

Board Policy Committee Meeting and Special SMUD Board of Directors Meeting

Date: Wednesday, June 9, 2021

Time: Scheduled to begin at 5:30 p.m.

Location: Virtual Meeting (online)

Powering forward. Together.



AGENDA BOARD POLICY COMMITTEE MEETING AND SPECIAL SMUD BOARD OF DIRECTORS MEETING

Wednesday, June 9, 2021

Scheduled to begin at 5:30 p.m.

Zoom Webinar Link: [Join SMUD Policy Committee Meeting Here](#)

Webinar ID: 161 439 5131

Password: 926023

Phone Dial-in Number: 1-669-254-5252

In accordance with the Governor's Executive Order N-29-20 and the Emergency Board Meeting Procedures adopted by the SMUD Board of Directors, the regular Board meeting and other public meetings are closed to the public to align with state, local, and federal guidelines and social distancing recommendations for the containment of the coronavirus.

Live video streams and indexed archives of meetings are available at:

http://smud.granicus.com/ViewPublisher.php?view_id=16

Members of the public may register to provide verbal comments at an upcoming Board or Committee meeting by emailing a request to speak to PublicComment@smud.org. Please include the date of the meeting, name, and topic or agenda item the requestor wishes to speak on. The request may also be submitted while the meeting is in progress during the standard time for the agenda item or topic. **Pre-registration is strongly encouraged by no later than 3:00 p.m. on the day of the meeting.**

Members of the public may provide written public comments on a specific agenda item or on items not on the agenda (general public comment) by submitting comments via e-mail. Comments may be submitted to PublicComment@smud.org and will be placed into the record of the meeting.

Members of the public that are listening to or watching the live stream of a Committee meeting and wish to comment on a specific agenda item as it is being heard may submit their comments, limited to 250 words or less, to PublicComment@smud.org, noting the agenda item number in the subject line. The Committee Chair may read comments for items on the agenda into the record, in her discretion, based upon such factors as the length of the agenda or the number of e-mail comments received. General public comment for items not on the agenda will not be read into the record but will be provided to the Board and placed into the record of the Board meeting if it is received within two hours after the meeting ends.

This Committee meeting is noticed as a joint meeting with the Board of Directors for compliance with the Brown Act. In order to preserve the function of the Committee as advisory to the Board, members of the Board may attend and participate in the discussions, but no Board action will be taken. The Policy Committee will review, discuss and provide the Committee's recommendation on the following:

DISCUSSION ITEMS

1. Joy Mastache
Maria Veloso Koenig Adopt the **2021 Informational Response and Wildfire Mitigation Plan Recommended Metrics** as supplement to SMUD's 2021 **Wildfire Mitigation Plan** adopted November 19, 2020.
Presentation: 15 minutes
Discussion: 10 minutes
2. Maria Veloso Koenig Accept the monitoring report for **Strategic Direction SD-4, Reliability**.
Presentation: 10 minutes
Discussion: 5 minutes
3. Russell Mills
 - a. Discuss proposed revisions to **Board-Staff Linkage BL-12, Delegation to the General Manager for Transmission, Wholesale Electricity and Natural Gas Transactions**.
 - b. Discuss proposed revisions to SMUD's **Energy Risk Management and Energy Trading Standards**.
Presentation: 5 minutes
Discussion: 7 minutes

INFORMATIONAL ITEMS

4. Nancy Bui-Thompson Board Work Plan.
Discussion: 5 minutes
5. Public Comment
6. Heidi Sanborn Summary of Committee Direction.
Discussion: 1 minute

Pursuant to Resolution No. 20-06-08 adopted on June 18, 2020, Emergency Board Meeting Procedures are in effect:

Members of the public may make either a general public comment or comment on a specific agenda item by submitting comments via email. Comments may be submitted to PublicComment@smud.org. Comments will be provided to the Board and placed into the record of the Committee meeting if it is received within two hours after the meeting ends.

Members of the public that are listening or watching the live stream of a Board meeting and wish to comment on a specific agenda item as it is being heard, may submit their comments, limited to 250 words or less, to PublicComment@smud.org. The Board Chair may read the comments into the record, in her discretion, based upon such factors as the length of the agenda or the number of email comments received. Comments will be provided to the Board and placed into the record of the Committee meeting if it is received within two hours after the meeting ends.

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Pre-registration is strongly encouraged by no later than 3:00 p.m. on the day of the meeting.

ADA Accessibility Procedures: Upon request, SMUD will generally provide appropriate aids and services leading to effective communication for qualified persons with disabilities so that they can participate equally in this virtual meeting. If you need a reasonable auxiliary aid or service for effective communication to participate, please email Toni.Stelling@smud.org, or contact by phone at (916) 732-7143, no later than 48 hours before this virtual meeting.

SSS No. LEG 2021-0068

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date
Policy Committee June 9, 2021Board Meeting Date
June 17, 2021

TO					TO				
1.	Jennifer Davidson				6.				
2.	Stephen Clemons				7.				
3.					8.				
4.					9.	Legal			
5.					10.	CEO & General Manager			

Consent Calendar		Yes	<input checked="" type="checkbox"/>	No <i>If no, schedule a dry run presentation.</i>	Budgeted	<input checked="" type="checkbox"/>	Yes	No <i>(If no, explain in Cost/Budgeted section.)</i>
FROM (IPR) Lora Anguay	DEPARTMENT Distribution Operations Maintenance				MAIL STOP	EXT.	DATE SENT	
						5870	May 21, 2021	

NARRATIVE:

Requested Action: Adopt the 2021 Informational Response and Wildfire Mitigation Plan Recommended Metrics as supplement to SMUD's 2021 Wildfire Mitigation Plan adopted November 19, 2020.

Summary: Senate Bill 901 (2018) and Assembly Bill 1054 (2019) revised Public Utilities Code section 8387 to require that before January 1, 2020, and annually thereafter, every publicly owned electric utility prepare a wildfire mitigation plan (WMP), present it in a noticed public meeting, and accept comments. Section 8387 also requires that each publicly owned utility update its plan annually and submit the update to the California Wildfire Safety Advisory Board by July 1 of each year.

On October 17, 2019, by Resolution 19-10-09, the Board adopted SMUD's Wildfire Mitigation Plan (WMP). On April 3, 2020, SMUD submitted the WMP to the California Wildfire Safety Advisory Board (WSAB) for review, comment, and advisory opinion. On November 19, 2020, Staff presented an update to the WMP, along with the Qualified Independent Evaluator's (QIE) report, to the Board. The QIE found that the 2021 WMP is comprehensive and recommended that the number of metrics for the Plan be increased to better gauge the success of the many programs and mitigation activities outlined in the Plan. By Resolution 20-11-04, the Board adopted SMUD's 2021 WMP. On December 9, 2020, the WSAB approved its Guidance Advisory Opinion for the 2021 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Cooperatives.

Staff has prepared an Informational Response addressing the WSAB recommendations. Staff has also proposed new progress, program, and outcome metrics to track the success of the WMP and initiatives identified in the WMP. Staff will present the Informational Response and metrics at the duly noticed Policy Committee meeting.

Staff will submit the 2021 WMP, and if approved as supplement to the WMP, the Informational Response and metrics, to the WSAB by July 1, 2021.

Board Policy: SD-4, Reliability; SD-6, Safety; SD-15, Outreach and Communication; SD-17, Enterprise Risk Management
(Number & Title)

Benefits: The WMP and supplemental documents are in alignment with Strategic Direction SD-4, Reliability, that SMUD will maintain the electric system in good repair, and SD-6, that SMUD will implement measures to protect the public from injuries related to SMUD operations or facilities. Additionally, this item is consistent with Strategic Direction SD-15, Outreach and Communication, that SMUD will ensure all groups are aware of SMUD's major decisions and programs. This item is consistent with SD-17, Enterprise Risk Management, in maintaining an integrated enterprise risk management process.

Cost/Budgeted: The programs outlined in the WMP and supplemental documents are budgeted in separate processes by the sponsoring departments.

Alternatives: California law requires SMUD to submit its 2021 WMP to the WSAB on or before July 1, 2021.

- Alternative 1: Adopt the Informational Response and metrics. SMUD will submit its 2021 WMP to the WSAB with documentation addressing the WSAB recommendations.
- Alternative 2: Don't adopt the Informational Response and/or the metrics. SMUD will submit its 2021 WMP to the WSAB without addressing the WSAB recommendations.

Affected Parties: Grid Operations, Distribution Operations and Maintenance, Line Assets, Grid Planning, Power Generation, Retail Product Delivery and Sales, Marketing and Corporate Communications, Revenue Operations, Environmental and Real Estate Services, Facility and Security Operations, Information Technology, Procurement, Warehouse and Fleet, Human Resource, Diversity and Inclusion, Treasury and Risk Management, Office of the General Counsel, Board Office.

Coordination: Grid Operations, Distribution Operations and Maintenance, Line Assets, Grid Planning, Power Generation, Retail Product Delivery and Sales, Marketing and Corporate Communications, Revenue Operations, Environmental and Real Estate Services, Facility and Security Operations, Information Technology, Procurement, Warehouse and Fleet, Human Resource, Diversity and Inclusion, Treasury and Risk Management, Office of the General Counsel, Board Office.

Presenter: Maria Veloso Koenig, Director of Grid Planning
Joy Mastache, Senior Attorney

Additional Links:

SMUD Wildfire Mitigation Plan webpage:

<https://www.smud.org/en/In-Our-Community/Safety-Tips/Wildfire-safety/Wildfire-Mitigation-Plan>

SUBJECT

2021 Wildfire Mitigation Plan

ITEM NO. (FOR LEGAL USE ONLY)

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
WILDFIRE MITIGATION PLAN
2021 INFORMATIONAL RESPONSE**

**RESPONSES TO WILDFIRE SAFETY ADVISORY
BOARD'S 2021 GUIDANCE ADVISORY OPINION**

Draft: May 3, 2021

I. PURPOSE OF THIS 2021 INFORMATIONAL RESPONSE

The California Wildfire Safety Advisory Board (WSAB) issued the *Guidance Advisory Opinion for the 2021 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Cooperatives* (“2021 WSAB Guidance Advisory Opinion”) on December 15, 2020. The Sacramento Municipal Utility District (SMUD) provides this document to the WSAB in order to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion.

After public outreach and review by a qualified independent evaluator, SMUD’s 2021 Wildfire Mitigation Plan (WMP) was presented in a noticed public meeting to, and adopted by, SMUD’s governing Board in November 2020. This Information Response is submitted with SMUD’s adopted 2021 WMP to address the WSAB’s recommendations. For each recommendation SMUD provides a narrative response and/or a cross reference to the location in SMUD’s 2021 WMP where the topic is addressed. Where the recommendation is not applicable to SMUD, the response will provide a brief description supporting this conclusion.

II. CONTEXT SETTING INFORMATION

WSAB requested that POUs provide an informational table to assist the WSAB Staff and Board members in understanding the unique characteristics of each POU.

Table 1: Context-Setting Information

Utility Name	[POU]	
Service Territory Size	900 square miles	
Owned Assets	X Transmission X Distribution X Generation	
Number of Customers Served	Approximately 641,000 customer accounts	
Population Within Service Territory	Approximately 1.5 Million people	
Customer Class Makeup	<i>Number of Accounts</i>	<i>Share of Total Load (MWh)</i>
	88.3% Residential; 1.5% Government; 0.4% Agricultural; 8.6% Small/Medium Business; 1.3% Commercial/Industrial	46.8% Residential; 6.6% Government; 0.7% Agricultural; 6.8% Small/Medium Business; 39.1% Commercial/Industrial
Service Territory	25.8% Agriculture 0.1% Barren/Other 0% Conifer Forest 0% Conifer Woodland 0% Desert 0.3% Hardwood Forest 3.9% Hardwood Woodland	

Location/Topography¹	29.5% Herbaceous 0.1% Shrub 37.9% Urban 2.3% Water
Service Territory Wildland Urban Interface² (based on total area)	4.5% Wildland Urban Interface; 8.4% Wildland Urban Intermix;
Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)	<input type="checkbox"/> Includes maps Tier 2: 0% Tier 3: 0% SMUD operates its Upper American River Project outside its territory within the High Fire Threat District, as described in the 2021 WMP, pages 26-28.
Prevailing Wind Directions & Speeds by Season	<input type="checkbox"/> Includes maps CalFire provides the following description in its 2020 Unit Strategic Fire Plan Amador-El Dorado Unit (AEU): “Fire weather for AEU is typically dominated by three general weather phenomena; the delta push influence, north wind events, and east foehn winds caused by high pressure development in the Great Basin. All three weather conditions cause potential increases in fire intensity and size. The delta influence is the most common and surfaces frequently throughout summer. Typically, high pressure systems will dominate Northern California in the summer months bringing extremely hot and dry conditions over much of the region. As these systems develop, they will tend to yield near the Delta and Sacramento areas bringing the marine influence to the Unit. This is generally considered a good thing for fire behavior; slightly cooler afternoon temperatures and increases in relative humidity. The downside is the strong winds that typically accompany these patterns can override any benefit that may come from marine air. Typically, this type of wind will subside after sundown causing fire behavior to drop off dramatically. The other critical wind patterns that are difficult to predict for AEU are the Northerly and Easterly winds. They are relatively rare, and often are forecasted only the day before. Northerly or Easterly winds are typically warmer and drier than most other wind patterns due to air compression. These conditions provide the perfect environment for increased fire intensity and large fire growth. Fire growth is typically wind driven, however as these events recede, fire immediately returns to fuel/topography driven in

¹ This data is based on the California Department of Forestry and Fire Protection, California Multi-Source Vegetation Layer Map, depicting WHR13 Types (Wildlife Habitat Relationship classes grouped into 13 major land cover types) available at: <https://www.arcgis.com/home/item.html?id=b7ec5d68d8114b1fb2bfbf4665989eb3>.

² This data is based on the definitions and maps maintained by the United States Department of Agriculture, as most recently assembled in *The 2010 Wildland-Urban Interface of the Conterminous United States*, available at https://www.fs.fed.us/nrs/pubs/rmap/rmap_nrs8.pdf.

	<p>opposing directions to the wind driven direction. This type of wind event is commonly referred to as a Santa Ana Wind in Southern California, and a foehn wind in the Sierra/Cascade Region.”</p> <p>2020 Unit Strategic Fire Plan Amador-El Dorado Unit, https://osfm.fire.ca.gov/media/j0zbdecg/2020-aeu-fire-plan.pdf]</p>
Miles of Owned Lines Underground and/or Overhead	<p>Overhead Dist.: 3,871.0 miles Overhead Trans.: 461.9 miles Underground Dist.: 6,663.6 miles Underground Trans.: 17.3 miles</p>
	Explanatory Note 1 - Methodology for Measuring “Miles”: [e.g., circuit miles, line miles.] Circuit miles.
	Explanatory Note 2 – Description of Unique Ownership Circumstances: None
	Explanatory Note 3 – Additional Relevant Context: [e.g., percentage of lines located outside service territory] See Table 4 on page 27 in SMUD’s WMP.
Percent of Owned Lines in CPUC High Fire Threat Districts	<p><i>Overhead Distribution Lines as % of Total Distribution System (Inside and Outside Service Territory)</i></p>
	<p>Tier 2: 0% Tier 3: 0%</p>
	<p><i>Overhead Transmission Lines as % of Total Transmission System (Inside and Outside Service Territory)</i></p>
	<p>Tier 2: 18.6% Tier 3: 11.4%</p>
	Explanatory Note 4 – Additional Relevant Context: No Tier 2 or Tier 3 areas exist within SMUD’s Service Area. SMUD’s overhead facilities in the High Fire Threat District are part of its Upper American River Project (UARP) as described in the WMP (see, e.g., pages 26-28, including Table 4).
Customers have ever lost service due to an IOU PSPS event?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Customers have ever been notified of a potential loss of service to due to a forecasted IOU PSPS event?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Has previously pre-emptively shut off electricity in response to elevated wildfire risk?	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, then provide the following data for calendar year 2020: <i>Number of shut-off events:</i> 0 <i>Customer Accounts that lost service for >10 minutes:</i> N/A <i>For prior response, average duration before service restored:</i> N/A</p>

III. CROSS REFERENCE TO STATUTORY REQUIREMENTS

WSAB requested that POU provide a clear roadmap as to where each statutory requirement is addressed within the POU WMP.

Table 2: Cross References to Statutory Requirements

Requirement	Statutory Language	Location in WMP
Persons Responsible	PUC § 8387(b)(2)(A): An accounting of the responsibilities of persons responsible for executing the plan.	Section [9.1.1] Page [46]
Objectives of the Plan	PUC § 8387(b)(2)(B): The objectives of the wildfire mitigation plan.	Section [1.3] Page: [10]
Preventive Strategies	PUC § 8387(b)(2)(C): A description of the preventive strategies and programs to be adopted by the local publicly owned electric utility or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.	Section [3] Page [14]
Evaluation Metrics	PUC § 8387(b)(2)(D): A description of the metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance and the assumptions that underlie the use of those metrics.	Section [9.3.1] Page [48]
Impact of Metrics	PUC § 8387(b)(2)(E): A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.	Section [9.2.1] Page [48]
Deenergization Protocols	PUC § 8387(b)(2)(F): Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.	Sections [6.1.1 & 7.2] Pages [30 & 41]
Customer Notification Procedures	PUC § 8387(b)(2)(G): Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.	Sections [7.1 & 7.2] Pages [40 & 41]
Vegetation Management	PUC § 8387(b)(2)(H): Plans for vegetation management.	Section [6.4] Page [35]
Inspections	PUC § 8387(b)(2)(I): Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Section [6.3] Page [32]

<p>Prioritization of Wildfire Risks</p>	<p>PUC § 8387(b)(2)(J): A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility’s or electrical cooperative’s service territory. The list shall include, but not be limited to, both of the following:</p> <p>(i) Risks and risk drivers associated with design, construction, operation, and maintenance of the local publicly owned electric utility’s or electrical cooperative’s equipment and facilities.</p> <p>(ii) Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the local publicly owned electric utility’s or electrical cooperative’s service territory.</p>	<p>Section [4.3] Page [21]</p> <p>Sections [4.3] Pages [21]</p> <p>Section [5.1] Page [26]</p>
<p>CPUC Fire Threat Map Adjustments</p>	<p>PUC § 8387(b)(2)(K): Identification of any geographic area in the local publicly owned electric utility’s or electrical cooperative’s service territory that is a higher wildfire threat than is identified in a commission fire threat map, and identification of where the commission should expand a high fire threat district based on new information or changes to the environment.</p>	<p>Section [5.1] Page [26]</p>
<p>Enterprise-wide Risks</p>	<p>PUC § 8387(b)(2)(L): A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk.</p>	<p>Section [4.3] Page [21]</p>
<p>Restoration of Service</p>	<p>PUC § 8387(b)(2)(M): A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.</p>	<p>Section [8] Page [44]</p>
<p>Monitor and Audit</p>	<p>PUC § 8387(b)(2)(N): A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following</p> <p>(i) Monitor and audit the implementation of the wildfire mitigation plan.</p> <p>(ii) Identify any deficiencies in the wildfire mitigation plan or its implementation, and correct those deficiencies.</p> <p>(iii) Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, that are carried out under the plan, other applicable statutes, or commission rules.</p>	<p>Section [9.4] Page [50]</p> <p>Section [9.4.2] Page [50]</p> <p>Section [9.3.1] Page [48]</p>

<p>Qualified Independent Evaluator</p>	<p>PUC § 8387(c): The local publicly owned electric utility or electrical cooperative shall contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of its wildfire mitigation plan. The independent evaluator shall issue a report that shall be made available on the Internet Web site of the local publicly owned electric utility or electrical cooperative, and shall present the report at a public meeting of the local publicly owned electric utility's or electrical cooperative's governing board.</p>	<p>Section [10] Page [52]</p>
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IV. WSAB GUIDANCE ADVISORY OPINION RECOMMENDATIONS

The WSAB Guidance Advisory Opinion identifies 14 specific recommendations that POUs are requested to address in their 2021 WMPs. As specified in Public Utilities Code § 8387(b)(1), each POU is required to perform a comprehensive revision to the POU's WMP at least once every three years. Pursuant to this guidance, the POUs will be updating their WMPs based on the direction of their local governing boards within this 3-year cycle. Because the WSAB's recommendations have been provided after the initial WMP submission, the POUs will have varying capacities to fully address each recommendation in their 2021 WMP. This Section IV restates each of the WSAB recommendations and provides an opportunity for each POU to do one or more of the following: (1) provide a narrative response to the recommendation; (2) provide a cross reference to where in the POU's WMP this topic is addressed; (3) describe why the recommendation is not applicable to the POU; or (4) inform the WSAB of the POU's intent to address the recommendation at the point of the POU's next comprehensive revision, occurring in either the 2022 or 2023 WMP.

A. Plan Structure

WSAB Recommendation #1: Provide context-setting information about the POU and provide a simple guide to where the statutory requirements are addressed within the WMP.

POU Response: See Sections II and III above.

WSAB Recommendation #2: Provide a short description of the POU's public review and approval (if required) for the WMP. This description may also include a brief explanation of the funding mechanisms for wildfire mitigation efforts.

POU Response:

SMUD staff prepare the WMP through an organization wide, cross functional working group and engage in extensive public outreach to its first responders, local agencies, community-based organizations and public, including posting the draft WMP for an advertised public comment period. SMUD retained a qualified independent third party to review the plan for compliance with statute and industry standard. The WMP and QIE report was then presented to SMUD's Board of Directors in a publicly noticed meeting, for adoption.

While the WMP is not a budget document, SMUD adopts its budget through open and public processes. Program commitments reflected in any given budget are impacted by many factors, including risk evaluations, system condition and requirements, emergency occurrences, economy, legislation, environment, and liability exposure. These commitments are consistently under evaluation, and program priorities can change if any of these factors shift.

WSAB Recommendation #3: Identify where the POU has posted the most recent Independent Evaluator (IE) Report and if your POU plans to enhance future IE reports, please summarize in what ways.

POU Response: The most recent IE report can be found at this link:

https://www.smud.org/-/media/Documents/In-Our-Community/Safety/SM20-002_WMP_IR_V1.ashx

SMUD retains the IE through a competitive procurement process and will continuously review the IE scope of work to ensure a robust and complete evaluation process.

WSAB Recommendation #4: Develop, in collaboration with POU industry associations, WMP guidelines for future WMPs, understanding that it may take multiple cycles for POU's to integrate these recommendations into the WMPs.

POU Response: This document is intended to include, as appropriate, responses to the recommendations in the WSAB's Guidance Advisory Opinion for the POU's 2021 WMP. This document also represents the combined effort of the POU industry associations to further the development of a template to respond to the WSAB's Guidance Advisory Opinion in a future reporting WMP cycle.

B. Customer Impacts

WSAB Recommendation #5: Describe the potential impact investor-owned utilities (IOU) public safety power shutoff (PSPS) events could have on POU customers and how the POU manages these impacts. For POU's that are also balancing authorities, describe the criteria for wildfire related de-energizations. Responses shall only provide aggregated information that does not provide customer-specific information or other potentially sensitive data.

POU Response: SMUD does not have any interconnections with an IOU at the distribution voltage levels, therefore SMUD is not impacted by IOU distribution PSPS events. SMUD interconnects with Pacific Gas & Electric Company (PG&E) at the transmission level and maintains its own generation and energy resources to serve its customers. SMUD's exposure to a PG&E transmission PSPS event is limited to transmission curtailment or shortfall. SMUD has processes in place to address such potential shortfalls through such mechanisms as alternative transmission paths, internal generation, and demand response. As a last resort we have process in place to implement rolling outages which limit customer/community impact to short periods of around one hour. SMUD would communicate directly with its customers in such an event, with forecast of impacted communities available on our website (<https://www.smud.org/en/Customer-Support/Outage-Status>).

WSAB Recommendation #6: Describe the utility customer communication plans with respect to wildfires and PSPS, and in particular describe the methods, content and timing used to communicate with the most vulnerable customers, such as Access and Functional Needs (AFN) customers, medical baseline customers, non-English speakers, and those at risk of losing water or telecommunications service.

POU Response: As noted above SMUD's customers are unlikely to be directly impacted by an IOU PSPS event.

SMUD's customer communication plans are described in the WMP, see section 7.2 on page 41, first paragraph after the numbered bullets, and the first and second paragraphs in the second column in that section. The Opt-in program called out in that section is being developed to allow Vulnerable Populations or AFN customers the ability to opt in for additional notifications.]

C. The Grid

WSAB Recommendation #7: Provide details on each POU's system hardening and grid design programs, including: (1) the goals of the programs and the risk any particular program is designed to mitigate; (2) approach to PSPS mitigation and prevention; and (3) identify any resource shortages.

POU Response: SMUD's approach to grid hardening is discussed in the WMP, section 3 on page 14, section 4.3 on page 21, section 6 on page 29. See also SMUD's response to "WSAB Recommendation #5" above for resource shortages mitigation.

WSAB Recommendation #8: Describe annual visual patrols on potentially impacted circuits and the risks the POU is inspecting for. Describe whether and how system inspections lead to system improvements. Describe line patrols before, during, and/or after a critical fire weather

event, such as a Red Flag Warning with strong winds, or following a fire that burned in areas where electric facilities are or could have been impacted.

POU Response: SMUD's approach to system inspections is discussed in the WMP, section 6.3 on page 32, section 9.4.4.1 on page 50, section 8 on page 45.

WSAB Recommendation #9: Describe options considered by POU (including through the joint efforts of the POU associations) to identify previously unidentified risks that could lead to catastrophic wildfires.

POU Response: The electric utility industry is collaborative in nature. Vendors, hardware manufacturers, and engineering teams reach out to peers, customers, and vendors when certain trends or problems with equipment or hardware are encountered. This type of information is typically shared more broadly at industry conferences and workshops. SMUD maintenance and planning staff, and operational staff are in constant communications with identified partners to share and learn from such collaborative efforts.

For example, SMUD maintenance and planning staff are constantly monitoring failure related fire/wildfire events around the state, and around the country. When equipment or hardware failures are identified as the cause of fires or wildfires at another utility, questions are asked for failure risk associated with similar equipment or hardware used at SMUD. These questions are further evaluated and analyzed for risks at SMUD. An example is the transmission line C-hook insulator failure. SMUD, and a majority of other electric utilities have similar insulators on their transmission lines. SMUD engineering staff initiated a pilot project to capture high-resolution images of transmission line hardware using drones to closely analyze the amount of wear on c-hooks and other hardware. This project is ongoing and has the potential to yield many more benefits than a single component risk evaluation.

D. Risk Assessment

WSAB Recommendation #10: Describe the particular wildfire risks associated with system design and construction such as topography and location near the HFTD areas of another utility's service territory. Describe any G.O. 95 exempt assets and possible updates to G.O. 95 that could facilitate more resilient utility transmission and distribution assets.

POU Response: SMUD's assessment of wildfire risks is discussed in the WMP, see, e.g., section 4

POUs as a general matter voluntarily comply with the CPUC's General Orders, including General Order 95 (GO95) that addresses overhead lines. SMUD incorporates the standards developed in GO95 into its procedures and meets or exceeds these standards. SMUD considers a wide array of industry standards and regulations when developing its design and construction criteria. We design to the highest applicable industry standard. (NESC, IEEE, ANSI etc.)

In the WMP, see section 6.5.2 on page 35 for GO95 exempt assets.

Regarding changes to GO95, SMUD notes that the CPUC recently updated several Rules impacting wildfire safety. CMUA, SMUD and other POUs actively participated in that process and SMUD suggests that any future changes to GO95 be assessed through similar properly noticed proceedings allowing participation from all interested parties.

E. SITUATIONAL AWARENESS TECHNOLOGY

WSAB Recommendation #11: Provide context-setting information about the prevailing wind directions and speeds, differentiated by season, along with average weather conditions by season. Describe how and why situational awareness technology is installed, and where on the system. Describe the decision-making process regarding the installation of situational awareness technology, including constraints such as budgets, availability of equipment, knowledge to effectively deploy, or qualified personnel to install and monitor effectively. Identify any other agencies, utilities, or fire professionals that the data from these devices is shared with.

POU Response: SMUD's situational awareness initiatives, including weather monitoring activities, are discussed in the WMP (see, e.g., section 3, page 17, and section 6.5.3, page 36). SMUD is willing and able to share data upon request.

F. VEGETATION MANAGEMENT

WSAB Recommendation #12: Describe treatment plans for all types of vegetation associated with utility infrastructure, from the ground to the sky, which includes vegetation above and below electrical lines.

POU Response: SMUD's vegetation management program is discussed in the WMP, see, e.g., sections 6.4.1 and 6.4.2 on page 3. SMUD's Integrated Vegetation Management (IVM) approach, includes all tools (pruning, tree removal, mastication, livestock grazing, herbicide, etc.) to address and manage vegetation around and near SMUD's Transmission and Distribution assets. Treatment methods are selected based on an array of factors and site-specific conditions, including landowner consultation and review of sensitive species and habitat.

SMUD's integrated vegetation management approach employs a variety of methods to manage those species, including annual clearing, livestock grazing, and direct and targeted herbicide treatments. Two specific methods used to monitor re-growth are traditional visual patrols and the use of remote sensing LiDAR and imagery.

WSAB Recommendation #13: List the qualifications of any experts relied upon, such as scientific experts in ecology, fire ecology, fire behavior, geology, and meteorology. Specify the

level of expertise of the POU staff that manages the contractors performing vegetation management. Describe measures each POU takes to ensure that POU staff and contractors comply with or verify compliance with Cal/OSHA standards on Minimum Approach Distances (MAD).

POU Response: SMUD's in house Vegetation Management (VM) employees have decades of Utility Vegetation Management (UVM) experience, and also nearly all have industry credentials and formal educations (AS/AA, BS/BA, MS degrees, Certified Arborist, Utility Specialists, Tree Risk Assessment Qualified (TRAQ), Municipal Arborists, as well as other relevant industry credentials. SMUD's contractors' management teams are also Certified Arborists, and bring extensive Utility Vegetation Management Line Clearance Qualified knowledge to the program.

WSAB Recommendation #14: Describe whether the POU has considered innovative and alternative approaches to vegetation management.

POU Response: SMUD's Vegetation Management Program includes deployed remote sensing technology, analytic data analysis, and computer learning, where reasonable to drive continuous improvement in SMUD's UVM program. Additionally, SMUD has partnered and collaborated with landowners (Federal and Private) to improve forest health and reduce fire risk well outside SMUD easements to target and reduce "fall-in" trees and forest fuels adjacent to the utility assets. Also of note, SMUD holds industry leadership roles in several UVM organizations such as; Utility Arborist Association (UAA), North American Transmission Forum (NATF), as well as other organizations to continue to explore and pilot new technology and tools in SMUD's UVM program.

Wildfire Mitigation Plan

Recommended Metrics

1. **Progress metrics** that are designed to track concrete actions toward reducing wildfire risk. Progress metrics include absolute metrics (e.g., number of grid condition findings per circuit mile)

- Number of circuit miles inspected from Patrol/Detail Line inspections in HFTD and PCA
- Number of [GO95 Rule 18](#) Level 1 findings in HFTD and PCA
- Number of GO95 Rule 18 Level 2 findings in HFTD and PCA
- Number of GO95 Rule 18 Level 3 findings in HFTD and PCA
- Number circuit miles inspected for vegetation compliance (PCA, HFTD)
- Aerial Flight patrols (miles, Valley, and UARP, annual reporting)
- Number of trees trimmed or removed
- Vegetation Management Quality Control for electric transmission in all UARP (Semi-annual reporting)

2. **Program targets** that outline utility progress toward the utility's own specific targets identified in their WMP

- PCA Hardening (Hardware replacement, #6CU reconductor) Status (How many locations completed each quarter)
 - Hardware Replacement
 - Number of Pole locations
 - #6CU Reconductor
 - By maps/job packages. (Issued to design & Construction as package) (semi-annual reporting)
- UARP 4kV underground conversion. Status
 - By project/Line.
 - Reach out to Jose to identify best method to track progress.
- Vegetation Management Activities
 - UARP Additional Trimming/Removing Activities (Number of trees addressed per quarter)
 - Trees worked (trimmed/removed) (El Dorado/Sac County)

- Pole Clearing Status (annual reporting)
 - Cleared by start of fire season.
3. **Outcome metrics** that track wildfire and planned de-energization related outcomes on impacted communities. Outcome metrics include leading and lagging indicators of wildfire and de-energization risk and while they describe utility risk reduction, they may be collected from a variety of sources including utilities themselves, CAL FIRE, Cal OES, and others.

(Report only for Cal Fire designated fire season, in PCA only)

- Number of Wire Downs
- Number of OH Outage Events caused by contact with animals
- Number of Outage Events caused by contact with vegetation inside of right of way
 - *Tree preventable (grew into lines, exceeded GO requirements)*
- Number of Outage Events caused by contact with vegetation outside of right of way
 - *Tree non-preventable: (Palm frond, broken tree branch blow-in or fall in, whole tree falling into lines)*
- Number of OH Outage Events due to foreign material in the line
- Number of contacts with Federal, State and local government offices (specific to wildfire or de-energization related contacts) (semi-annual reporting)
- Number of mailers sent to customers related to Wildfire Mitigation activities (semi-annual reporting)
 - Email/direct mail to MED rate customers and Senior ID customers
 - Customer Connection sent out with SMUD bills

SSS No.

DO21-001

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date

Policy, June 9, 2021

Board Meeting Date

June 17, 2021

TO		TO	
1.	Claire Rogers	6.	
2.	Scott Martin	7.	
3.	Tracy Carlson	8.	
4.	Jennifer Davidson	9.	Legal
5.	Stephen Clemons	10.	CEO & General Manager

Consent Calendar	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No If no, schedule a dry run presentation.	Budgeted	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No (If no, explain in Cost/Budgeted section.)
FROM (IPR)	DEPARTMENT				MAIL STOP	EXT.	DATE SENT		
Lora Anguay	Distribution Operations & Maintenance				EA504	5870	May 26, 2021		

NARRATIVE:

Requested Action: Accept the monitoring report for **Strategic Direction SD-4, Reliability.**

Summary: The purpose is to provide the Board with an update on SD-4, Reliability for the year 2020. The information in the monitoring report can be used by the Board to determine if any policies or metrics need to be changed or further developed.

Board Policy: SD-4, Reliability. The information in the monitoring report will provide a summary of system reliability, availability, and related activities for 2020.
(Number & Title)

Benefits: Allows the Board of Directors and Executive Staff a better understanding of the Board Policies and gives them an opportunity to make revisions if necessary.

Cost/Budgeted: N/A

Alternatives: Provide the Board written report and communications through the CEO & General Manager.

Affected Parties: Power Generation, Grid Operations

Coordination: Power Generation, Grid Operations

Presenter: Maria Veloso Koenig, Director of Grid Planning

Additional Links:

SUBJECT

Board Monitoring Report – SD-4, Reliability

ITEM NO. (FOR LEGAL USE ONLY)

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO: Board of Directors

DATE: June 1, 2021

FROM: Claire Rogers *CR 6/1/21*

**SUBJECT: Audit Report No. 28007404
Board Monitoring Report; SD-04: Reliability**

Audit and Quality Services (AQS) received the SD-04 *Reliability* 2020 Annual Board Monitoring Report and performed the following:

- A review of the information presented in the report to determine the possible existence of material misstatements;
- Interviews with report contributors and verification of the methodology used to prepare the monitoring report; and
- Validation of the reasonableness of a selection of the report's statements and assertions.

During the review, nothing came to AQS' attention that would suggest the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

CC:

Paul Lau

Board Monitoring Report 2020

SD-4 Board Strategic Direction on Reliability



1. Background

Strategic Direction SD-4 states that:

Meeting customer energy requirements is a core value of SMUD.

Therefore:

- a) SMUD will assure all customer energy requirements are met. This will be accomplished through the use of: (i) its generation resources and purchase power portfolio 100 percent of the time; and (ii) its transmission assets to assure an overall availability of at least 99.99 percent.
- b) SMUD will achieve distribution system reliability by:

Limiting the average frequency of outage per customer per year to:

With major event: 0.99 – 1.33

Excluding major event: 0.85 – 1.14

Limiting the average duration of outages per customer per year to:

With major event: 67.5 – 93.3 minutes

Excluding major event: 49.7 – 68.7 minutes

Ensuring that no individual circuits exceed these targets for more than two consecutive years. For circuits that exceed these targets for two consecutive years, a remedial action plan will be issued and completed within eighteen months.

- c) SMUD will maintain the electric system in good repair and make the necessary upgrades to maintain load serving capability and meet regulatory standards.

2. Executive Summary

Improving reliability is essential to meeting customer energy requirements and drives customer loyalty.

SMUD was in compliance for both generation and transmission availability. SMUD met all energy supply requirements 100% of the time through its generation resources and purchased power. At a peak load of 3,057 MW (which occurred on August 18), 49% of the generation was

provided by internal resources and 51% was provided by purchased power. The transmission availability was at 100% for the year.

SMUD was in compliance for both SAIDI and SAIFI for the distribution system reliability metrics in 2020. The outage mitigation and prevention plans put into place have had a significant improvement on system reliability, decreasing outage durations and frequency from the previous years. The 2020 distribution system reliability performance can be seen in Table 1 below.

Table 1: 2020 Distribution System Reliability Performance

	SD-4 Limit	2020 Results
SAIFI	1.14	0.90
SAIDI (minutes)	68.7	47.6

There were no major events in 2020. Major events are those defined as events caused by earthquake, fire, or storms of sufficient intensity which result in a state of emergency being declared by the government. Absent the declaration of a state of emergency, any other natural disaster may be excluded only if it affects more than 15% of the system facilities or 10% of the customers, whichever is less.

Of the total number of distribution circuits, 97.6%, or 737 circuits, met the Board's reliability criteria. Twenty-eight projects were issued to improve the reliability, of which eighteen have been completed. The remaining ten projects are on schedule to be completed within the eighteen-month requirement. These projects include cable replacement, line reconductor, avian mitigation, and targeted vegetation management.

3. Additional Supporting Information

Generation

Hydro Generation Facilities

The availability rate for SMUD's hydro generation system in 2020 was 80.14% and for the June 1st through September 30th peak period, hydro generation availability was 96.56%. SMUD's Upper American River Project (UARP) hydro system generated 713,823 MWh. The budgeted generation was 1,530,124 MWh.

Gas Pipeline Operations

SMUD's gas pipeline had a 100% availability rating in 2020 and provided a constant flow of gas to SMUD's thermal generation facilities. All necessary maintenance activities were successfully completed in accordance with our operations and maintenance plans and procedures.

Thermal Generation Facilities

The overall availability rate for SMUD's thermal generation facilities was 91.09% and for the June 1st through September 30th peak period, thermal plant availability was 99.26%. SMUD's thermal generation facilities generated a net total of 5,285,487 MWh against the budgeted generation of 5,427,460 MWh.

Transmission and Distribution

SMUD has approximately 484 miles of transmission lines and 10,507 miles of distribution lines including 69kV. Approximately 40% of the distribution lines are installed overhead and 60% percent are installed underground. The transmission system is predominately overhead except for 18 miles of underground lines located in the Carmichael and downtown areas.

4. Challenges

Staff monitors circuit reliability regularly to assess circuits that could potentially exceed the reliability limits. Outage causes, trends, and reliability impacts are analyzed to identify projects that will bring the reliability of these circuits within the acceptable range. This ongoing process ensures that circuit reliability impacts are identified and addressed as they occur throughout the year. The main drivers for the distribution system performance, along with the mitigation measures for each, are summarized below.

Drivers for Reliability Performance

Underground Cable Failures

In 2020, underground cable failures were the leading driver toward reliability impact. The number of outages due to cable failure increased by 15.6% compared to 2019. SAIDI and SAIFI values rose by 29% and 79% respectively. The main drivers for the increased cable failures are due to the 120,000 circuit feet replacement quantity reduction in 2019 from the planned 370,000 circuit feet to 250,000 circuit feet. Additionally, unforeseen failures on the 69kV system had a significant impact to SAIDI and SAIFI as well.

It is anticipated that the failure quantity and SAIDI/SAIFI will decrease in 2021 compared to 2020 due to the increased cable replacement quantities in 2020 and 2021. Additionally, two 69kV cable replacement projects are anticipated to be completed in 2021, which will significantly improve future SAIDI/SAIFI reliability indices. Furthermore, SMUD is testing and monitoring the remaining direct-buried 69kV circuits for any deterioration to proactively address potential issues.

Vehicle Accidents

Vehicle accidents were among the leading drivers toward reliability impact in 2020. Overall we saw a 2% decrease in the number of vehicle accidents, a slight increase in SAIDI minutes and

29% decrease in SAIFI for 2020 when comparing with 2019. Although the reliability statistics for vehicle accidents have improved since 2019, they still comprise 23% of SAIDI minutes and 20% of SAIFI for 2020.

In 2020, SMUD installed new visibility strips on 108 poles, and relocated 2 poles based on the analysis of car-pole incidents that identified assets that have been impacted multiple times. Furthermore, staff assess ongoing car-pole incidents and develop appropriate mitigation. In 2021, SMUD plans to install pole barrier systems at 2 pole locations, new visibility strips on 400 poles, and to relocate 5 poles.

Equipment Failures

The second most impactful reliability driver for 2020 was equipment failure. Equipment related outages are associated with a wide variety of distribution line components, such as fuses, poles, wire hardware, broken connectors, broken jumpers, failed transformers, broken cutouts and more. Outages due to failed equipment continue to be evaluated to locate and address any systemic deficiencies.

Although failed equipment was one of the leading causes of outage events for 2020, the overall number of outages decreased by 158 or 24% while SAIDI and SAIFI decreased by 41% and 39% respectively for 2020 when compared to 2019. This improvement in reliability can be attributed to the reduction in 69 kV equipment failures in 2020. There were 6-69kV equipment failures in 2019 with a combined SAIDI of 2.6 minutes and SAIFI of 0.03. The largest outage was caused by a broken jumper on Elk Grove Feeder 3, a 69 kV line affecting more than 18,000 customers, with a SAIDI of 2.5 minutes and SAIFI of 0.03. This single outage was contributing to 94% of SAIDI and 88% of SAIFI for 69kV equipment failures in 2019. Contrarily, there was only 1-69 kV equipment failure in 2020 where an insulator failed at Hurley Feeder 6 with a SAIDI of 0.09 minutes and SAIFI of 0.002 affecting 1,562 customers.

Correcting deficiencies on the 69kV system has a large reliability impact because 69kV circuits affect a larger number of customers than lower voltage distribution circuits. Staff is actively looking for ways to reduce equipment failures. Staff reviews outage reports for accuracy and failure trends. Through routine inspections, Inspectors and Troubleshooters try to identify deficiencies before they result in failure.

Unknown Outages

Unknown outages comprised approximately 16% of outages in 2020. This category saw a decrease of 21% in the amount of outages and 44% in SAIDI minutes. Contrarily, SAIFI increased 9% for 2020. During an outage, a Troubleshooter is dispatched to patrol the lines to determine the cause of the outage. An outage is classified as “Unknown” if the Troubleshooter cannot find the specific cause. Although direct evidence is not found, the most likely cause of these outages is flashover between phase conductors during windy conditions, from bird, or animal contact.

Line reframing addresses outages caused by high winds, birds and animals. The overhead lines are reconstructed with increased spacing between phases, reducing the possibility of flashover between phase conductors.

The avian protection program addresses bird caused outages by installing bird diverters, spike strips, and insulated covers on energized equipment. Bird diverters are a visual aid to help birds avoid our overhead lines and spike strips installed on cross arms discourage birds from landing on our facilities. Covers are installed on exposed conductors, cutouts, and transformer bushings to keep birds and animals insulated from energized equipment.

- 5. Recommendation:** It is recommended that the Board accept the Monitoring Report for SD-4 Reliability.

6. Appendices

Appendix 1: Generation Supplementary Information

Major hydro generation maintenance and construction activities include:

- Loon Lake powerhouse chiller replacement
- Loon Lake powerhouse machine hall mesh installation to protect against rockfall
- White Rock tunnel rock bolt augmentation and shotcrete completion
- Chili Bar Powerhouse preparation for purchase from PG&E
- Camino unit 1 generator rewind study
- Camino tunnel rock trap inspection and repair
- Camino surge basin road repair to Brush Creek
- Camino unit 1 circuit breaker replacement
- Robbs peak tunnel rock trap inspection and repair
- Robbs Forebay dredging and trash rack repairs
- Fresh Pond HVAC system controls modernization
- Sourdough Hill telecommunications tower replacement foundation installation
- Union Valley and Ice House gates analysis, dam safety inspections and responses to FERC part 12D assessments
- Transformer dissolved gas analysis instrumentation and bushing monitoring installations at White Rock unit 2, Loon Lake, Jaybird unit 2 and Camino unit 2
- Powerhouse instrumentation intelligence upgrades engineering design
- White Rock phase unit 2 circuit breakers and disconnect switches replacement
- White Rock pressure relief valve and servomotor refurbishment
- White Rock unit 1 controls upgrade
- Generator partial discharge monitoring system installations at Jaybird unit 2 and Robbs Peak
- Powerhouse and switchyard grounding studies for Camino, Jaybird, Union Valley and Loon Lake
- 4kV power system undergrounding

Gas Pipeline Operations Capital improvements and major maintenance activities include:

- Interconnection to Procter & Gamble and Air Products manufacturing sites to facilitate PG&E natural gas transmission to their customers.
- Installation of a bracketed pipe support at the Winters station to replace a concrete pipe support to reduce corrosion potential and facilitate future inspections.
- Purchase of mainline valves 8, 10 and CPP actuators for 2021 installation
- Cathodic protection station installation at 47th Avenue
- Cathodic protection station installation and AC mitigation at 28th Street
- Valve station safety assessments

Thermal Generation Facilities Major thermal generation maintenance and construction activities completed include:

Central Valley Financing Authority (CVFA; Carson Cogen):

- Auxiliary Boiler Vent Valve Automation completed
- Distributed control system (DCS) upgrade engineering design and procurement activities completed; installation of DCS upgrade deferred to 2021 due to pandemic

Sacramento Cogeneration Authority (SCA; Procter & Gamble Cogen):

- Completed Transformer Upgrade

Sacramento Power Authority (SPA; Campbell Cogen):

- Completed alternative fire water pump installation to allow for intake of Sacramento County recycled water (Shared costs with Regional Sanitation District and City of Sacramento)

Sacramento Financing Authority (SFA; Cosumnes Power Plant):

- Zero liquid discharge evaporator replacement completed
- Distributed control system upgrade completed
- Boiler feed pump system 1 feedwater fiber at heat recovery steam generator replacement was deferred due to pandemic

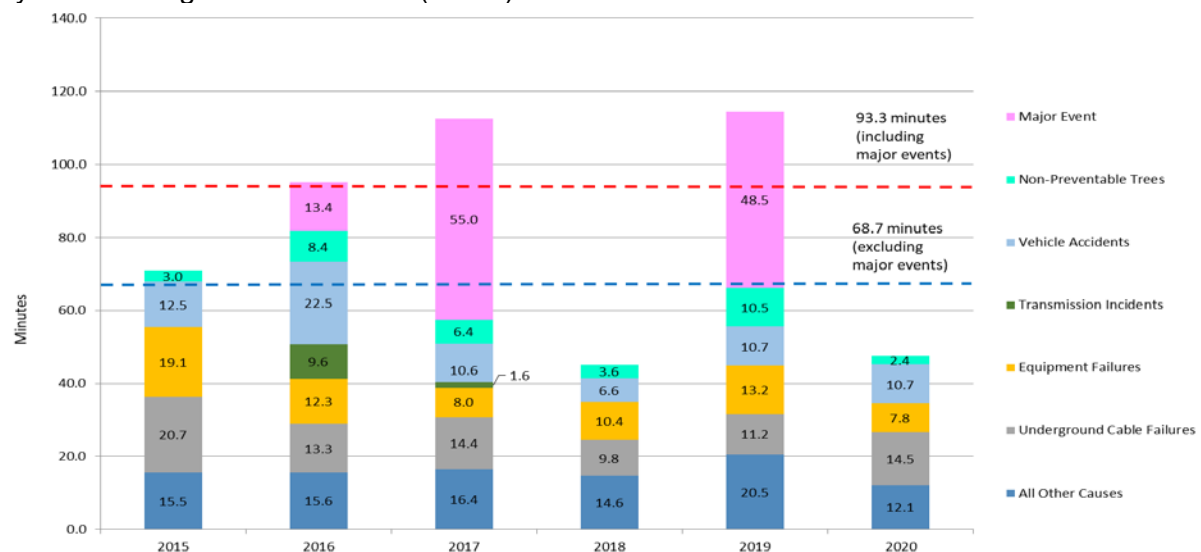
Appendix 2: Graphs

The graphs below show a decreasing trend in the SAIDI and SAIFI impact of vehicle accidents, tree outages, and bulk substation incidents from 2016 to 2018. There was an increase in these outage causes in 2019 followed by a drop in 2020. Underground cable failure SAIDI and SAIFI impact has been rising from 2018 to 2020. Contrarily, equipment failures and their SAIDI and SAIFI impacts increased slightly in 2019 and fell in 2020.

Graph 1: Multi-Year Comparison
System Average Frequency Index (SAIFI)



Graph 2: Multi-Year Comparison
System Average Duration Index (SAIDI)



Appendix 3: Reliability Comparison

Table 2 below provides a comparison between SMUD's average distribution system performance compared to that of Pacific Gas and Electric's (PG&E)'s distribution systems. PG&E defines its distribution system as line voltage less than 60kV, while SMUD includes the 69kV line voltage as part of the distribution system. The information regarding PG&E's system average performance was obtained from the 2019 reliability report posted on the California Public Utilities Commission (CPUC) website. PG&E's 2020 Reliability Report has not been posted on the CPUC website.

Table 2: Distribution System Reliability Comparison (excluding major events)

Year	SAIDI (minutes)		SAIFI	
	SMUD	PG&E	SMUD	PG&E
2016	80.3	83.1	1.36	0.82
2017	58.0	90.0	1.10	0.79
2018	44.7	90.7	0.80	0.84
2019	66.0	102.9	1.04	0.88
2020	47.6	N/A	0.90	N/A
Notes: 1. Listed SAIFI and SAIDI numbers are based on outages greater than 5 minutes (CPUC criteria).				

Appendix 4: Year-to-Date 2021 Reliability Update

Table 3: 2021 Year-to-Date Distribution System Reliability Performance

	Excluding Major Events			Including Major Events		
	SD-4 Limit	Jan.1 – March 31, 2021	2021 YE Projection	SD-4 Limit	Jan.1 – March 31, 2021	2021 YE Projection
SAIFI	1.14	0.30	1.06	1.33	0.69	1.46
SAIDI (minutes)	68.7	12.4	55.8	93.3	170.8	214.2

The reliability index for underground cable failures decreased from 2020 to 2021, SAIFI from 0.04 to 0.02 and SAIDI from 1.9 to 1.3 minutes. The reliability index for vehicle accidents almost tripled in terms of SAIFI from 0.04 to 0.11. SAIDI for vehicle accidents increased significantly from the first quarter of 2020 (3.1 minutes) to the first quarter of 2021 (5.2 minutes). The reliability indices for failed equipment increased greatly for 2021 with SAIFI from increasing from 0.01 to 0.06 and SAIDI increasing from 0.5 minutes to 2.3 minutes. The reliability indices for tree-related outages are almost the same for 2021 SAIFI at 0.01, and a SAIDI decrease from 0.6 to 0.5 minutes.

SSS No. LEG 2021-0057

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date
Policy – 06/09/21Board Meeting Date
June 17, 2021

TO					TO					
1.	Jon Olson				6.					
2.	Scott Martin				7.					
3.	Jennifer Davidson				8.					
4.	Stephen Clemons				9.	Legal				
5.					10.	CEO & General Manager				
Consent Calendar		<input checked="" type="checkbox"/>	Yes	No <i>If no, schedule a dry run presentation.</i>		Budgeted	<input checked="" type="checkbox"/>	Yes	No <i>(If no, explain in Cost/Budgeted section.)</i>	
FROM (IPR) Andrew Meditz				DEPARTMENT Office of the General Counsel				MAIL STOP B406	EXT. 6124	DATE SENT 05/28/21
NARRATIVE:										
<p>Requested Action: a) Discuss proposed revisions to Board-Staff Linkage BL-12, Delegation to the General Manager for Transmission, Wholesale Electricity and Natural Gas Transactions.</p> <p>b) Discuss proposed revisions to the Energy Risk Management and Energy Trading Standards.</p> <p>Summary: At the October 20, 2020, Energy Resources & Customer Services Committee, the Board asked staff to provide proposed revisions to Board-Staff Linkage BL-12, Delegation to the General Manager for Transmission, Wholesale Electricity and Natural Gas Transactions (BL-12) to incorporate renewable fuels and to ensure that the language is broad enough to incorporate new fuels or products.</p> <p>Staff has made clarifying proposed revisions to BL-12. Staff has also reviewed and provided proposed edits to the Energy Risk Management and Energy Trading Standards. Copies of the proposed revisions of both documents in redline format and “clean” format are attached.</p> <p>Board Policy: Governance Process GP-3, Board Job Description – a) Produce and maintain written policies that ensure high quality of governance and clear roles in decision-making between Board and staff. <i>(Number & Title)</i></p> <p>Benefits: Clarifies delegations to the Chief Executive Officer and General Manager and provides the Board the opportunity to make corrections, additions, or changes if necessary.</p> <p>Cost/Budgeted: N/A</p> <p>Alternatives: Do not make the proposed revisions or make other changes.</p> <p>Affected Parties: Board Office, Legal, Energy Trading & Contracts, Risk Management</p> <p>Coordination: Board Office, Legal, Energy Trading & Contracts, Risk Management</p> <p>Presenter: Russell Mills, Treasurer and Director of Risk Management</p>										
Additional Links:										
SUBJECT Proposed Revisions to Board-Staff Linkage BL-12, Delegation to the General Manager for Transmission, Wholesale Electricity and Natural Gas Transactions								ITEM NO. <i>(FOR LEGAL USE ONLY)</i>		

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

SMUD BOARD POLICYCategory: **Board-Staff Linkage**Title: **Delegation To to The the Chief
Executive Officer/General
Manager for with Respect to
Transactions Involving
Transmission, and Wholesale
Energy, Fuel, and
Environmental
Attributes Electricity and Natural
Gas Transactions**Policy Number: **BL-12**Date of Adoption: **February 18, 2010**Resolution No. **10-02-12**Revision: **August 4, 2011**Resolution No. **11-08-04**Revision: **August 21, 2014**Resolution No. **14-08-03**Revision: **June 17, 2021**Resolution No. **21-06-XX**

As part of prudently managing energy related risks, providing retail rate stability and serving customers, SMUD is required to enter into: (i) contracts to purchase and sell wholesale electricity, electric capacity and storage, and natural gas and clean and emissions-free fuel, and environmental attributes; (ii) contracts for transmission, natural gas fuel transportation and natural gas fuel storage; and (iii) contracts to financially hedge or mitigate pricing, supply and market risks associated with the transactions above ~~wholesale electricity and natural gas prices, supplies and markets.~~

Delegation of Authority: The Chief Executive Officer/General Manager is delegated decision making authority consistent with the Energy Risk Management and Energy Trading Standards adopted by this Board.

Monitoring Method: GM Report
Frequency: Annual

SMUD BOARD POLICY	
Category: Board-Staff Linkage	Title: Delegation to the Chief Executive Officer/General Manager with Respect to Transactions Involving Transmission and Wholesale Energy, Fuel, and Environmental Attributes
	Policy Number: BL-12
Date of Adoption: February 18, 2010	Resolution No. 10-02-12
Revision: August 4, 2011	Resolution No. 11-08-04
Revision: August 21, 2014	Resolution No. 14-08-03
Revision: June 17, 2021	Resolution No. 21-06-XX

As part of prudently managing energy related risks, providing retail rate stability and serving customers, SMUD is required to enter into: (i) contracts to purchase and sell wholesale electricity, electric capacity and storage, natural gas and clean and emissions-free fuel, and environmental attributes; (ii) contracts for transmission, fuel transportation and fuel storage; and (iii) contracts to financially hedge or mitigate pricing, supply and market risks associated with the transactions above.

Delegation of Authority: The Chief Executive Officer/General Manager is delegated decision making authority consistent with the Energy Risk Management and Energy Trading Standards adopted by this Board.

Monitoring Method: GM Report
Frequency: Annual

ENERGY RISK MANAGEMENT AND ENERGY TRADING STANDARDS SACRAMENTO MUNICIPAL UTILITY DISTRICT

PURPOSE

The wholesale energy markets are exposed to numerous risks including, but not limited to, market price risk, supply risk, credit risk and regulatory risk. The purpose of the Energy Risk Management and Energy Trading Standards (the “Standards”) is to establish protocols for prudent risk mitigation and management.

SCOPE

The Standards apply to:

- The operation of SMUD-owned or controlled generation, transmission, natural gas and other fuel reserves and ~~natural gas~~ pipeline assets;
- Contracts for and related to the purchase and sale of wholesale electricity, electric capacity and storage, ~~and~~ natural gas and clean and emissions-free fuel, and environmental products;
- Contracts for and related to ~~electricity~~ transmission, natural gas and clean or emissions-free fuel transportation, ~~and natural gas~~ storage; and
- Contracts for and related to financially hedging or mitigating risks associated with wholesale electricity, electric capacity and ~~natural gas~~ natural gas and other fuel prices, supplies and markets.

PRIORITIES

The ~~Chief Executive Officer~~/General Manager (CEO/GM) ~~and CEO~~ implement the Standards in accordance with Board policies and with the following priorities, listed in order of importance:

Priority 1. Manage resource mix to comply with Board Strategic Direction (SD-4) Reliability.

Priority 2. Minimize net commodity energy purchase costs while operating within the targets established in Board Strategic Direction (SD-3) Access to Credit Markets.

Priority 3. Optimize SMUD-owned or controlled assets, including but not limited to, generation, transmission, fuel ~~natural gas~~ reserves, ~~natural gas~~ pipeline assets, ~~natural~~

~~gas-fuel~~ storage and contract resources to create additional value for SMUD and its customers, while complying with Board policies and all applicable laws and regulations.

Priority 4. Provide our customers and community with a sustainable power supply in accordance with Board Strategic Direction (SD-9) Resource Planning.

DIVERSIFICATION AND PORTFOLIO MIX

SMUD will maintain a diverse portfolio of generation, transmission, ~~natural gas~~~~fuel-~~ related assets and contracts to reasonably mitigate risk and to support its clean energy goals.—Risks associated with wholesale ~~electricity and natural gas~~ contracts will be mitigated through diversified terms and conditions, contract periods and durations, delivery points, counter-parties, and product types.

PORTFOLIO RISK MANAGEMENT PROCEDURES

The ~~General Manager and~~ CEO/GM will develop and maintain written procedures to implement the Standards and will ensure that appropriate internal controls and limits are in place to ensure compliance with Board policies, the Standards and applicable laws and regulations. Consistent with Board policies and ~~the~~ is Standards, the ~~General Manager and~~ CEO/GM will analyze and implement risk mitigation measures, as appropriate. For illustrative purposes, examples of identified risks and risk mitigation tools are as follows:

<u>Risks</u>	<u>Risk Description</u>	<u>Risk Identification/Mitigation Tools</u>
Market Price Risk	The risk that the absolute price of a given commodity (power, gas) will fluctuate, thereby exposing the District to potential financial losses.	<ul style="list-style-type: none">• Market and volatility analysis• Forward price curve development• Net position and financial exposure analysis• Mark-to-market analysis• Net income-at-risk analysis• Diversification of product purchases• Dollar-average over time by programmatic purchases
Weather/Volumetric Risk	The potential adverse economic impact of anticipated changes in supply and/or demand. For example, the risk of having less than average generation from SMUD's <u>the District's</u> hydro	<ul style="list-style-type: none">• Frequent snow surveys• Runoff forecast update• Diversification of volumetric hedging programs• Temperature vs. load analysis• <u>Frequent</u> hydro spill risk assessment

<u>Risks</u>	<u>Risk Description</u>	<u>Risk Identification/Mitigation Tools</u>
	project due to a drier than normal year, or less than anticipated retail sales due to a cooler than normal summer.	<ul style="list-style-type: none"> • <u>Maintain Hydro Stabilization Fund</u> • Diversification of product purchases
Credit/Counter-party Risk	The potential financial loss resulting from a counter-party's failure to honor its obligations, including the obligation to settle on a timely basis. For example, a bankrupt counter-party may force <u>SMUD</u> the District to cover the contracted obligation from the market at a higher price than originally contracted.	<ul style="list-style-type: none"> • Credit Analysis • Credit Limits • Minimum rating levels • Diversification of counter-parties • Guarantees and financial assurances • Netting Agreements
<u>Supply</u> /Delivery Risk	The risk of loss due to non-delivery of power and/or fuel <u>natural gas</u> ; which could decrease <u>SMUD's</u> the District's system reliability and/or increase financial exposure.	<ul style="list-style-type: none"> • Diversification of delivery points • Retain delivery point flexibility/optionality when practicable • Transmission and pipeline capacity outage duration risk analysis • Natural gas <u>and other fuel</u> storage
Unplanned Outage Risk	The risk of under-supply due to unexpected plant outages, which may increase <u>SMUD's</u> the District's system reliability and/or financial exposure.	<ul style="list-style-type: none"> • Historical plant performance risk analysis • Plant Outage Insurance • Planning and Operating Reserve Analysis • 24-hour trading desk to balance system needs on real-time basis
Operational/Human Risk	The risk of human error or fraud, or the risk that the system of controls will fail	<ul style="list-style-type: none"> • Develop written trading rules and limits

<u>Risks</u>	<u>Risk Description</u>	<u>Risk Identification/Mitigation Tools</u>
	to adequately record, monitor, and account for transactions or positions.	<ul style="list-style-type: none"> • Establish procedures and standards • Establish system of controls for transaction approval, scheduling and payment • Minimize manual hand-off and multiple input of transaction information • Standardize software applications as appropriate • Implement cross-functional training • Implement structured area expertise training • Conduct periodic audits
Regulatory Risk	Market structure and operational risks associated with shifting state and federal regulatory policies, rules and regulations.	<ul style="list-style-type: none"> • Analysis of regulatory, regional and industry trends • Participation in regulatory forums
Extreme Event Risk	The potential financial risk and or reliability risk created by extreme events such as the 2000-2001 energy crisis <u>and the summer 2020 western heat wave</u> .	<ul style="list-style-type: none"> • Portfolio stress testing • Scenario/sensitivity analysis • Maintain Rate Stabilization Fund
Legislative Risk	Risks associated with actions by international, federal and state legislative bodies.	<ul style="list-style-type: none"> • Legislative analysis and monitor industry wide initiatives • Advocacy of issues consistent with Board established policies.

PROHIBITED TRANSACTIONS

SMUD will not engage in the following prohibited transactions:

- Any transaction that is not related to serving load and/or reducing financial exposure;
- Sale of any **uncovered** financial “Put” and/or “Call” options on electric energy, gas, electric transmission or gas pipeline capacity;
- Sale of any other **uncovered** Financial Options;
- Unless adequate credit support is provided, transactions with any counter-party of: (i) longer than one year in duration, with a credit rating less than investment grade; or (ii) one year or less in duration, with a credit rating less than the Standard and Poors equivalent of BB, except for the following transactions with counter-parties having a credit rating equivalent to Standard and Poors B: (a) purchases which are within the next seven days; and (b) sales which are within the current calendar month that do not present at anytime, payment risk to SMUD (i.e., no associated receivable after exercising netting rights which apply offsetting purchases; this transaction restriction does not apply to sales of ancillary services to the California Independent System Operator;
- Any deceptive transactions, including but not limited to transactions that: (i) are intended to manipulate the market; (ii) circumvent market rules; (iii) manipulate market prices; or (iv) inflate volumes traded or available in any region or market; or
- Any transactions prohibited by federal and/or state laws and regulations.

AUTHORIZED TRANSACTIONS

Any transaction or contract entered into by the ~~General Manager and~~ CEO/GM that is consistent with the Standards and the Delegation of Authority will be deemed authorized and approved by the Board at the time of execution by the ~~General Manager and~~ CEO/GM or his/her designee.

DELEGATION OF AUTHORITY

Consistent with the Board policies and the Standards, the ~~General Manager and~~ CEO/GM or his/her designee is delegated the following authority:

Section 1. Transactional Authority. To negotiate and execute on behalf of SMUD the types of contracts and transactions listed below, provided that: (i) such agreement(s) do not have a term greater than three (3) years, as measured from the commencement of performance by either party (e.g., the first date of delivery of electricity, transmission capacity, ~~fuel, or natural gas or natural gas~~ pipeline capacity); (ii) the ~~commencement of performance is no longer than three (3) termination date of the agreement(s) is no longer than five (5)~~ years from the date of execution; and (iii) the

prices paid under such agreements are at or below prevailing market rates for similar products at the time the contract is made.

- * Purchases, sales and exchanges of electricity, electric capacity and storage, and natural gas and clean and emissions-free fuel commodity.
- * Purchases and sales of transmission capacity.
- * Purchase and sales of ancillary services including, but not limited to, spinning reserve, non-spinning reserve, and regulation.
- * Purchase of put and/or call options for electricity and natural gas commodity.
- * Purchase and sale of natural gas and other fuel pipeline capacity.
- * Purchase and sale of natural gas and other fuel -storage capacity.
- * Sales of covered call and put options.
- * Purchase and sale of Renewable Energy Credits evidencing the renewable attribute associated with Renewable Energy.
- * Contracts for financial fixed-for-floating or floating-for-fixed price swaps, options and other financially settled energy derivative transactions for purposes of hedging and/or mitigating the price risk of: (i) an underlying physical position in electricity, natural gas or other energy used for the production of District electricity matching a retail load obligation; or (ii) embedded in the pricing formula of a Power Purchase and Sale Agreement; or (iii) for purposes of hedging against the potential financial impact of unpredictable weather conditions, such as heat storms in the District's service territory and/or below average precipitation in the District's Upper American River Project.
- * Purchases and sale of carbon allowances, offsets, and other GHG related products, including both physical and financial transactions.
- * Purchase and sale of low carbon fuel standard credits.

Section 2. Long-term Natural-GasFuel and Power Transactional Authority. To negotiate and execute on behalf of SMUD long-term natural gas -clean and emissions-free fuel, and power supply agreements to purchase discounted tax-exempt natural gasfuel and power subject to the following parameters: (i) total purchases from all suppliers shall not exceed 80,000 average dekatherms per day for fuel and 500,000 MWh annually for power; (ii) supplier diversification under this authority shall be maintained by requiring no single supplier provides more than 30,000 average dekatherms per day for fuel or 200,000 MWh annually for power; (iii) contract durations

shall not exceed thirty years; (iv) prices paid to suppliers must have expected market discounts at least 75 percent as great as otherwise achievable from a SMUD-sponsored pre-paid transaction; and (v) suppliers must have a proven track record in successfully executing similar transactions.

Section 3. Ancillary Services Transactional Authority. Notwithstanding the credit support restrictions set forth in “Prohibited Transactions,” to make sales of ancillary services to the California Independent System Operator.

Section 4. Enabling Agreement Authority. To negotiate and execute on behalf of SMUD enabling agreements, irrespective of term, including but not limited to the agreements sponsored by the Western Systems Power Pool (“WSPP”), Edison Electric Institute (“EII”), North America Energy Standards Board (“NAESB”), Gas Industry Standards Board (“GISB”), International Swap Dealers Association (“ISDA”) and other prevailing industry form agreements for purposes of facilitating the negotiation of future transactions specified in Section 1, above. An Enabling Agreement does not commit SMUD to any specific transaction; rather it is an agreement setting forth standard terms and conditions (other than terms and conditions for transaction specific agreements, such as, price, quantity, term and delivery point), which will apply to future transactions entered into under the respective Enabling Agreement. All transactions entered into under any Enabling Agreement will be subject to the limits set forth in Section 1, above.

Section 5. Tariff Related Agreement Authority. To negotiate and execute on behalf of SMUD transmission, facilities, distribution, generator and scheduling agreements, irrespective of term, pursuant to approved tariffs.

Section 6. Transmission Planning Agreement Authority. To negotiate and execute on behalf of SMUD agreements intended to facilitate regional transmission planning, irrespective of term; provided the agreement does not commit SMUD to the development, support for or funding of any particular transmission project or projects.

Section 7. GHG Market-Based Compliance Program Related Authority. To transact in, and to negotiate and execute on behalf of SMUD all agreements necessary to participate in, the auctions administered by the California Air Resources Board or successor entity as part of California’s greenhouse gas market-based compliance program.

Section 8. Advance Funding Authority. To negotiate and execute on behalf of SMUD revisions to Exhibit C of the Agreement for the Funding of Operation and Maintenance for the Central Valley Project Power Facilities for the purposes of establishing SMUD’s advance funding contribution to the Western Area Power Administration (Western) in an amount no greater than the estimated annual power deliveries from Western.

Section 9. Purchase, Sale, or Exchange of Air Emission Reduction Credits (ERCs). To negotiate and execute on behalf of SMUD agreements for the:

- i) Purchase of ERCs (a) that are needed or anticipated to be needed for SMUD operations; (b) that are priced at or below fair market value and (c) that do not exceed \$~~105~~ million.
- ii) Sale of ERCs that are (a) are surplus to SMUD's actual or anticipated needs; (b) are for use within the SMUD service territory; (c) are priced at or above fair market value; and (d) do not exceed \$~~10050~~,000.
- iii) Exchange of ERCs that (a) provide present or future operational flexibility; (b) are of equal or superior quality and value; and (c) do not exceed a fair market value of \$~~10050~~,000.

REPORTING

The ~~General Manager and~~ CEO/GM will report to the Board of Directors as follows:

Annually - Submit a five (5) year commodity budget forecast report.

Monthly - Submit a report to include: (i) a current year commodity budget update; and (ii) a current and next year commodity financial exposure update.

Monthly – Report on any new multi-year contracts entered into under the Delegation of Authority for ~~w~~Wholesale energy, fuel and environmental product attribute transactions and contracts. ~~Electricity and Natural Gas Related Transactions and Contracts.~~

**ENERGY RISK MANAGEMENT AND ENERGY TRADING STANDARDS
SACRAMENTO MUNICIPAL UTILITY DISTRICT**

PURPOSE

The wholesale energy markets are exposed to numerous risks including, but not limited to, market price risk, supply risk, credit risk and regulatory risk. The purpose of the Energy Risk Management and Energy Trading Standards (the “Standards”) is to establish protocols for prudent risk mitigation and management.

SCOPE

The Standards apply to:

- The operation of SMUD-owned or controlled generation, transmission, natural gas and other fuel reserves and pipeline assets;
- Contracts for and related to the purchase and sale of wholesale electricity, electric capacity and storage, natural gas and clean and emissions-free fuel, and environmental products;
- Contracts for and related to transmission, natural gas and clean or emissions-free fuel transportation, and storage; and
- Contracts for and related to financially hedging or mitigating risks associated with wholesale electricity, electric capacity and natural gas and other fuel prices, supplies and markets.

PRIORITIES

The Chief Executive Officer/General Manager (CEO/GM) implement the Standards in accordance with Board policies and with the following priorities, listed in order of importance:

Priority 1. Manage resource mix to comply with Board Strategic Direction (SD-4) Reliability.

Priority 2. Minimize net commodity energy purchase costs while operating within the targets established in Board Strategic Direction (SD-3) Access to Credit Markets.

Priority 3. Optimize SMUD-owned or controlled assets, including but not limited to, generation, transmission, fuel reserves, pipeline assets, fuel storage and contract resources to create additional value for SMUD and its customers, while complying with Board policies and all applicable laws and regulations.

Priority 4. Provide our customers and community with a sustainable power supply in accordance with Board Strategic Direction (SD-9) Resource Planning.

DIVERSIFICATION AND PORTFOLIO MIX

SMUD will maintain a diverse portfolio of generation, transmission, fuel-related assets and contracts to reasonably mitigate risk and to support its clean energy goals. Risks associated with wholesale contracts will be mitigated through diversified terms and conditions, contract periods and durations, delivery points, counter-parties, and product types.

PORTFOLIO RISK MANAGEMENT PROCEDURES

The CEO/GM will develop and maintain written procedures to implement the Standards and will ensure that appropriate internal controls and limits are in place to ensure compliance with Board policies, the Standards and applicable laws and regulations. Consistent with Board policies and the Standards, the CEO/GM will analyze and implement risk mitigation measures, as appropriate. For illustrative purposes, examples of identified risks and risk mitigation tools are as follows:

<u>Risks</u>	<u>Risk Description</u>	<u>Risk Identification/Mitigation Tools</u>
Market Price Risk	The risk that the absolute price of a given commodity (power, gas) will fluctuate, thereby exposing the District to potential financial losses.	<ul style="list-style-type: none"> • Market and volatility analysis • Forward price curve development • Net position and financial exposure analysis • Mark-to-market analysis • Net income-at-risk analysis • Diversification of product purchases • Dollar-average over time by programmatic purchases
Weather/Volumetric Risk	The potential adverse economic impact of anticipated changes in supply and/or demand. For example, the risk of having less than average generation from SMUD's hydro project due to a drier than normal year, or less than anticipated retail sales due to a cooler than normal summer.	<ul style="list-style-type: none"> • Frequent snow surveys • Runoff forecast update • Diversification of volumetric hedging programs • Temperature vs. load analysis • Frequent hydro spill risk assessment • Maintain Hydro Stabilization Fund • Diversification of product purchases

<u>Risks</u>	<u>Risk Description</u>	<u>Risk Identification/Mitigation Tools</u>
Credit/Counter-party Risk	The potential financial loss resulting from a counter-party's failure to honor its obligations, including the obligation to settle on a timely basis. For example, a bankrupt counter-party may force SMUD to cover the contracted obligation from the market at a higher price than originally contracted.	<ul style="list-style-type: none">• Credit Analysis• Credit Limits• Minimum rating levels• Diversification of counter-parties• Guarantees and financial assurances• Netting Agreements
Supply/Delivery Risk	The risk of loss due to non-delivery of power and/or fuel; which could decrease SMUD's system reliability and/or increase financial exposure.	<ul style="list-style-type: none">• Diversification of delivery points• Retain delivery point flexibility/optionality when practicable• Transmission and pipeline capacity outage duration risk analysis• Natural gas and other fuel storage
Unplanned Outage Risk	The risk of under-supply due to unexpected plant outages, which may increase SMUD's system reliability and/or financial exposure.	<ul style="list-style-type: none">• Historical plant performance risk analysis• Plant Outage Insurance• Planning and Operating Reserve Analysis• 24-hour trading desk to balance system needs on real-time basis

<u>Risks</u>	<u>Risk Description</u>	<u>Risk Identification/Mitigation Tools</u>
Operational/Human Risk	The risk of human error or fraud, or the risk that the system of controls will fail to adequately record, monitor, and account for transactions or positions.	<ul style="list-style-type: none">• Develop written trading rules and limits• Establish procedures and standards• Establish system of controls for transaction approval, scheduling and payment• Minimize manual hand-off and multiple input of transaction information• Standardize software applications as appropriate• Implement cross-functional training• Implement structured area expertise training• Conduct periodic audits
Regulatory Risk	Market structure and operational risks associated with shifting state and federal regulatory policies, rules and regulations.	<ul style="list-style-type: none">• Analysis of regulatory, regional and industry trends• Participation in regulatory forums
Extreme Event Risk	The potential financial risk and or reliability risk created by extreme events such as the 2000-2001 energy crisis and the summer 2020 western heat wave.	<ul style="list-style-type: none">• Portfolio stress testing• Scenario/sensitivity analysis• Maintain Rate Stabilization Fund
Legislative Risk	Risks associated with actions by international, federal and state legislative bodies.	<ul style="list-style-type: none">• Legislative analysis and monitor industry wide initiatives• Advocacy of issues consistent with Board established policies.

PROHIBITED TRANSACTIONS

SMUD will not engage in the following prohibited transactions:

- Any transaction that is not related to serving load and/or reducing financial exposure;
- Sale of any **uncovered** financial “Put” and/or “Call” options on electric energy, gas, electric transmission or gas pipeline capacity;
- Sale of any other **uncovered** Financial Options;
- Unless adequate credit support is provided, transactions with any counter-party of: (i) longer than one year in duration, with a credit rating less than investment grade; or (ii) one year or less in duration, with a credit rating less than the Standard and Poors equivalent of BB, except for the following transactions with counter-parties having a credit rating equivalent to Standard and Poors B: (a) purchases which are within the next seven days; and (b) sales which are within the current calendar month that do not present at anytime, payment risk to SMUD (i.e., no associated receivable after exercising netting rights which apply offsetting purchases; this transaction restriction does not apply to sales of ancillary services to the California Independent System Operator;
- Any deceptive transactions, including but not limited to transactions that: (i) are intended to manipulate the market; (ii) circumvent market rules; (iii) manipulate market prices; or (iv) inflate volumes traded or available in any region or market; or
- Any transactions prohibited by federal and/or state laws and regulations.

AUTHORIZED TRANSACTIONS

Any transaction or contract entered into by the CEO/GM that is consistent with the Standards and the Delegation of Authority will be deemed authorized and approved by the Board at the time of execution by the CEO/GM or his/her designee.

DELEGATION OF AUTHORITY

Consistent with the Board policies and the Standards, the CEO/GM or his/her designee is delegated the following authority:

Section 1. Transactional Authority. To negotiate and execute on behalf of SMUD the types of contracts and transactions listed below, provided that: (i) such agreement(s) do not have a term greater than three (3) years, as measured from the commencement of performance by either party (e.g., the first date of delivery of

electricity, transmission capacity, fuel, or pipeline capacity); (ii) the commencement of performance is no longer than three (3) years from the date of execution; and (iii) the prices paid under such agreements are at or below prevailing market rates for similar products at the time the contract is made.

- * Purchases, sales and exchanges of electricity, electric capacity and storage, natural gas and clean and emissions-free fuel commodity.
- * Purchases and sales of transmission capacity.
- * Purchase and sales of ancillary services including, but not limited to, spinning reserve, non-spinning reserve, and regulation.
- * Purchase of put and/or call options for electricity and natural gas commodity.
- * Purchase and sale of natural gas and other fuel pipeline capacity.
- * Purchase and sale of natural gas and other fuel storage capacity.
- * Sales of covered call and put options.
- * Purchase and sale of Renewable Energy Credits evidencing the renewable attribute associated with Renewable Energy.
- * Contracts for financial fixed-for-floating or floating-for-fixed price swaps, options and other financially settled energy derivative transactions for purposes of hedging and/or mitigating the price risk of: (i) an underlying physical position in electricity, natural gas or other energy used for the production of District electricity matching a retail load obligation; or (ii) embedded in the pricing formula of a Power Purchase and Sale Agreement; or (iii) for purposes of hedging against the potential financial impact of unpredictable weather conditions, such as heat storms in the District's service territory and/or below average precipitation in the District's Upper American River Project.
- * Purchases and sale of carbon allowances, offsets, and other GHG related products, including both physical and financial transactions.
- * Purchase and sale of low carbon fuel standard credits.

Section 2. Long-term Fuel and Power Transactional Authority. To negotiate and execute on behalf of SMUD long-term natural gas, clean and emissions-free fuel, and power supply agreements to purchase discounted tax-exempt fuel and power subject to the following parameters: (i) total purchases from all suppliers shall not exceed 80,000 average dekatherms per day for fuel and 500,000 MWh annually for power; (ii) supplier diversification under this authority shall be maintained by requiring no single supplier

provides more than 30,000 average dekatherms per day for fuel or 200,000 MWh annually for power; (iii) contract durations shall not exceed thirty years; (iv) prices paid to suppliers must have expected market discounts at least 75 percent as great as otherwise achievable from a SMUD-sponsored pre-paid transaction; and (v) suppliers must have a proven track record in successfully executing similar transactions.

Section 3. Ancillary Services Transactional Authority. Notwithstanding the credit support restrictions set forth in “Prohibited Transactions,” to make sales of ancillary services to the California Independent System Operator.

Section 4. Enabling Agreement Authority. To negotiate and execute on behalf of SMUD enabling agreements, irrespective of term, including but not limited to the agreements sponsored by the Western Systems Power Pool (“WSPP”), Edison Electric Institute (“EII”), North America Energy Standards Board (“NAESB”), Gas Industry Standards Board (“GISB”), International Swap Dealers Association (“ISDA”) and other prevailing industry form agreements for purposes of facilitating the negotiation of future transactions specified in Section 1, above. An Enabling Agreement does not commit SMUD to any specific transaction; rather it is an agreement setting forth standard terms and conditions (other than terms and conditions for transaction specific agreements, such as, price, quantity, term and delivery point), which will apply to future transactions entered into under the respective Enabling Agreement. All transactions entered into under any Enabling Agreement will be subject to the limits set forth in Section 1, above.

Section 5. Tariff Related Agreement Authority. To negotiate and execute on behalf of SMUD transmission, facilities, distribution, generator and scheduling agreements, irrespective of term, pursuant to approved tariffs.

Section 6. Transmission Planning Agreement Authority. To negotiate and execute on behalf of SMUD agreements intended to facilitate regional transmission planning, irrespective of term; provided the agreement does not commit SMUD to the development, support for or funding of any particular transmission project or projects.

Section 7. GHG Market-Based Compliance Program Related Authority. To transact in, and to negotiate and execute on behalf of SMUD all agreements necessary to participate in, the auctions administered by the California Air Resources Board or successor entity as part of California’s greenhouse gas market-based compliance program.

Section 8. Advance Funding Authority. To negotiate and execute on behalf of SMUD revisions to Exhibit C of the Agreement for the Funding of Operation and Maintenance for the Central Valley Project Power Facilities for the purposes of establishing SMUD’s advance funding contribution to the Western Area Power Administration (Western) in an amount no greater than the estimated annual power deliveries from Western.

Section 9. Purchase, Sale, or Exchange of Air Emission Reduction Credits (ERCs). To negotiate and execute on behalf of SMUD agreements for the:

- i) Purchase of ERCs (a) that are needed or anticipated to be needed for SMUD operations; (b) that are priced at or below fair market value and (c) that do not exceed \$10 million.
- ii) Sale of ERCs that are (a) are surplus to SMUD's actual or anticipated needs; (b) are for use within the SMUD service territory; (c) are priced at or above fair market value; and (d) do not exceed \$100,000.
- iii) Exchange of ERCs that (a) provide present or future operational flexibility; (b) are of equal or superior quality and value; and (c) do not exceed a fair market value of \$100,000.

REPORTING

The CEO/GM will report to the Board of Directors as follows:

Annually - Submit a five (5) year commodity budget forecast report.

Monthly - Submit a report to include: (i) a current year commodity budget update; and (ii) a current and next year commodity financial exposure update.

Monthly – Report on any new multi-year contracts entered into under the Delegation of Authority for wholesale energy, fuel and environmental attribute transactions and contracts.

SSS No.
BOD 2021-001

BOARD AGENDA ITEM STAFFING SUMMARY SHEET

Committee Meeting & Date Policy 2021
Board Meeting Date 2021

TO					TO					
1.	Jennifer Davidson				6.					
2.	Stephen Clemons				7.					
3.					8.					
4.					9.	Legal				
5.					10.	CEO & General Manager				
Consent Calendar		<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/> No	Budgeted		<input type="checkbox"/>	Yes	No (If no, explain in Cost/Budgeted section.)	
FROM (IPR) Nancy Bui-Thompson / Donna Lofton					DEPARTMENT Board Office			MAIL STOP B307	EXT. 5079	DATE SENT 12/22/2020
NARRATIVE:										
<p>Requested Action: Enable the Board of Directors and Executive Staff an opportunity to review the Board Work Plan.</p> <p>Summary: The Board President reviews the Board Work Plan at the Policy Committee meeting to ensure agenda items support the work of the Board.</p> <p>Board Policy: This review of the work plan supports GP-6 Role of the Board President which states that the Board President shall give progress reports on the Board's work plan. (Number & Title)</p> <p>Benefits: Reviewing the Work Plan allows the Board members and Executive staff to make changes to the Work Plan and Parking Lot items as necessary.</p> <p>Cost/Budgeted: N/A</p> <p>Alternatives: Not review the Work Plan at this time</p> <p>Affected Parties: Board and Executive staff</p> <p>Coordination: Donna Lofton</p> <p>Presenter: Nancy Bui-Thompson, Board President</p>										

Additional Links:

SUBJECT Board Work Plan	ITEM NO. (FOR LEGAL USE ONLY)
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

SSS No.

BOD 2021-004

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date

Policy 2021

Board Meeting Date

N/A

TO					TO				
1.	Stephen Clemons				6.				
2.	Jennifer Davidson				7.				
3.					8.				
4.					9.	Legal			
5.					10.	CEO & General Manager			

Consent Calendar

Yes

x

No If no, schedule a dry run presentation.

Budgeted

Yes

No (If no, explain in Cost/Budgeted section.)

FROM (IPR)

Heidi Sanborn / Donna Lofton

DEPARTMENT

Board Office

MAIL STOP

B307

EXT.

5079

DATE SENT

12/22/20

NARRATIVE:**Requested Action:** Provide a summary of committee direction from the Board to Staff.

Summary: During a Board discussion at the January 2017 Policy Committee, the Board requested having an on-going opportunity to do a wrap up period at the end of each committee meeting to summarize various Board member suggestions and requests that were made at the meeting in an effort to make clear the will of the Board. The Committee Chair will summarize Board member requests that come out of the committee presentations for this meeting.

Board Policy: GP-4 Agenda Planning states the Board will focus on the results the Board wants the organization to achieve.
(Number & Title)

Benefits: Having an agendaized opportunity to summarize the Board's requests and suggestions that arise during the committee meeting will help clarify what the will of the Board.

Cost/Budgeted: N/A

Alternatives: Not summarize the Board's requests at this meeting.

Affected Parties: Board of Directors and Executive Staff

Coordination: Donna Lofton, Special Assistant to the Board

Presenter: Heidi Sanborn, Policy Committee Chair

Additional Links:

SUBJECT

Summary of Committee Direction

ITEM NO. (FOR LEGAL USE ONLY)

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.