Exhibit to Agenda Item #5

Approve recommendation for energy storage forecasts going forward to be implemented through SMUD's **Integrated Resource Plan (IRP)** process and that no separate targets be adopted for **AB 2514** beyond the required determination for December 31, 2020.

Board Policy Committee and Special SMUD Board of Directors Meeting

Wednesday, September 9, 2020, scheduled to begin at 5:30 p.m.

Virtual Meeting (online)

AB 2514 Background

- AB 2514 requires POU's to develop storage procurement plans
- In 2017 SMUD Board of Directors adopted energy storage target of 9 MW by December 31, 2020
- SMUD required to reevaluate energy storage target determination in 2020 and then every three years

Energy Storage Pilots

Commitment to Operate (CTO): 2.03 MW
Incentivizes residential customers to use 51% of their battery during peak hours.

Smart Energy Optimizer (SEO): 0.09 MW
Incentivizes customers to let SMUD manage 51% of their battery using day ahead pricing to inform operation

PowerMinder: 0.04 MW
incentivizes customers with Wi-Fi enabled heat pump water heaters to allow SMUD to pre-heat water on their behalf

StorageShares
Customer invests in utility scale energy storage in exchange for demand charge bill credits

Hedge Utility Scale Battery: 4 MW/8 MWh
Provides battery shares for StorageShares program and supplies locational grid benefit

Commercial and Industrial Commitment to Operate: 0.2 MW
Incentivizes commercial customers to use 51% of their battery during peak hours

Commercial and Industrial Thermal Energy Storage (TES): 0.87 kW
Modifying TES system schedule to optimize operation using ISO wholesale pricing

New Residential Construction: 0.02 MW
Developers incentivized to install batteries in new residential homes

2018-2020 Accomplishments

SMUD forecasts 7.4 MW procured through December 2020 and that SMUD will not meet the 9 MW target determination.

Market conditions impacting procurement include:

- Residential: market supply chain constraints
- Commercial & Industrial: waiting for cost effectiveness
- New Residential Construction: little uptake due to cost of batteries

Virtual Power Plants

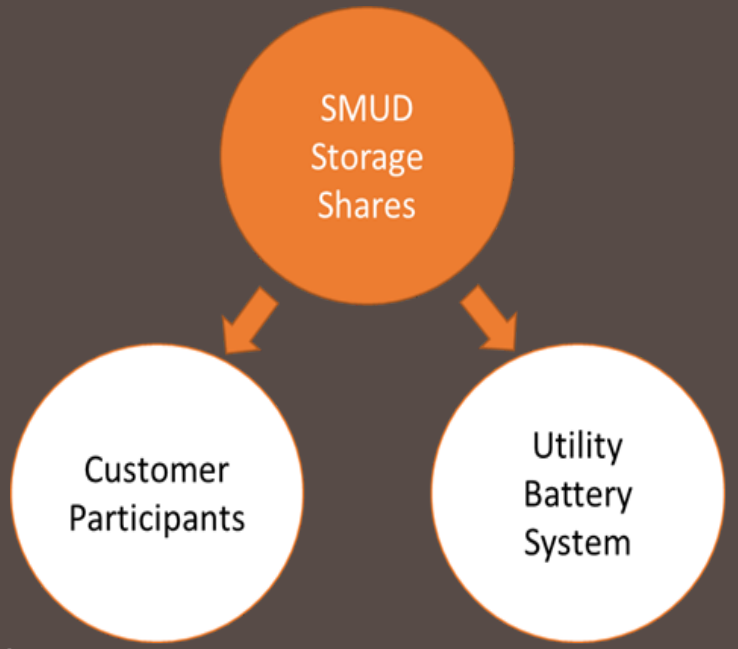
Virtual Power Plants for customer choice and a low carbon future

- Smart Energy Optimizer (SEO) and PowerMinder: Interconnected capacity with utility dispatch

- Customers share their battery and heat pump water heater investments with SMUD and are financially compensated
- This VPP tests the ability partner with customers to accommodate more carbon free energy
- Future SMUD platform to coordinate varied smart/controllable devices which would perform as a mixed-asset VPP

Award Winning StorageShares and Hedge Battery

- Combines customer investment and SMUD capital to deploy utility-scale battery
- Aligns battery location with local grid needs
- Electrify America, an electric vehicle charging company, purchased $1.3M in shares
- Hedge Battery: 4 MW provides 4000 shares for program
- Battery installation will test multiple benefits to the grid



AB 2514 Future Reporting Process

- Statutes vague regarding post-2020 storage procurement target obligations, and CEC has not adopted regulations
- SMUD not obligated to set procurement targets beyond 2020
- Unclear how triennial storage evaluation of determinations made for a set period ending in 2020 play out going forward
- SMUD's IRP now incorporates our energy storage forecasts
- Staff recommends SMUD rely on its IRP processes to implement its storage goals to address statutory ambiguity and ensure compliance with both energy storage and IRP requirements

Recommendation

Staff recommends energy storage forecasts going forward be implemented through SMUD's Integrated Resource Plan (IRP) process and that no separate targets be adopted for AB 2514 beyond the required determination for December 31, 2020