

Exhibit to Agenda Item #3

Board Policy Committee Meeting and Special SMUD Board of Directors Meeting
Wednesday, December 4, 2019, Scheduled to begin at 5:30 p.m.
Customer Service Center, Rubicon Room

SD-17 Enterprise Risk Management (ERM)

Effectively balancing and managing risk to further SMUD's policies and business goals is a core value of SMUD.

Therefore:

SMUD will implement and maintain an integrated enterprise risk management process that identifies, assesses, prudently manages and mitigates a variety of risks facing SMUD, including financial, supply, operational, physical and cyber security, climate change, legal, legislative and regulatory, and reputational risk.

SMUD is in compliance with SD-17, Enterprise Risk Management Policy

ERM Approach and Methodology

Approach

- Governance (Board Strategic Direction)
- Oversight & Accountability (EROOC)
- Consistent Definitions and Language (ERM Framework)
- Integration of ERM with Key Business Processes

Methodology

- Enterprise Risk Analysis (Focused on top risks)
- Periodic EROOC Meetings
- Annual and Periodic Review of Enterprise Risk Portfolio

2018-2019 Organization-wide Risk Activities and Outcomes

Increase SMUD's access to FEMA grants previously not available to help fund hazard mitigation efforts

- Local Hazard Mitigation Plan approved by FEMA/Cal OES

Meet and exceed legislative and regulatory requirements

- SB 901 Wildfire Mitigation Plan adopted by Board
- Successful WECC Audit











Increase capabilities of cyber security

Increase operational efficiencies through the alignment of audit and risk functions











- Reviewed and integrated 17 audit reports into risk assessments

SD-17 Related Activities and Results

Since the 2018 Annual Monitoring Report, the following residual risk profiles have been reduced:

Category	Enterprise Risk	Change From	Reduced To
Operational	Headquarters Building		
	Power Control Center		
	Energy Assistance Program (EAPR) Implementation		
	Time-of-Day (TOD) Implementation		
External	Bay Delta Flow		

SMUD's risks are consistent with benchmarking

NC State & Protiviti Top Risks	SMUD's Current Risk Exposure
Regulatory changes and heightened regulatory scrutiny	
Resistance to change may restrict necessary adjustments to the business model and core operations	
Organization may not be sufficiently prepared to manage cyber threats that could disrupt operations	
Organization's culture may not sufficiently encourage timely identification and escalation of risk issues	
Economic conditions may restrict growth opportunities	
Rapid speed of disruptive innovations	
Organization may not be sufficiently prepared to manage unexpected crisis	
Existing operations and IT may not be able to meet performance expectations (quality, time to market, innovation, etc.)	
Inability to use data analytics to achieve market intelligence	
Succession planning and talent management	

Looking Forward

Financial Risks

- Increase alignment between costs and revenue collection in SMUD's rate design
- Continue enhancing our effort to model financial impacts from variability in revenues, O&M and capital spending as business changes over the longer term (4-10 years)

Operational Risks

- Improve safety performance to meet SD-6 Safety DART goal of 1.4 by 2020
- Enhance SMUD's enterprise continuity management planning
- Attract and retain skilled and innovative workforce
- Make progress in strengthening aging infrastructures
- Enhance data quantity and quality for business and customer decisions
- Make progress in strengthening aging infrastructures
- Continue cyber security and privacy awareness and compliance activities
- Improve upon current physical security and public safety practices
- Provide programs and services which reflect the customer's changing expectations

Strategic Risks

- Develop, evaluate, and deploy technology and innovative business models to maximize shared value for the utility and the customer

External Risks

- Positively influence state and federal legislative and regulatory issues

Requested Actions

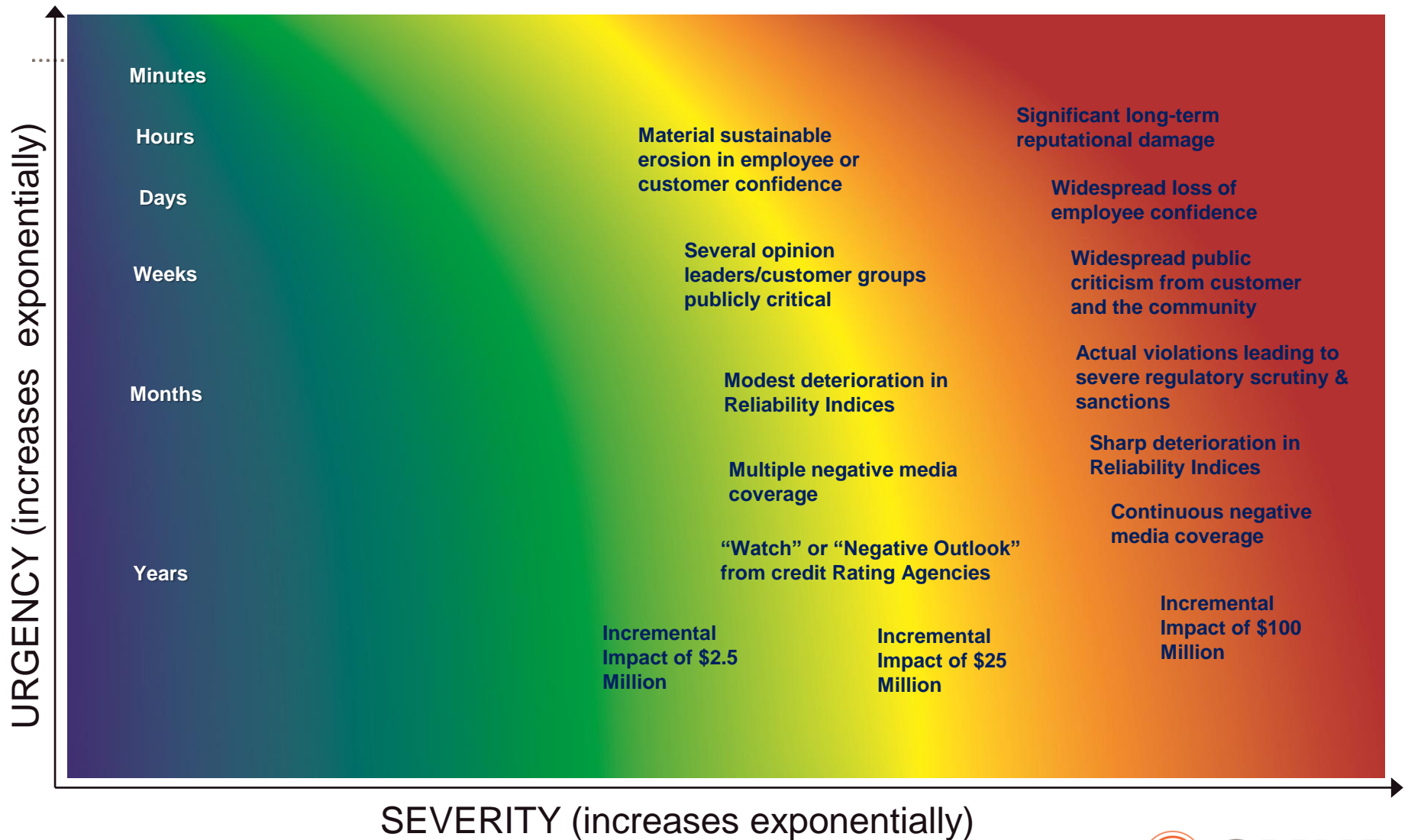
- Accept the monitoring report for SD-17 Enterprise Risk Management (ERM)

SD-17 ERM Portfolio: Residual Business Critical Risk Exposure: December 4, 2019

Financial Risks	Operational Risks	Strategic Risks
Budget Planning & Rate Setting	OP: People	Business Model
Financing	Employee Safety	Technology/Competition Driven
Accounting/Financial Report	Ethics/Integrity	<i>Demand Response</i>
Capital Availability/Cashflow	Illegal Acts/Fraud	Distributed Generation
Liquidity	Strategic Workforce Agility	<i>Distributed Storage</i>
Load Variation	OP: Systems and IT	Electrification of Transport Sector
Retail Load	Applications Support	Energy Efficiency
Customer owned generation	Cyber Security	Innovation
Price Volatility	Privacy	Changing Customer Expectations
Commodity	Information Management	Competitive Workforce Total Rewards
Hydro Generation	Data Governance	Corporate Governance
Interest Rate	Data Availability	Board Driven
Project Execution	Enterprise-Wide Documentation	GM Driven
Wholesale Credit Default	Grid Operational Systems & Support	Enterprise Grant Integration, Execution and Alignment
	Technology Systems Infrastructure	
	OP: Process	Sustainable Energy
	Balancing Authority Operations	Carbon Emission/AB32
	Bulk Power Op & Maintenance	Load Serving Capability
	Gas & Gas Pipeline Assets	<i>Renewable Portfolio Standard</i>
	Power Supply Assets	External Risks
	Transmission Assets	Economy - Business Agility
	Enterprise Continuity Management	Legislative & Regulatory
	Communications	Federal
	Internal Communications/Alignment	Dodd-Frank Implementation
	<i>Media & Community Relations</i>	Limits on Muni Bond Tax Exemption
	Customer Serv Operations: Business Disruption	Local Gov't
	General Facilities Op & Maintenance	State
	Customer Service Center	Bay Delta Flow Issues
	Energy Management Center	CEC: Integrated Resource Planning
Legend: by Risk Heat Zone	Existing Corporation Yard	Post 2020 Carbon Markets
Extremely High Residual Risk	Headquarter Building	Natural / Other Hazards
High Residual Risk	Physical Asset Security	Wildfire
Medium Residual Risk		Climate Change
Low Residual Risk		
Extremely Low Residual Risk		
<i>Recent Changes denoted in Purple</i>		



SMUD's Risk & Opportunity Heat Map



ERM Approach

speaking points for slide 3

Governance

- Regular reporting-standing agenda item at Board Finance Committee

Oversight & Accountability

- Aligned with established executive oversight committees and Audit & Quality Services
- Each identified risk is assigned to a specific risk owner, with proper focus and executive oversight

Consistent Definitions and Language

- Risk rating scales are defined in relation to the organization's objectives
- Enterprise risk portfolio on SMUD's intranet tracks and communicates enterprise risk exposure

Integration of ERM with Key Business Processes

- Labor and capital resources are allocated to risk mitigation initiatives based on enterprise-wide prioritization process

ERM Methodology

speaking points for slide 3

Enterprise Risk Analysis

- Quantitative and qualitative methodologies including emerging trend analysis and benchmarking

Periodic EROC Meetings

- Enterprise Risk Oversight Committee holds standing meetings to discuss, approve, or mitigate risk exposure trends and changes

Annual and Periodic Review of Enterprise Risk Portfolio

- Annual review with individual Executive Risk Owners and Director Level Leads on their specific areas of enterprise risks
- More frequent review of SMUD's top risks
- Annual enterprise risk survey

Year-On-Year Risk Summary

Level of Residual Risk Exposure			Nov-17	Nov-18	Nov-19
	Red	Extremely High	0	0	0
	Orange	High	4	5	4
	Yellow	Medium	39	37	33
	Green	Low	37	38	40
	Blue	Extremely Low	0	0	0
Total			108	80	77