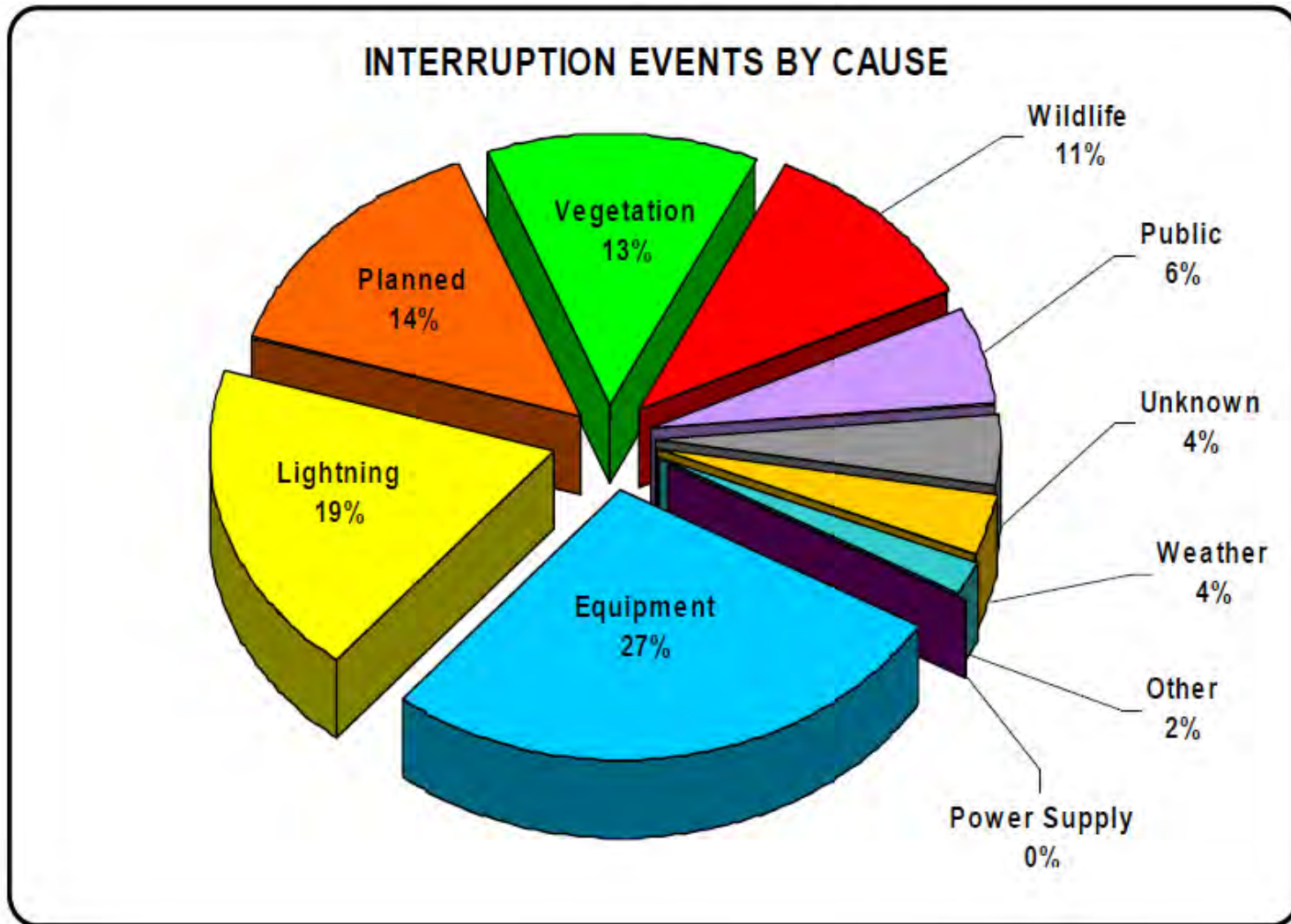
Electric Power Research Institute. Used with permission (2012).

KPI: Reliability Measures



Electric Power Research Institute. Used with permission (2012).

KPI: Reliability Measures



Electric Power Research Institute. Used with permission.

Monitoring Steps

- Agree on key performance areas
- Identify key performance indicators
- Obtain and review performance data
- Set goals for improving performance gaps
- Link to CEO evaluation and organization-wide incentives
- Communicate performance to stakeholders

Key Performance Areas

1. Financial performance
2. Rate competitiveness
3. Power supply / environment
4. Distribution/new technology
5. Work force/work place changes
6. Customer service
7. Leading indicators
8. Effective governance

1. Financial Performance

List three or four performance indicators, plus numerical objectives for each, that would help board members understand how the organization is performing in this area

Indicators

Numerical Objective

1.

2.

3.

4.

2. Rate Competitiveness

List three or four performance indicators, plus numerical objectives for each, that would help board members understand how the organization is performing in this area

Indicators

Numerical Objective

1.

2.

3.

4.

3. Power Supply/Environment

List three or four performance indicators, plus numerical objectives for each, that would help board members understand how the organization is performing in this area

Indicators

Numerical Objective

1.

2.

3.

4.

4. Distribution/New Technology

List three or four performance indicators, plus numerical objectives for each, that would help board members understand how the organization is performing in this area

Indicators

Numerical Objective

1.

2.

3.

4.

5. Work Force/ Work Place

List three or four performance indicators, plus numerical objectives for each, that would help board members understand how the organization is performing in this area

Indicators

Numerical Objective

1.

2.

3.

4.

6. Customer Service

List three or four performance indicators, plus numerical objectives for each, that would help board members understand how the organization is performing in this area

Indicators

Numerical Objective

1.

2.

3.

4.

7. Leading Indicators

List three or four potential risks or problems that would be important to track because they may have a major impact on how your utility would perform in the coming years:

1.

2.

3.

4.

8. Effective Governance

List three or four key indicators you believe are important for demonstrating how effectively your governing body is performing:

Indicators

1.

2.

3.

4.

Key Performance Areas and Indicators

Significant areas of utility activity, and key performance indicators within those areas, that demonstrate high performance or identify needed improvements.

1. Financial Performance

- Credit rating (comparative cost of capital)
- Payments (transfers) to General Fund
- Resource risk management/business continuity plan
- Meet budgets, maintain reserves and financial stability
- Other: Liquidity (cash on hand)
 Debt ratio (debt to equity)
 Debt service coverage

Importance of Cash Reserves*

- Helps ensure timely payment of bills
 - Operating expenses
 - Debt service agreement
 - Capital improvements
- Creates a reserve fund for catastrophic events
 - Hurricanes, ice storms, major equipment failures
- Helps ensure funds exist for system improvements and reliability; rate stabilization
- Rating agencies view as significant factor in bond ratings

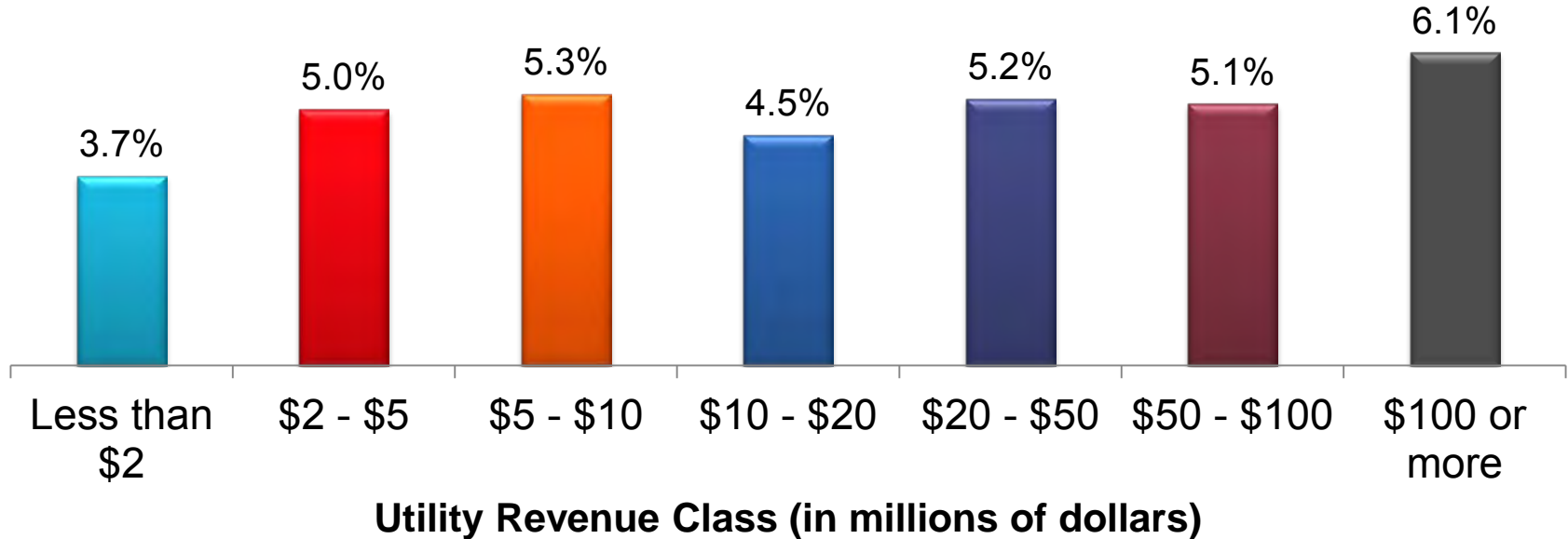
* From Mark Beauchamp, Utility Financial Solutions. Used with permission.

Financial Performance: Moody's Investors Service

- Debt service coverage
 - Bond covenant (>1.25 x net income)
 - Debt reserve (6 to 12 months)
 - Operating reserves (stable)
- Cash on hand (operating reserve)
 - 60 to 125 days
- Debt ratio
 - 15% to 40% of total assets

Transfers to the General Fund

Median Net Payments and Contributions as Percent of Electric Operating Revenue



* APPA Report, Payments and Contributions by Public Power Distribution Systems to State and Local Governments, 2010 Data, Feb. 2012.

Transfers to the General Fund

Method Used to Calculate Payments in Lieu of Taxes	Percent of Utilities	Number of Utilities
Percent of Gross Electric Operating Revenue	25%	49
Flat Amount Paid Annually	17%	34
Property Tax Equivalent	14%	28
Charge per Kilowatt-hour Sold	12%	24
Assessment of Electric Utility and City Budgets	11%	22
Percent of Net Utility Plant in Service	5%	9
Percent of Income (net, operating or total)	3%	5
Other	14%	28

* APPA Report, Payments and Contributions by Public Power Distribution Systems to State and Local Governments, 2010 Data, Feb. 2012.

Transfers to the General Fund

Comparison with Investor-Owned Utilities (IOUs)	Investor-Owned	Publicly Owned
Large Utilities (over \$100 million)	4.0%	6.1%
Small Utilities (under \$100 million)	3.2%	5.0%

* APPA Report, Payments and Contributions by Public Power Distribution Systems to State and Local Governments, 2010 Data, Feb. 2012.

Sample

Performance Metrics: Financial

Key Performance Area → Goal/Metric

Bond Rating

Stable or improve (A to A1)

Key Performance Indicators → Objectives/Metrics

- Debt service coverage
 - Debt service reserve
 - Liquidity
 - Debt/equity ratio (debt to assets)
 - Competitiveness
 - Reserves
- 1.6 (x net income)
 - 10-12 months
 - 90-120 days cash on hand
 - 30/70 (.457 for APPA mbrs)
 - Retail rates below area competitors
 - Specific targets in critical areas

2. Rate Competitiveness

- Revenue requirements met
- Agile decision making (meet debt coverage)
- Competitive rates (differential narrowing?)
- Power (fuel) cost adjustment
- Rate stabilization reserve
- Demand response (time differential rates)

Rate Metrics: Moody's

- Degree of competition
 - Monopoly to retail competition
- Retail rates vs. market
 - 20% below regional average to 1-10% above
- Operating reserves – adequate for rate stabilization or contingency reserves
- Non-competitive rates = discourage economic development; pressure on funding system improvements and debt service reserves; need plan to fix

3. Power Supply/Environment

- Competitive generation/wholesale costs
- Evolving portfolio mix (coal to n. gas; renewables and efficiency)
- Time-sensitive pricing (cut/move peak demand; customer involvement)
- Environmental costs (compliance + new resources)
- Relationships with third parties (credit?)

Power Supply Metrics: Moody's

- Fuel and capacity diversity
- Reserve margins – exceed regional standards
- Availability (90%), capacity factor (80%) and unit efficiency (heat rate – 6,500 to 8,000 MM/BTUs) above industry standards
- Transmission access - risks of constrained pathways
- Purchase power contract
 - Long term, reliable, limited exposure to volatile markets, 3rd party credit worthiness
- Swap (hedging) capability (DODD FRANK ACT)

Increasing Environmental Regulations and Costs

- Continuous addition of new regulations
- Factor in cost of carbon
- Old coal plants become uneconomical
- New coal plants cost 2x old plants
- Move to natural gas: lower costs/carbon, but other challenges

Performance Metrics: Power Planning

Key Performance Area →

Goal/Metric

Strategic Planning

Completed strategic plan
Annual review/update

Key Performance Indicators →

Objectives/Metrics

- Assumptions about the future
- Community acceptance
- Address proper issues
- Usefulness
- Success/evaluation

- SWOT analysis
- Stakeholder involvement
- Perform needs assessment (IRP, risks, financial strength, operations, workforce, services)
- Quarterly progress report to board (guide for mgt. decision-making)
- Goals and objectives met/exceeded

4. Distribution/New Technology

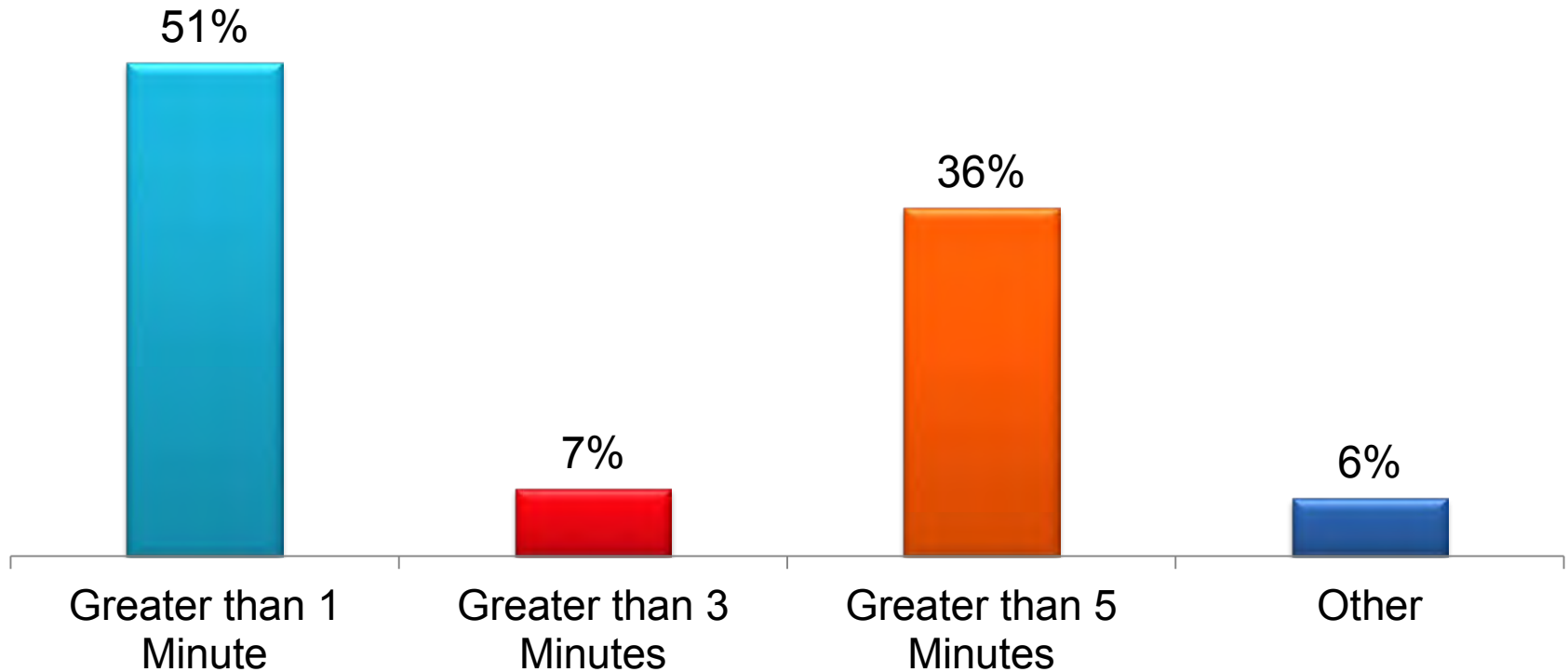
- Aging transmission/distribution infrastructure
- Increasing demands for higher reliability
- Challenge: integrating renewables
- Question: invest in new technology (cost versus not-yet-determined benefits)
- Customer expectations: information and ability to control energy usage
- Cyber security/privacy issues
- Clean-tech economy; utility can set example

Distribution Performance: Moody's

- Distribution reliability - Low customer outage rate, short outage duration
- Integrated resource plan (IRP)
 - Conservative/efficiency assumptions
 - Demand/supply side; Dist. Gen., Micro-grids
- Strategic distribution/technology plan
 - Plan and fund infrastructure improvements
 - Maximize customer service
 - Maximize distribution asset

Reliability*

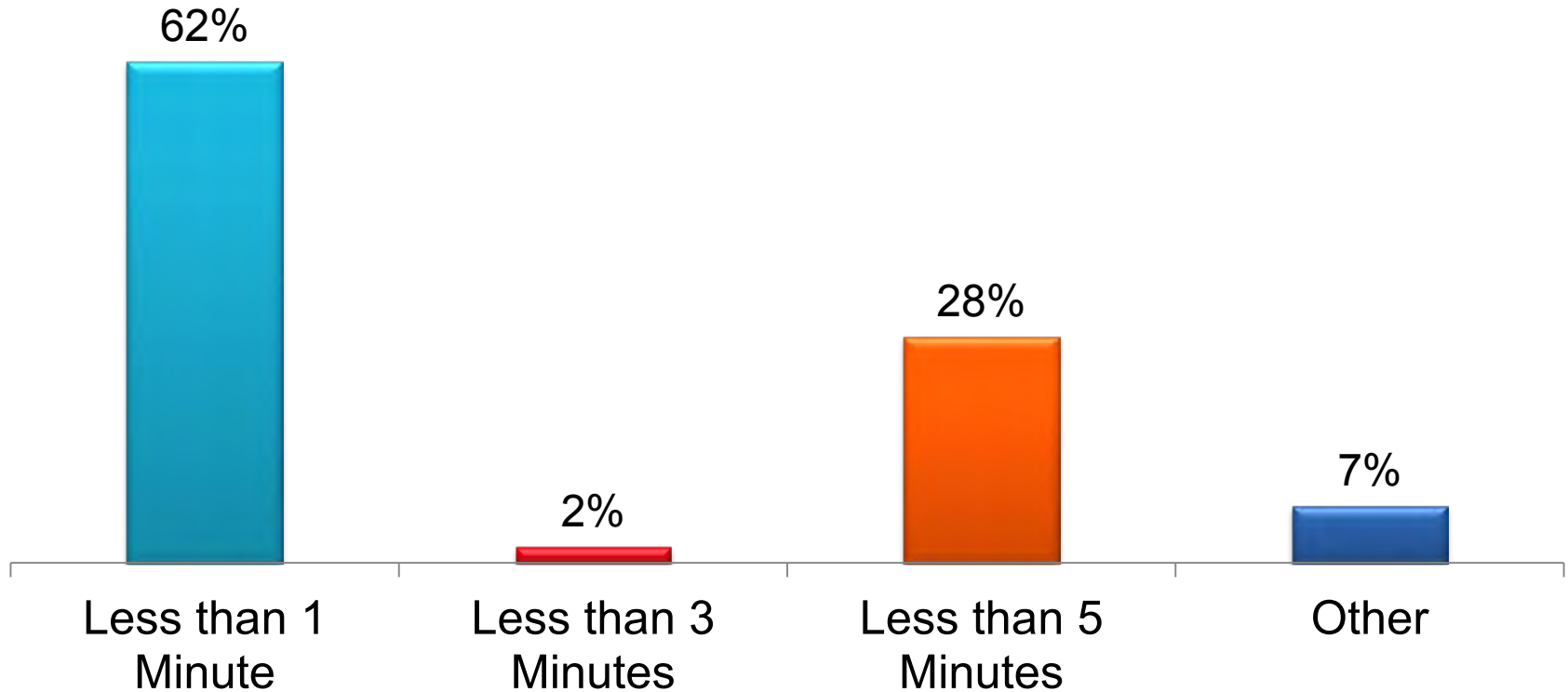
What is Your Utility's Definition of a Sustained Outage?



* 2009 APPA Distribution System Reliability & Operations Survey, June 2010.

Reliability*

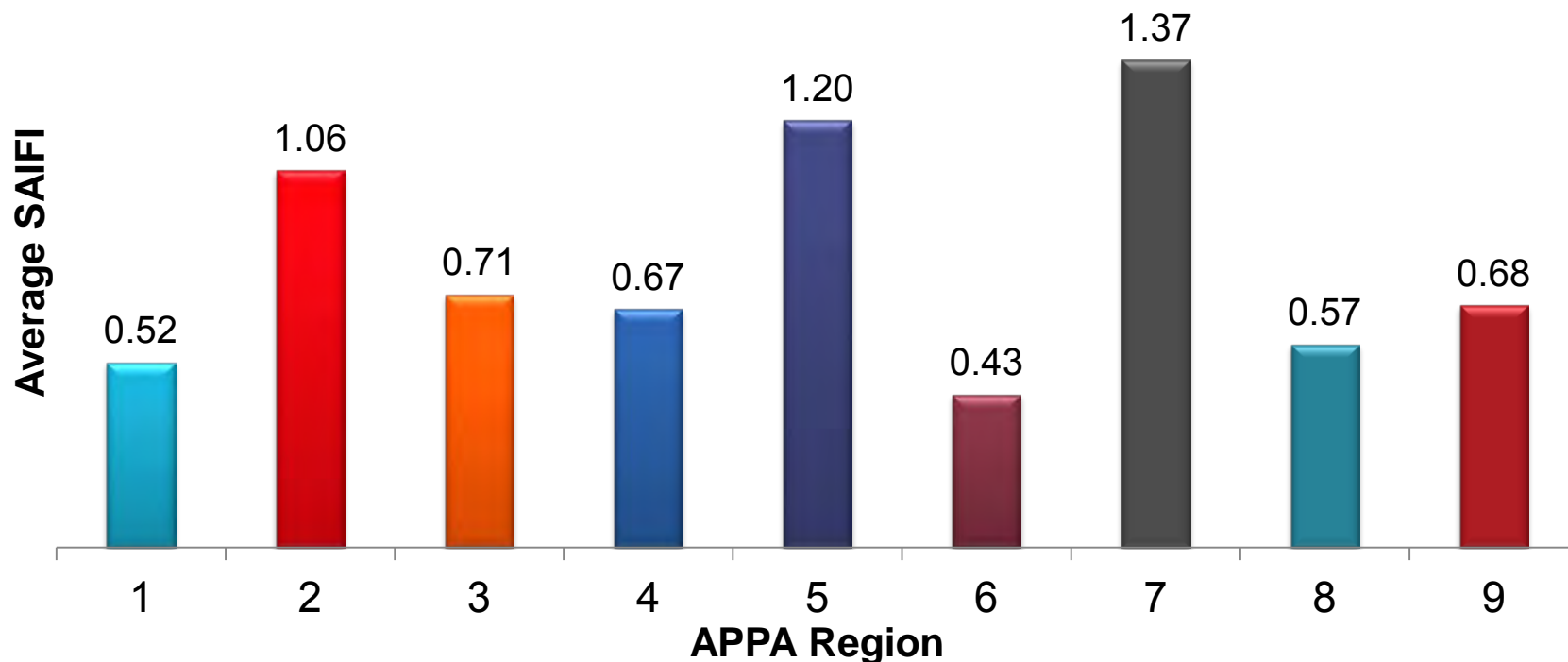
What is Your Utility's Definition of a Momentary Outage?



* 2009 APPA Distribution System Reliability & Operations Survey, June 2010.

Reliability*

Average of SAIFI (January 1, 2008 - December 31, 2008)

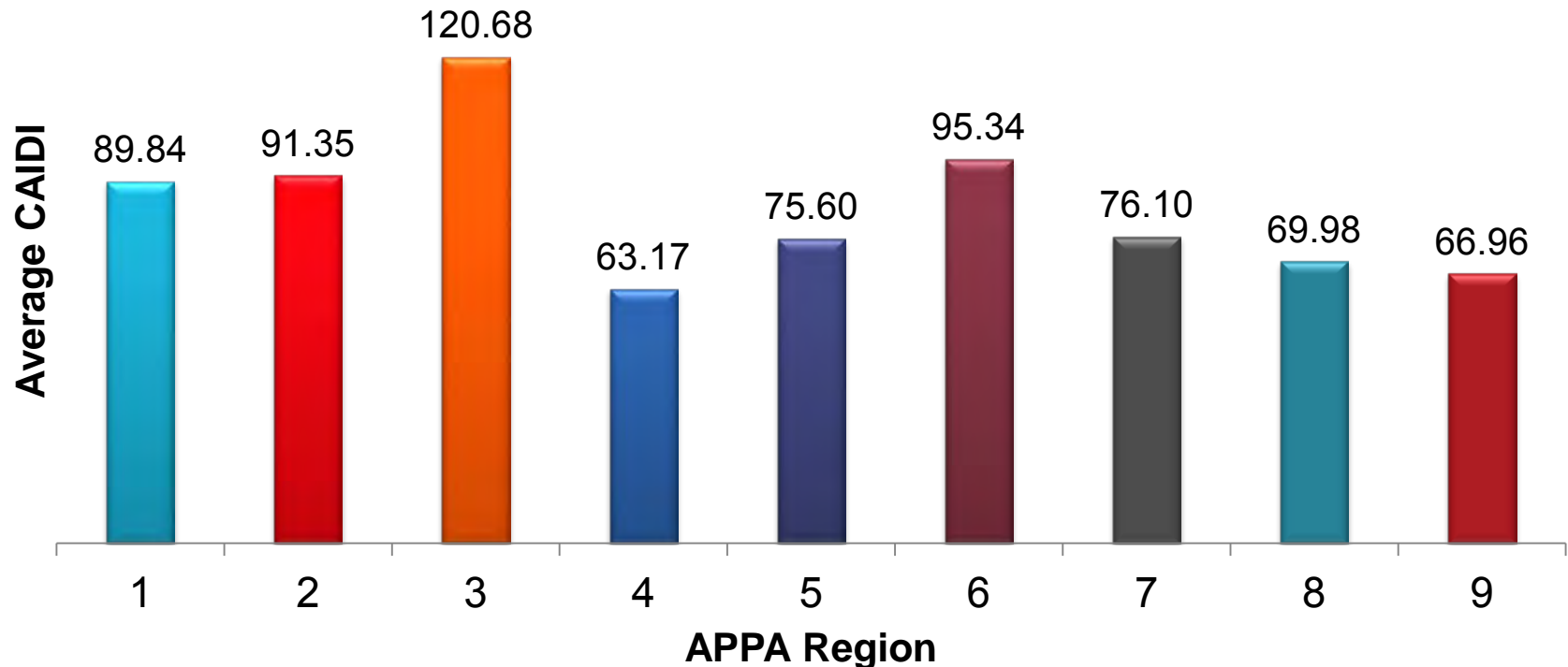


SAIFI: System Average Interruption Frequency Index; measures the average number of interruptions that a customer would experience per year.

* 2009 APPA Distribution System Reliability & Operations Survey, June 2010.

Reliability*

Average of CAIDI (January 1, 2008 - December 31, 2008)

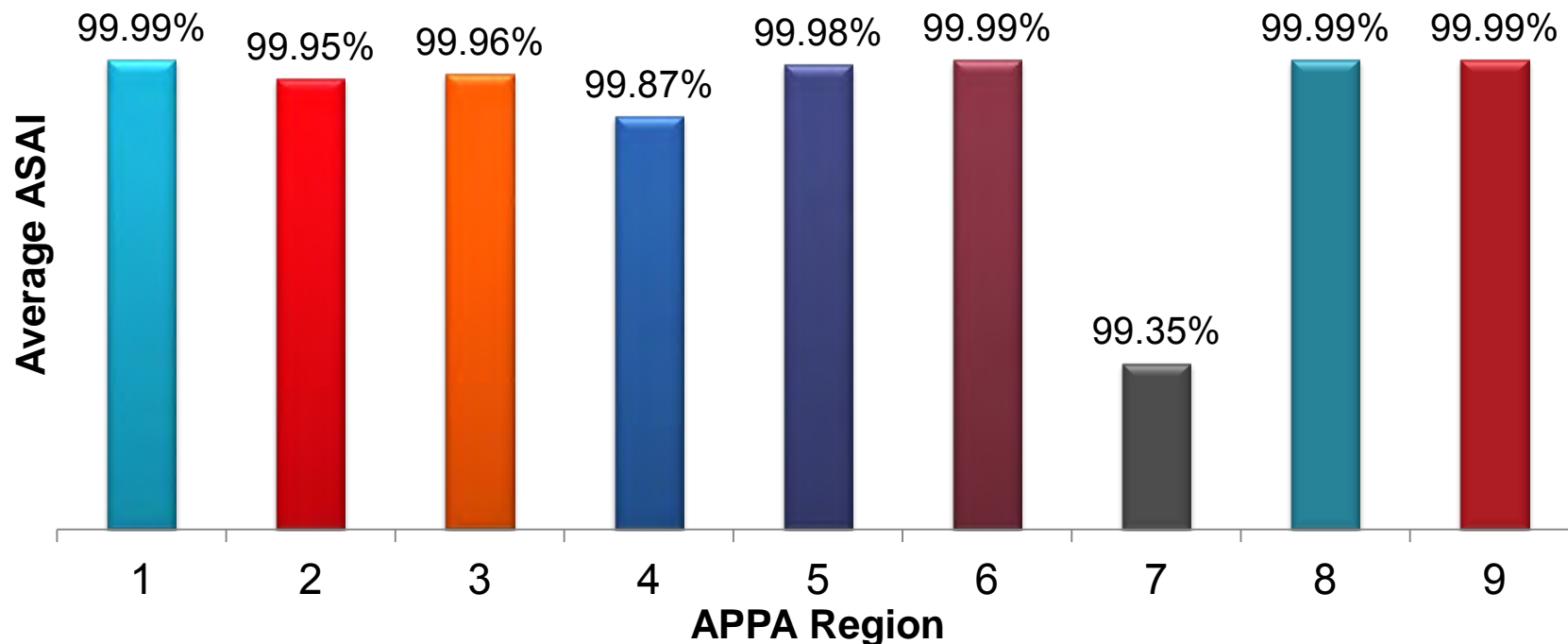


CAIDI: Customer Average Interruption Duration Index; measures the average outage duration (in minutes) that any given customer would experience. CAIDI can also be viewed as the average restoration time.

* 2009 APPA Distribution System Reliability & Operations Survey, June 2010.

Reliability*

Average of ASAI (January 1, 2008 - December 31, 2008)



ASAI: Average Service Availability Index; measures the percentage of time that the system was available per year.

* 2009 APPA Distribution System Reliability & Operations Survey, June 2010.

Smart Grid Involvement

- Pressure for demand response/dynamic pricing
- Investment in digital meters expansion to city services
- Reliability requirements
- Customers: evolve at their own pace
- Clarity on value/strategic advantage
- Pressure from new entrants

5. Work force / Work place

- Up to 50% eligible for retirement (3 to 7 years)
- Shrinking skilled labor pool
- Increasing demand for tech-skilled employees
- Compensation competitiveness
- Utility workplace diversity: Is your utility an attractive place to work for non-traditional employees?

Sample

Performance Metrics: Organization

Key Performance Area



Organizational effectiveness

Goal/Metric

Organization-wide goals met

Key Performance Indicators



- Workforce
 - Turnover
 - Compensation
 - Performance/Skills
 - Diversity

- Strategic Plan
- Finance
- Reserves
- Risk mitigation/safety

Objectives/Metrics

- +/- 5%; 90% employee satisfaction
- 15% above market median
- Conduct annual performance review; tie to compensation; IDP; succession planning; recruitment
- Organizational goals met
- Meet gross/net income budgets
- Targets specified and met; board-approved policy (amount; %)
- Enterprise risk management plan
- Accident/incident rate; org culture

6. Customer Service Indicators

- High reliability
- Low/competitive rates
- Clean/efficient energy use
- Energy information/control
- Energy technology (EV's)
- Delivering customer value/partners

Customer Metrics: Moody's

- Wealth indicators
 - Strong/diversified economic base vs. weak economic factors
- Customer concentration
 - No customer/cluster dominance; top 10 customers generate no more than 20% of revenues
- Customer demand
 - Manageable, strong growth vs. unmanageable growth or decline

Sample

Performance Metrics: Customers

Key Performance Area → Goal/Metric

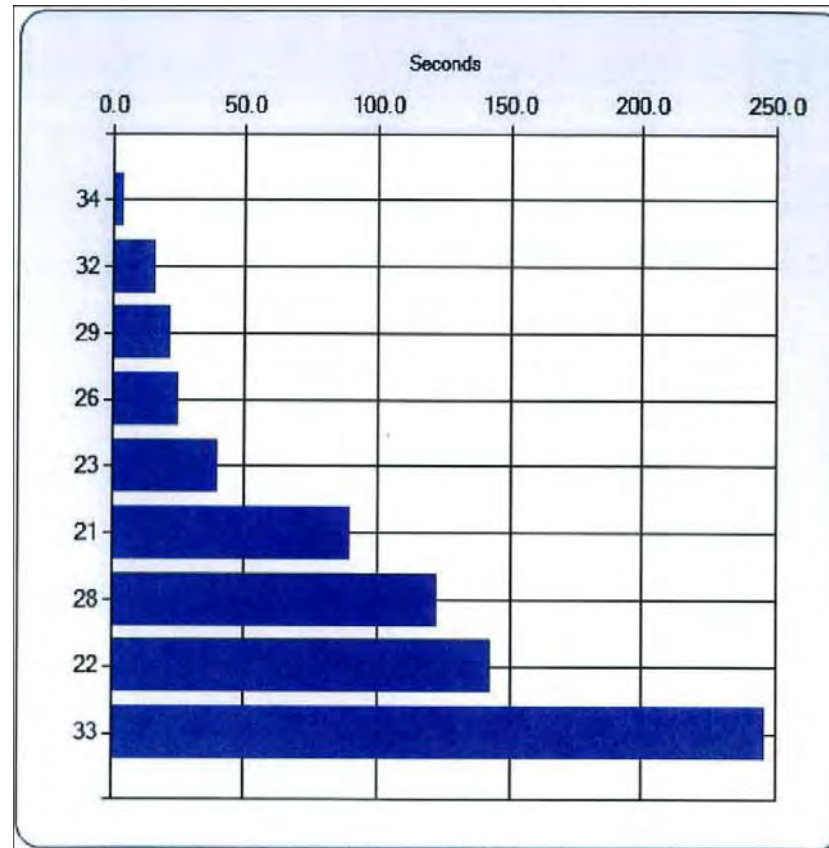
Value delivered to customers

Customer satisfaction/retention

Key Performance Indicators → Objectives/Metrics

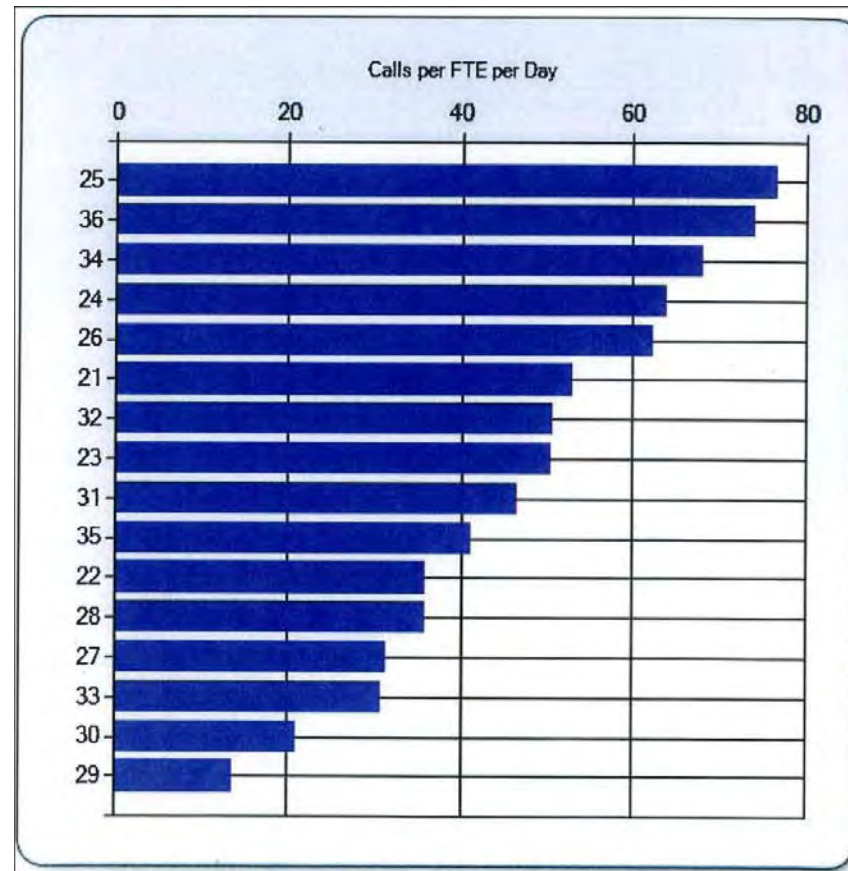
- Customer satisfaction
- Retention/attraction
- Deliver valued services
- Deliver lower costs, other services, to customers
- Biannual customer surveys, focus groups (90% very satisfied)
- Target C&I customers
- Customer needs survey: evolve from energy to services utility
- Assist with energy efficiency/conservation, demand response

Customer Service Indicators: Average Speed of Calls Answered by CSRs in the Call Center



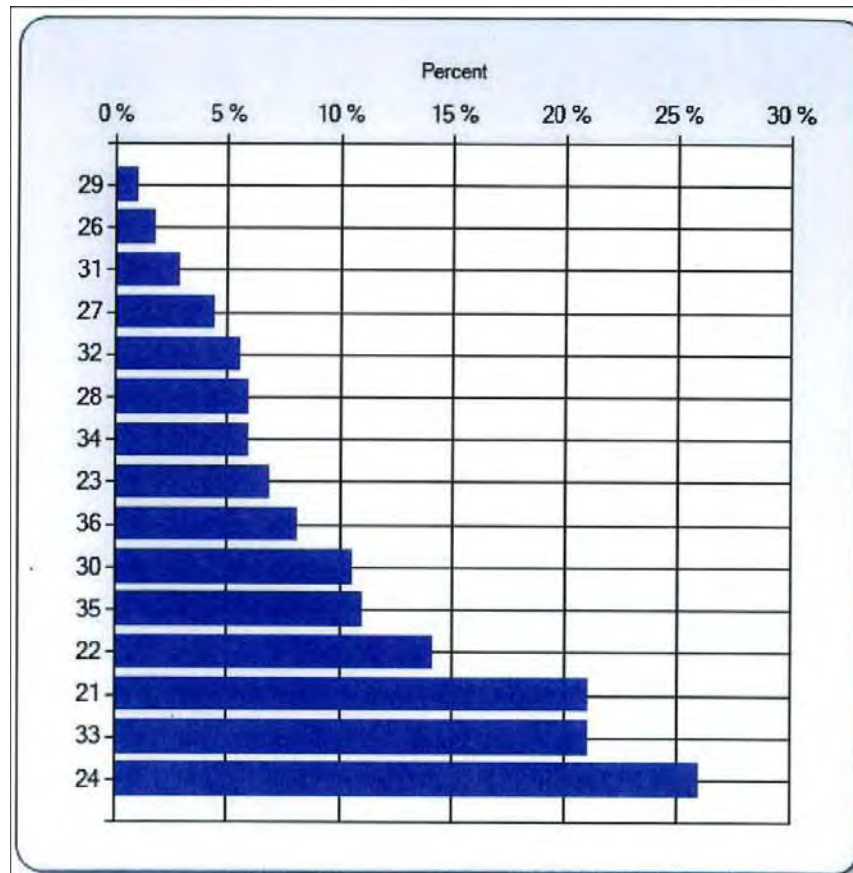
* Copyright © 2009, First Quartile Consulting. All Rights Reserved.

Customer Service Indicators: Calls per FTE per Day



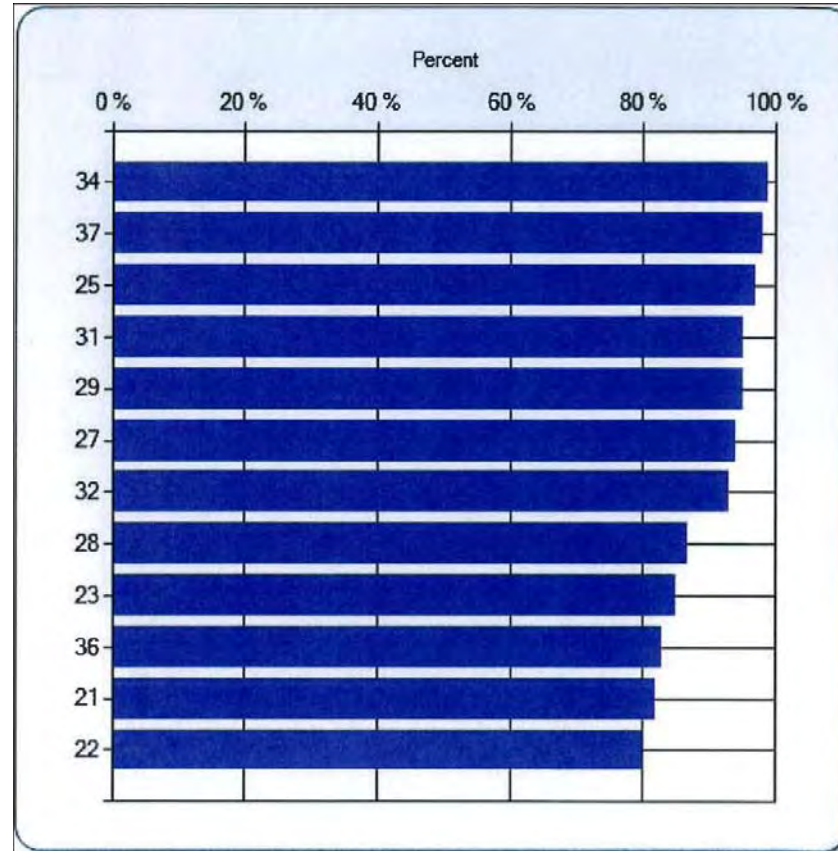
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Customer Service Indicators: Percent of Calls Abandoned



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Customer Service Indicators: Overall Percent of Customer Satisfaction



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7. Leading Indicators

- Locations/frequency of outages; system losses
- Loss time accidents, “near misses”
- Cyber and physical security
- Customer satisfaction/loyalty
- Third-party entrants in service territory
- Customer-owned generation
- Financial position – community, local gov.
- Potential legislation and regulations

8. Governance Effectiveness: Moody's

- General fund transfer
 - Based on policy / statutes (<4% of gross revenues)
 - Subject to frequent negotiations (>7%)
- Rate setting authority
 - Within discretion of board or subject to political influence
 - Length of time to implement rate increase
- Board membership and expertise
- Regulatory compliance
- Management
 - Stable, succession plan, risk management, strategic focus

Governance and Management*

Governance and Management	Sub-Factors	Measurement	Aaa		Aa	A	Baa
	a) Governance	Board membership and expertise	Experienced elected or appointed governing boards; support of professional management; autonomous decision-making			Average experience of elected or appointed governing board supportive of professional management	Elected or appointed governing board with evidence of political interference in decision making
	b) Cost Recovery Process	Rate Setting	Unregulated rate setting; sound rate policy and rate increases; timely energy or fuel cost adjustments			Unregulated rate setting; adequate rate policy and increases; timely energy or fuel cost adjustments	Regulation of rate by State; local political risk; record of inadequate rate decisions; no fuel or energy cost adjustments
		Days to implement rate increase	Less than 10 days	10-30 days	31-60 days	61 days or more	
	c) Management	Management stability and experience	Long and stable record of budget and capital management; management succession plan; sound investment policy; strong risk management plan			Stable record of budget and capital management; management succession plan; sound investment policy; average or developing risk management plan	Limited record of budget and capital management; inadequate strategic focus; no succession plan; no risk management plan
d) Regulatory Compliance	Federal and state regulatory compliance	Strong and established record of federal and state regulatory compliance; regulations do not create unmanageable cost burden			Good record of federal and state regulatory compliance; regulations do not create unmanageable cost burden	Regulatory compliance issues; significant cost burden	

*Moody's Investor Service

Performance Metrics: Governance

Key Performance Area



Goal/Metric

Effective policy governance

High group/individual performance

Key Performance Indicators



Objectives/Metrics

- Fiduciary responsibilities
- Legal responsibilities
- Organization direction
- Effective chief executive
- Monitor organization performance
- Board processes

- Protect and enhance value of utility
- Statutory obligations (operate, fair rates, ethics, FOIA, conflicts)
- Approve strategic plan; monitor progress on a regular basis
- Select, direct, provide resources, delegate authority, conduct annual review, correct, reward, release
- Due diligence (metrics for perf.)
- Meetings, communication, delegations of authority

Performance Monitoring

- The process is as important as the outcome
- Goals/metrics are developed jointly by the board and CEO
- The strategic plan is the first step
- Numerical goals for KPAs & KPIs are supplemented by subjective information
- Useful in developing constructive CEO/board relationship

Summary

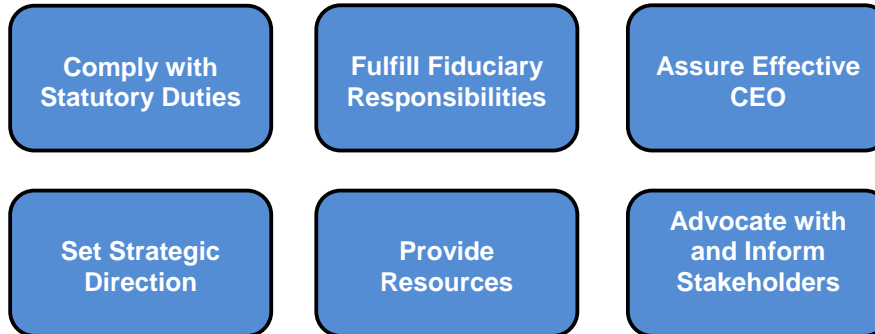
Is Your Board...

- An asset to the organization?
- A liability to the organization?
- A neutral factor (has no impact on the organization)?

Governance Excellence Model

- Excellence in Governance
 - Board aligned with purpose and business model of utility
 - Legal/fiduciary responsibilities specified and met
 - Governance defined and roles clarified
 - Governance accountabilities and procedures described in policy manual
 - Board-management connections clarified
 - Delegations to management specified (clarity on the board's versus the CEO's authority)
 - Board adopts self-evaluation / improvement program
(formal self-review, annual goals for improvement)
 - Annual goals for member personal development

EXCELLENCE IN GOVERNANCE



BOARD MEMBER EXCELLENCE



ENABLERS OF EXCELLENCE



*Used with permission from Energy Northwest

Future of Governance

- Strategic advisor and partner
- Successful board/CEO relationship
- Value measured/communicated to stakeholders

Conclusion

“The board has an obligation to create tomorrow’s company out of today’s.”

- John Harvey Jones

Addendum:

1. Sample Board Evaluation