

# Exhibit to Agenda Item #1b

Board Finance & Audit Committee Meeting and Special SMUD Board of Directors Meeting – Budget 2019

Thursday, November 8, 2018 scheduled to begin at 5:00 p.m.

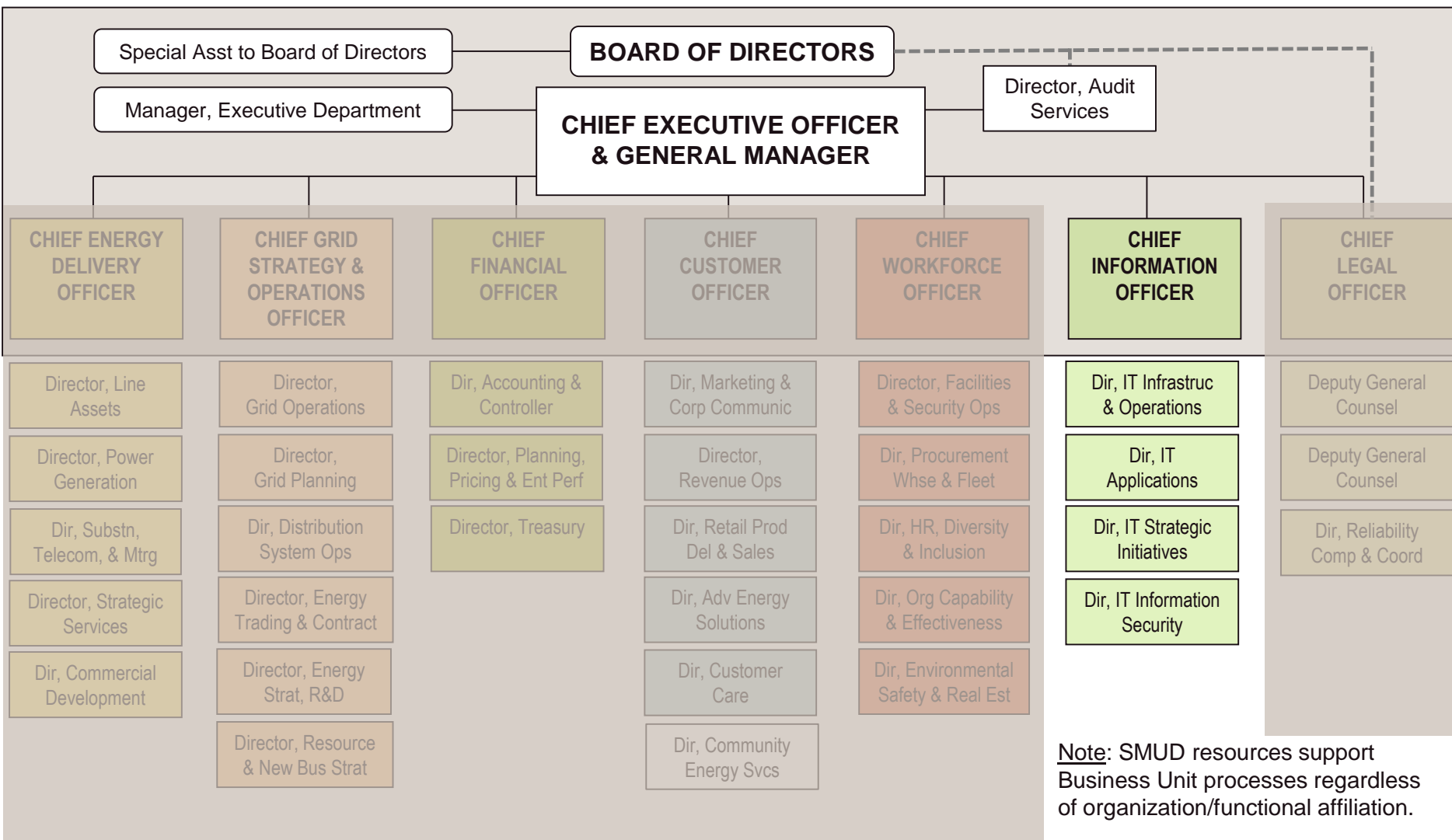
Customer Service Center, Rubicon Room

# Technology 2019 Proposed Budget & Initiatives

Stephen Clemons  
Chief Information Officer



# Chief Information Officer Organization



**Note:** SMUD resources support Business Unit processes regardless of organization/functional affiliation.



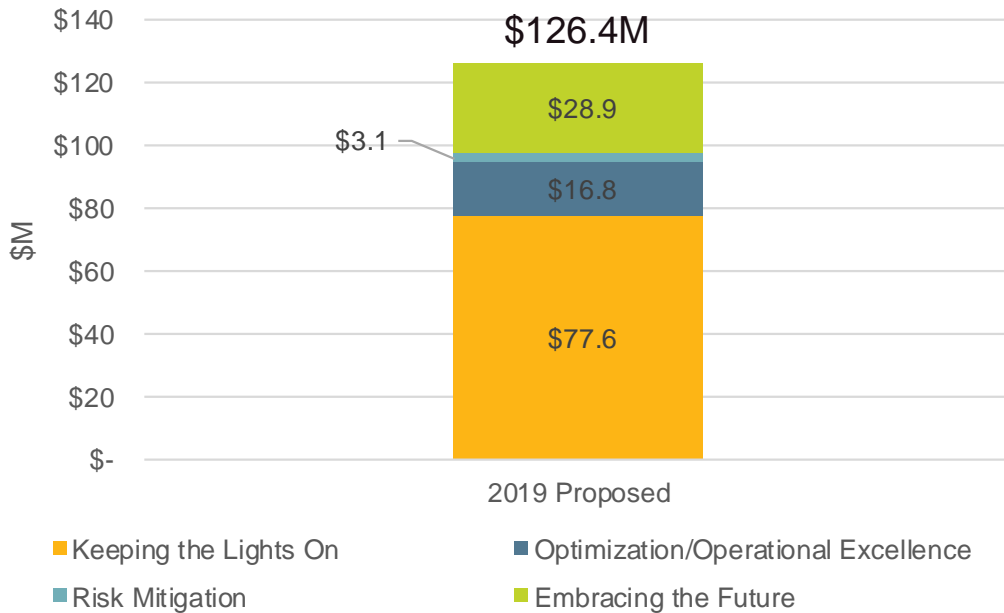


# Technology Business Segments and Functions

Strategy, Planning & Governance	Strategic Initiatives	Infrastructure & Operations	Information Security	Applications
Relationship Management	Project Planning & Execution	Operational Support	Cyber Security	Project Planning & Execution
Project Management	Operational Support	Project Planning & Execution	Compliance	Operational Support
	Contracts & License Management	Problem Resolution	Privacy Programs	Planning & Assessment
	Problem Resolution	Security Engineering and Operations	Threat Assessment and Response	Service Requests
	Service Requests	Compliance and System Security		Quality Assurance
	Enterprise Architecture	Service Management		
		Planning & Assessment		



# 2019 Proposed Budget by Theme





# Projects Completing in 2018

## 2018 Completed Projects

- Time of Day
- CCA Infrastructure
- Annual Line Patrol
- Auto Reconnect
- Bill Scenario Tool
- Energy Accounting System (EAS)
- Joint Pole Process Improvement
- Legal Matter Management
- Mobile App – Friends and Family
- Replace OC3 Loop & FP MW Radio
- Security Roadmap Program Network Access Control Lifecycle
- Omni Channel Billing Print Redesign
- Rate Change Automation

## On Track to complete by end of 2018

- Avaya Expansion Final Phase
- Avaya Upgrade & Lifecycle
- Cyber Security Supply Chain Risk Mgmt.
- Division of Dam Safety & Inspection Compliance
- Edge Firewall Lifecycle
- GIS - Transmission and Real Estate
- Internal Audit Software
- Lifecycle Printers (Print Anywhere)
- Next Generation Two-way Radio
- Office 365
- PI DOE Upgrade
- Replace Backup DC Power
- Security Roadmap Program – Data Loss Prevention
- SAP Real Estate Module
- SAS Upgrade and Optimization
- SIEM Upgrade/Lifecycle



# Multi-Year Projects

## Projects Completing in 2019 or Beyond

- ADMS
- Ariba Procurement Project
- Avaya/Verint WFO/WFM Upgrade
- CIP Supply Chain (CIP-013)
- Compatible Units -
- Design Tools - Design of Distribution Network
- Disaster Recovery
- Distribution Inspection Mobile Device
- Hydro Water DSS - Compliance
- Document Management for Grid Assets
- Employee Relations Case Management
- Energy Trade Risk Management (ETRM)
- Facilities McLaren
- G/Technology Upgrade and Implementation of GIS Networks
- HR Express Transformation
- Modeling of the Distribution Secondary System
- Outage Communication Management (OCM) System Replacement
- PACS Redundancy
- Reliability Analysis - Distribution Grid
- OT Network Transformation (MPLS)
- OT Network Anomaly Detection
- SEELoad Upgrade for Demand Response
- Segregation of Duties
- SharePoint Upgrade
- Time of Day
  - EAPR Automation
  - EAPR Rate Redesign
- WFO Mobility & Scheduling



# 2019 New Project Work

## Projects Starting in 2019

- AMI Access Point Lifecycle
- AMI Relay Lifecycle
- UIQ\_AMI Upgrade - Application
- Asset Management Analytics
- Captiva Lifecycle
- Conference Room Technology
- DMS OMS Replacement (Planning)
- EDM UI D2 & Core System Upgrade
- Endpoint Detection and Response/Anti-virus
- SMUD Enterprise PPM Replacement
- Gas Site Network Resiliency/Capability
- GPO GIS Asset Master Data
- Telecommunications DC Battery Monitoring System
- Telecommunications GIS Fiber Audit
- Transmission Fiber Standards
- Underground Cable Failure Mapping
- Wireless Broadband Feasibility
- X86 Lifecycle - Fresh Pond Servers
- Interval Data Export - Meter Data
- Itron IEE Technical Upgrade
- Network Lifecycle – Corporate Network
- OC3 Loop MW Upgrade (Part 2)
- Rate Changes 2019-2020
- Secure SAP RFC with SNC/SSL
- ServiceNow APM
- Solano Windfarm Communications Improvement

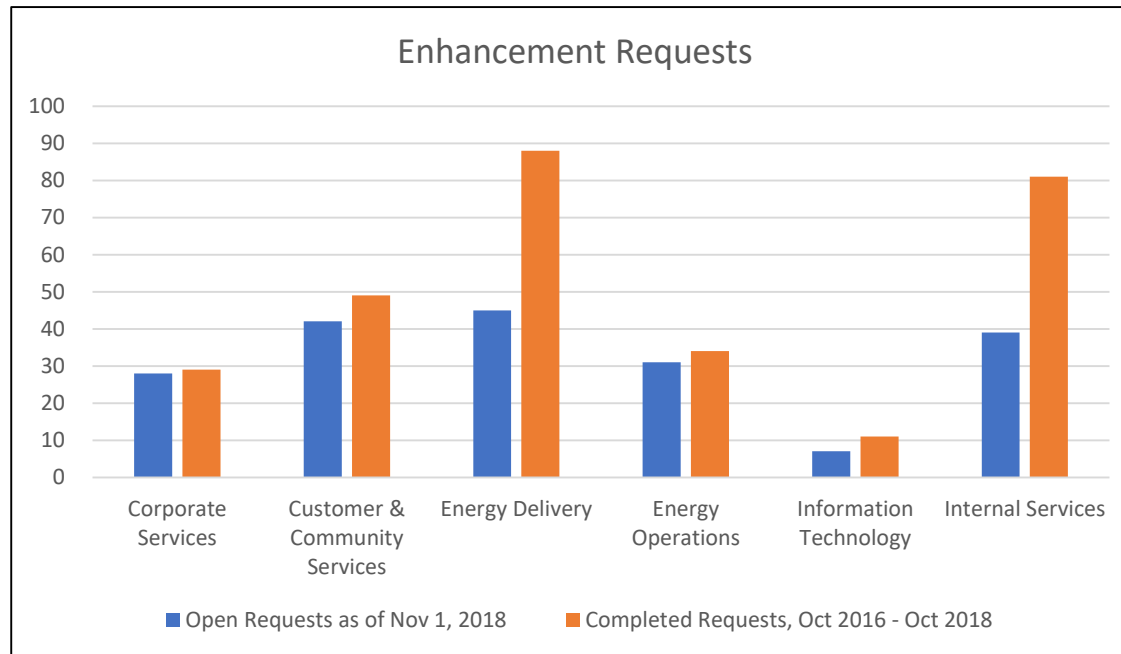




# Technology Enhancement Requests

IT staff have completed over 300 enhancement requests and currently have 192 requests open

- Smaller efforts than projects
  - Less than 400 hours staff time to complete





# Keeping the Lights On

- Keeping The Lights On ensures SMUD’s applications and technology infrastructure are available, secure and in compliance – every day
  - We maintain over 1,000 applications used across SMUD to high standards of reliability
  - We manage complex interconnections of systems and data
  - We ensure security of systems through monitoring and updates
- In 2019, key upgrades and lifecycles support core business functions
  - Meter to Cash
    - Meter Data Management, AMI and Avaya upgrades
    - Power theft detection system upgrades
    - Board-mandated rate changes
  - Ongoing lifecycle upgrades supporting a wide variety of enterprise applications and infrastructure
    - Communications with remote facilities
    - Gas site operational monitoring
    - Storage and network hardware replacements
  - Deliver compliance efforts with SAP enhancement and Grid Asset EDM projects

(SD-2, 4, 8, 16)



# Optimization and Operational Excellence

- Improve efficiency and reliability of technology applications and infrastructure (SD-2, 4, 8, 17)
  - Deliver efficiency with Agile methods, Testing Center of Excellence
  - Expand and mature best practice methodologies such as Enterprise Architecture, Data Analytics and Business Relationship Management
  - Deliver technologies to improve efficiency, reliability and communication across SMUD
  
- Improve system reliability and availability (SD-4, 6, 17)
  - Monitor critical applications and systems with 24/7 support
  - Improve disaster recovery infrastructure and processes
  
- Strategic view of technology and human resources (SD- 4, 8, 17)
  - Use application rationalization methodology to develop a strategic view of technology resources
  - Benchmark staffing levels and skill sets to ensure talent required to support the technology stack



# Risk Mitigation

- Cyber security. Mitigate risk through audit remediation, monitoring, training and education (SD-8, 16, 17)
- Cyber attacks by nation-states on utilities (SD- 16, 17)
  - Continuous network monitoring
  - Expand programs to improve security posture, focusing on Critical Infrastructure Protection, Operational and Information Technology security and awareness
  - Continue to comply with increasing regulatory and compliance standards
- Anticipate and respond to rapid changes in technology (SD-10, 16, 17)
  - Research emerging technologies in the energy market
  - Security plan review of cloud computing
- Hire and retain IT talent (SD-8, 10, 17)
  - Broaden recruitment channels, utilizing staff training to stay abreast of changing technologies, leveraging Master Services Agreement to fill gaps



# Embracing the Future

- Modernizing our power grid (SD-4, 16)
  - Continue efforts to integrate DERs through advanced technology including ADMS, DERMS and next generation WAN
- Enhance the Customer Experience through digital self-service, expanding use of texts and alerts and customer mobile applications (SD-5)
- Workplace of the future – ongoing efforts (SD-8, 16)
  - Deliver technology to support a mobile and flexible workplace and enhanced collaboration and productivity for field and office staff
  - Provide secure platforms for delivering applications to all devices
- Deliver innovative technology (SD-2, 10, 16)
  - Support R&D for Internet of Things (IoT) and augmented reality
  - Deliver technology to support innovative rates and billing
- Embrace market potential by delivering technology to support SMUD's role in the expanding Community Choice Aggregator (CCA) market (SD-19)



# Technology 2019 Proposed Budget

