<table>
<thead>
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<th><strong>DOCKETED</strong></th>
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<tbody>
<tr>
<td><strong>Docket Number:</strong> 21-BUSMTG-01</td>
</tr>
<tr>
<td><strong>Project Title:</strong> Business Meeting Agendas, Transcripts, Minutes, and Public Comments</td>
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<tr>
<td><strong>TN #:</strong> 239614</td>
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<tr>
<td><strong>Document Title:</strong> September 8 2021 Business Meeting Presentation</td>
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<tr>
<td><strong>Description:</strong> N/A</td>
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<tr>
<td><strong>Filer:</strong> Dorothy Murimi</td>
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<tr>
<td><strong>Organization:</strong> California Energy Commission</td>
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<tr>
<td><strong>Submitter Role:</strong> Commission Staff</td>
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<tr>
<td><strong>Submission Date:</strong> 9/8/2021 1:08:31 AM</td>
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<tr>
<td><strong>Docketed Date:</strong> 9/8/2021</td>
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</tbody>
</table>
I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.
Get vaccinated. Wear a Mask.

Your actions save lives
Keep California healthy

GET VACCINATED
Sign up for #FlexAlert notifications
Remote Compliance

Business Meeting held remotely, consistent with Executive Order N-O8-21 to continue to help California respond to, recover from, and mitigate the impacts of the COVID-19 pandemic. The public can participate in the Business Meeting consistent with the direction in this Executive Order.

For remote participation instructions visit CEC’s Business Meetings webpage:
https://www.energy.ca.gov/proceedings/business-meetings

If Zoom’s toll-free phone numbers don’t work:
• Dial: (669) 900-6833
• Meeting ID: 938-6923-0237
Public Comment Instructions

• Pursuant to **California Code of Regulations Title 20 §1104(e)**, any person may make oral comment on any agenda item.

• Comments may be limited:
  • **to 3 minutes** or less
  • **1 representative** per organization

• Any person wishing to comment on information items or reports (non-voting items) shall reserve their comment for the general public comment portion of the meeting agenda.

**Zoom App/Online**
Click “raise hand”

**Telephone**
Dial (669) 900-6833 or (888) 475-4499 Enter Webinar ID: 938 6923 0237
• Press *9 to raise hand
• Press *6 to (un)mute

**When called upon**
Public Advisor will open your line
Unmute, spell name and state affiliation, if any, for the record, then begin your comments
Consent Calendar a. – e.

a. Center for Transportation and the Environment. Contact: Alex Wan
b. National Association of State Energy Officials (NASEO). Contact: Christine Collopy
c. Alliance to Save Energy. Contact: Brad Worster
d. United States Fish and Wildlife Service. Contact: Andrea Stroud
e. Western Interstate Energy Board. Contact: Christopher McLean
Item 2: Order on Process for Battery Storage Systems

September 8, 2021, Business Meeting

Shawn Pittard, Deputy Director
Siting, Transmission, and Environmental Protection Division
Benefits to California

- Address climate change impacts
- Increase grid resiliency and reliability
Climate change threatening CA’s energy supply

- Up to 3,500 MW shortfall in 2021
- Up to 5,000 MW shortfall for summer 2022
Emergency Proclamation Overview

Authorizes CEC to license new or expanded battery storage systems:

- 20 megawatts or more
- Discharge for at least 2 hours
- Deliver net peak energy by October 31, 2022
Battery Storage System Licensing

- CEQA suspended
- CEC exclusive licensing authority
- Meet and consult with local and state agencies
- License conditions and monitoring requirements
- Decision delegated to Executive Director
- Decision final – not subject to appeal
Staff Recommendation

Adopt Order No. 21-0908-1.
Item 3: Procter and Gamble Cogeneration Project (93-AFC-02C)

September 8, 2021, Business Meeting

Presented by Elizabeth Huber, CME Office Manager
Mary Dyas, lead Compliance Project Manager
Lisa DeCarlo, lead Counsel
Siting, Transmission and Environmental Protection Division
Project Benefits for California
# Project Overview

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>11/16/1994</td>
<td>CEC Approved License</td>
</tr>
<tr>
<td>3/01/1997</td>
<td>Units Came Online</td>
</tr>
<tr>
<td>7/15/2021</td>
<td>Ownership and Name Change Petition Docketed</td>
</tr>
<tr>
<td>8/03/2021</td>
<td>Staff Approval of Project Change Docketed</td>
</tr>
<tr>
<td>8/05/2021</td>
<td>One Objection Docketed</td>
</tr>
</tbody>
</table>
Staff Recommendation

• Approve order for ownership and project name change.
Item 4: Campbell Cogeneration Project (93-AFC-03C)

September 8, 2021, Business Meeting

Presented by Elizabeth Huber, CME Office Manager
Mary Dyas, lead Compliance Project Manager
Lisa DeCarlo, lead Counsel
Siting, Transmission and Environmental Protection Division
Project Benefits for California
## Overview

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</tr>
<tr>
<td>8/05/2021</td>
<td>One Objection Docketed</td>
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</table>
Staff Recommendation

• Approve order for ownership and project name change.
Item 5: Lithium Valley

September 8, 2021 Business Meeting

Lauren Illa, Undergraduate Fellow
Office of Chair Hochschild
EVs Are Driving Lithium Demand

GLOBAL EV MARKET GROWTH

Cumulative Capacity Additions for the SB 100 Core Scenario

Sources: Bloomberg NEF, SB 100 Joint Agency Report
Current Lithium Extraction Methods

- Hardrock Mining
- Evaporative Brine Processing

Sources: Greenbushes Mine, Salar de Atacama
Lithium Resource Under the Salton Sea

- Salton Sea Known Geothermal Resource Area (KGRA)
- Average lithium concentration: 200 mg/kg
- Potential inferred lithium resource: 15 million metric tons
  - Global production: 300,000 metric tons of lithium carbonate in 2018

Source: Conceptual Model for the Salton Sea Geothermal Field (Kaspereit et al., 2016)
LiCl molecules physically adsorbing to a sorbent (Jade Cove Partners)

Nanostructured HMO sorbent (Ventura et al., 2020)
<table>
<thead>
<tr>
<th>Method</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Geothermal Brines</td>
<td>$4,000</td>
</tr>
<tr>
<td>Evaporation Ponds</td>
<td>$5,580</td>
</tr>
<tr>
<td>Hardrock Mining</td>
<td>$4,540 - $5,040</td>
</tr>
</tbody>
</table>

Source: Techno-Economic Analysis of Lithium Extraction from Geothermal Brines (Warren, 2021)
CEC Demonstration Projects at Salton Sea

- Berkshire Hathaway Energy Renewables Minerals Demonstration Project
- Controlled Thermal Resources Hell’s Pilot Plant
- Materials Research Pilot Plant

Elmore Geothermal Plant (Berkshire Hathaway Energy Renewables)
Thank You!
Item 6: MIDAS Status Update

September 8, 2021 Business Meeting

Morgan Shepherd, Energy Analyst
Existing Buildings Office, Efficiency Division
Benefits to Californians

- Decrease emissions
- Increase grid reliability
- Decrease customer bills
2021 Hourly Marginal Emissions Intensity (MT CO₂/MWh)

Shift electricity use from carbon intensive hours…

…to low carbon hours
(9 a.m. to 3 p.m.)

HOW?
Publish price and emissions signals for automation devices to reschedule default run-times

Source: Angela Tanghetti, CEC
MIDAS Overview

MIDAS Rate Database

2 major tables
• RateInfo
• Value
11 minor tables
Progress to date

- Preliminary Testing
- TOU Rates Uploaded
- FlexAlerts Signal
- GHG Signals from SGIP
- Limited Release for Public and Stakeholder Evaluation
- Public workshop on 8/27/21
Next Steps

- Review Public Comments: September 2021
- Load Management Standards & Flexible Demand Appliance Standards: 2022 / 2024
- MIDAS Locational Hourly Pricing: TBD (proposed)
- Public Broadcast: TBD (under study)


September 8, 2021 Business Meeting

RJ Wichert, Mechanical Engineer
Efficiency Division, Building Standards Office
Benefits to Californians

• Expands compliance modeling tools to account for building decarbonization
• Improves modeling accuracy
Overview

• Corrects indoor air quality baselines
• Updates nonresidential HVAC baseline
• Expands HPWH options
• Updates CBECC-Com EnergyPlus version
Proposed Action

• Approve CBECC-Res and CBECC-Com 2019.2.0
• Approve Residential and Nonresidential ACM Reference Manuals
Item 8: Revised 2022 Summer Stack Analysis

September 8, 2021 Business Meeting

Angela Tanghetti
Energy Assessments Division
<table>
<thead>
<tr>
<th><strong>LOLE Analysis</strong></th>
<th><strong>Stack Analysis</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose:</strong> Inform procurement need</td>
<td><strong>Purpose:</strong> Inform need for contingencies</td>
</tr>
</tbody>
</table>
| **Uses distributions of conditions**  
  - Demand profiles  
  - Wind and solar profiles  
  - Randomized outages | **Provides potential of average and extreme:**  
  - High demand days like summer 2020  
  - Drought impacts on hydro  
  - Capped imports |
| **Challenge:**  
  - Dependent on historic weather patterns which may not fully reflect climate change | **Challenge:**  
  - Assumptions designed to capture extreme weather events |
Stakeholder Comments

Why develop 2022 stack analysis and probability analysis?

- Provides situational awareness in the event of west-wide extreme weather and prolonged drought
- Provides point of reference for consideration in other energy related proceedings
- Provides insight as to amount and duration of need for contingency resource options
Assumptions are overly conservative

- Hydro derate too high
  - Considers specific drought year conditions
- 7.5% forced outages may be high
  - Extreme weather, fire and smoke can adversely impact supply
- No economic imports is too conservative
  - Assumes west-wide extreme weather event

Requests for more specific data and assumptions
Summer 2022 Stack Analysis Updates

• Incorporates additional CPUC Procurement and Retirements
  + 878 MW (up from 556 MW) CPUC emergency procurement July 2022
  + 1,270 MW (up from 840 MW) CPUC ordered procurement August 2022
  + 363 MW (up from 0 MW) CPUC ordered procurement September 2022
  - 834 MW (unchanged from draft) Redondo Beach Retirement

• Incorporates additional Demand Response and Imports for Publicly Owned Utilities
  + 478 MW July 2022
  + 398 MW August 2022
  + 385 MW September 2022
July 2022

- Avg. Imports, RA Contracts
- Solar (Plexos Shapes)
- New Resources & CPUC Expedited Procurement (exc. Solar)
- Existing DR
- Drought Adj Existing Resources (exc. Solar, DR)
- Drought Adj 1-in-2 peak demand + 15% PRM
- Drought Adj. 1-in-2 peak demand + 22.5% PRM
Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 6PM-7PM hour for the 22.5% PRM
- Reduced contingencies in all other hours by ~885 MW
Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 6PM-7PM hour for the 22.5% PRM
- Reduced contingencies in all other hours by ~1,004 MW
September 2022

Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 8PM-9PM hour for the 15% PRM
- Reduced contingencies in all other hours by ~924 MW

**September 2022 under 15% and 22.5% PRM**

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Triggers Use of Contingencies

- 287 MW
- 3,627 MW
- 4,350 MW
- 2,723 MW

MW
Recommendation

Adopt 2022 Summer Stack Analysis.

Docketed presentations and revised white paper:
Docket #: 21-ESR-01
Item 9: Association for Energy Affordability, Inc. Building Initiative for Low-Emissions Development Program Technical Assistance Provider Contract (500-21-001)

September 8, 2021 Business Meeting

Myoung-Ae Jones
Renewable Energy Division
Benefits to California

Decarbonization & GHG Emission Reduction

Clean Energy New Housing for Low-Income Californians

Market Transformation & Adoption of Near–Zero Emission Technologies

Almond Court, Wasco, CA  Low-rise Affordable MFH
Heat pump water heater, high efficiency ducted heat pumps

Coliseum Place, Oakland, CA  All-electric affordable mid-rise
Decentralized heat pump hot water system
## Technical Assistance Agreement

<table>
<thead>
<tr>
<th>Agreement</th>
<th>Detail</th>
</tr>
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</table>
| Terms     | • $6 million  
           | • 6 years  
           | • Option to add $2 million |
| Purpose   | • Absorb building developer's soft cost  
           | • Transfer knowledge  
           | • Advance access and equity |
# Contractor Team

<table>
<thead>
<tr>
<th>Prime Contractor</th>
<th>Subcontractors</th>
<th>Secondary Subcontractor</th>
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<tbody>
<tr>
<td>Association for Energy Affordability, Inc.</td>
<td>TRC Engineers, Inc.</td>
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<tr>
<td></td>
<td>California Housing Partnership Corporation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Highlands Diversified Inc.</td>
<td>The Ortiz Group, LLC</td>
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<tr>
<td></td>
<td>Celery Design Collaborative LLC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>David Baker Architects</td>
<td></td>
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<tr>
<td></td>
<td>Mithun, Inc.</td>
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<tr>
<td></td>
<td>SmithGroup Architects and Engineers</td>
<td></td>
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<tr>
<td></td>
<td>Integral Group, Inc.</td>
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</tbody>
</table>
Staff Recommendation

- Approve agreement with Association for Energy Affordability, Inc.
- Adopt determination that Agreement is exempt from CEQA
Item 10: California Department of Food and Agriculture

September 8, 2021 Business Meeting

Sharon Purewal, Associate Energy Specialist
Advanced Vehicle Infrastructure Office, Fuels and Transportation Division
Benefits to Californians.

- **Standardize** ZEV fueling infrastructure
- **Support** counties without field testing access
- **Assure** equity
Overview

- California Department of Food and Agriculture will procure certified field standards to:
  - Test and verify commercial electric vehicle supply equipment
  - Test and verify commercial hydrogen fueling systems
Staff Recommendation

• Approve $401,580 to enter interagency contract with California Department of Food and Agriculture

• Approve staff's determination that this action is exempt from CEQA
Item 11: Blueprints for MD/HD ZEV Infrastructure (GFO-20-601)

Kate Reid, Air Resources Engineer
Fuels and Transportation Division
Advanced Fuels & Vehicle Technologies Office, Freight & Transit Unit
Benefits to California

Will Enable:

• Roadmaps
• Resiliency
• Replicability
• Compliance
Market Potential

Vehicle Sectors Addressed:

- fleets, 32%
- goods movement, 28%
- transit, 12%
- school buses, 10%
- other, 10%
- ports, 8%
MD/HD electric charging and hydrogen refueling infrastructure for SMUD service territory
Project Overview

City of Culver City (ARV-21-033)

MD/HD electric charging infrastructure for Culver City’s transit fleet
Project Overview.

CALSTART (ARV-21-034)

- MD/HD electric charging infrastructure in and around the City of Porterville
- Private fleet use of public charging infrastructure
The Redwood Coast Energy Authority (ARV-21-035)

- MD/HD electric charging and hydrogen refueling infrastructure for Humboldt County
- Will benefit low-income and DACs
Staff Recommendation.

Approve

• 4 grant agreements

Adopt

• Staff’s determination that projects are exempt from CEQA
Item 12: Agreement with WattEV, Inc. for Public MD/HD Electric Truck Stop (ARV-21-025)

September 8, 2021 Business Meeting

Matthew Kozuch, Air Pollution Specialist
Fuels and Transportation Division, Freight & Transit Unit
Benefits to California

Enables:

- accessible MD/HD public electric charging options
- progress converting all MD/HD vehicles to ZE
- targeted emission reductions in Bakersfield area
WattEV, Inc. will:

- develop public charging facility for MD/HD BEVs
- demonstrate business model for continued operation
- deploy at least 10 trucks making daily use of facility
Market Potential

Public Charging Stations
- Provides sustainable model for new electric truck stops

MD/HD Infrastructure
- Demonstrates higher capacity charging options

MD/HD Vehicles
- Establishes reliable charging for nearby fleet operators
Staff Recommendation

Approve

• Agreement for $1,000,000 with WattEV, Inc.

Adopt

• Determination that this action is exempt from CEQA
Item 13: Evaluating Bi-Directional Energy Transfers and Distributed Energy Resource Integration for Medium- and Heavy-Duty Fleet Electrification

September 08, 2021, Business Meeting

Elise Ersoy
Electric Generation System Program Specialist
Energy Research and Development Division
Benefits to Californians

- Reduce stress on grid
- Increase use of distributed energy resources
- Reduce charging costs
- Provide site and community resilience
- Maximize emissions reductions
Three Scenarios of Transportation Energy Demand Through 2030

Purpose of Solicitation
Watt EV

21st Century Truck Stop
1st MD/HD eTruckStop in CA
Staff Recommendation.

- Approve grant agreement
- Adopt staff’s determination that project is exempt from CEQA