<table>
<thead>
<tr>
<th><strong>DOCKETED</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Docket Number:</strong></td>
<td>22-BUSMTG-01</td>
</tr>
<tr>
<td><strong>Project Title:</strong></td>
<td>Business Meeting Agendas, Transcripts, Minutes, and Public Comments</td>
</tr>
<tr>
<td><strong>TN #:</strong></td>
<td>241549</td>
</tr>
<tr>
<td><strong>Document Title:</strong></td>
<td>Presentation of February 16 2022 Business Meeting</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Filer:</strong></td>
<td>Dorothy Murimi</td>
</tr>
<tr>
<td><strong>Organization:</strong></td>
<td>California Energy Commission</td>
</tr>
<tr>
<td><strong>Submitter Role:</strong></td>
<td>Commission Staff</td>
</tr>
<tr>
<td><strong>Submission Date:</strong></td>
<td>2/16/2022 2:37:04 AM</td>
</tr>
<tr>
<td><strong>Docketed Date:</strong></td>
<td>2/16/2022</td>
</tr>
</tbody>
</table>
California Energy Commission
Business Meeting
February 16, 2022
10:00 a.m.
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.
Consent Calendar: a. – e.

a. SSA Pacific, Inc. Contact: Kate Reid
b. Linde Inc. Contact: Kate Reid
c. Pilot Travel Centers LLC (DBA Pilot Flying J). Contact: Kate Reid
d. International Council on Clean Transportation Inc. Contact: Sharon Purewal
e. Rice Solar Energy, LLC. Contact: Keith Winstead
Item 2: Solar Energy Generating System Units (SEGS) III – VII Boundary Modification

February 16, 2022, Business Meeting

Presented by Elizabeth Huber, Compliance Monitoring and Enforcement Office Manager
John Heiser, Compliance Project Managers
Jared Babula, Legal Counsel
Siting, Transmission and Environmental Protection Division
Benefits to Californians

Supporting California’s goals of a clean energy future.
<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/01/1989</td>
<td>SEGS III - VII Came Online</td>
</tr>
<tr>
<td>10/15/2019</td>
<td>SEGS III – VII Ceased Operations</td>
</tr>
<tr>
<td>6/09/2021</td>
<td>Decommissioning and Closure Plan Approved</td>
</tr>
</tbody>
</table>
SEGS Units III – V Decommissioned
Staff Recommendation

• Approve SEGS III – VII boundary modification.

February 16, 2022 Business Meeting

Heather Raitt, IEPR
Heather Bird, Efficiency Division
David Erne, Energy Assessments Division
Nick Fugate, Energy Assessments Division
Charles Smith, Fuel and Transportation Division
Benefits to Californians

• Puts forward energy policies that:
  • Conserve resources
  • Protect environment
  • Ensure energy reliability
  • Enhance state's economy
  • Protect public health and safety

• Supports state’s clean energy future.
**Structure of 2021 IEPR**

- Andrew McAllister, 2021 IEPR Lead Commissioner

<table>
<thead>
<tr>
<th>Topic</th>
<th>Lead Commissioner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume I: Building Decarbonization</td>
<td>Commissioner McAllister</td>
</tr>
<tr>
<td>Volume II: Reliability</td>
<td>Vice Chair Gunda</td>
</tr>
<tr>
<td><em>Volume III: Gas – not presented today</em></td>
<td>Vice Chair Gunda</td>
</tr>
<tr>
<td>Volume IV: Forecast</td>
<td>Vice Chair Gunda</td>
</tr>
<tr>
<td>Appendix: Clean Transportation Program</td>
<td>Commissioner Monahan</td>
</tr>
</tbody>
</table>
• Held 21 IEPR workshops

• December 2021
  o Posted Draft IEPR
  o All volumes except gas
  o 8 sets of comments

• February 2022
  o Posted Final IEPR
2021 IEPR
Volume I: Building Decarbonization

Heather Bird, Supervisor
Efficiency Division
California’s Decarbonization Goals

- Reduce GHG emissions to 1990 levels by 2020 (AB 32)
- Reduce GHG emissions 40% below 1990 levels by 2030 (SB 32)
- Reduce emissions from highly potent GHG emissions – including methane and hydrofluorcarbon refrigerants – to 40% below 2013 levels by 2030 (SB 1383)
- 60% renewables by 2030 (SB 100)
- 100% clean electricity by 2045 (SB 100)
- Economy-wide carbon neutrality by 2045 (EO B-55-18)
Buildings, Industrial, and Agricultural Decarbonization

Buildings (24%)
- Air Quality
- Building performance
- Existing Buildings

Industry and Agriculture (26%)
- Tailored solutions

Accounts for half of state's GHG emissions

Source: CEC using the California Air Resources Board's 2000-2019 GHG Inventory
Recommendations - Top Line

• Focus on existing buildings

• New state goal: 6 million heat pumps by 2030 (new & existing)

• Prioritize equity and inclusion in program design

Source: CEC 2019 Energy Demand Forecast
Recommendations – Coordination

• California agencies
• Local & regional leadership and workforce
• Private market
• Federal efforts and funding
• Other states and countries
Recommendations – Focus Areas

• Load flexibility
• Industry and agriculture processes
• Embodied carbon
2021 IEPR
Volume II: Ensuring Reliability in a Changing Climate

David Erne, Manager
Energy Assessments Division
Reliability Volume

• Scope
  • Summer electric reliability

• Situational awareness
  • Growth in renewables and storage
  • Gas fleet retirements
  • Climate change

• Reliability Analysis/Improvements
  • Near-term - summer stack analysis
  • Midterm: 2022 – 2026

• DR improvement to support reliability
  • Work update
Recommendations

- **Situational Awareness**
  - Annual reliability outlook
  - Tracking new projects

- **Planning**
  - Climate change
  - Transmission and projects
  - Energy storage permitting & emergency response
Recommendations Cont.

- **Implementation**
  - Restructure demand response
  - Dynamic rate plans and automated devices

- **R&D**
  - Zero-carbon technologies
  - Load flexibility solutions
  - Energy storage
2021 IEPR
Volume IV: California Energy Demand Forecast

Nick Fugate, Lead Analyst
Energy Assessments Division
How the Forecast is Used

Helps keep California’s electricity supply clean, affordable, and reliable

Ensures electricity resource and system reliability studies begin with reasonable assumptions

• Economic and demographic growth
• Climate change impacts
• Programs and standards
• Distributed resource adoption
• Transportation electrification
What the Forecast Covers

Includes:
• Annual end-user electricity and gas consumption
• Peak and hourly electricity demand
• Self-generation, electric vehicles, and other load modifiers
• Baseline and additional achievable scenarios

Key Updates:
• Forecast period extended to 2035
• New Title 24 commercial PV & storage requirements
• Updated additional achievable efficiency scenarios
• New additional achievable fuel substitution scenarios
Summary of Results

Baseline Consumption
• 1.8% annual growth
• 340,000 GWh by 2035

Managed Sales
• 0.7% annual growth
• 269,000 GWh by 2035

Managed Peak
• 0.9% annual growth
• 52,400 MW by 2035 (CAISO only)
2021 IEPR Appendix: Assessing the Benefits of the Clean Transportation Program

Charles Smith, Office Manager
Fuels and Transportation Division, Transportation Integration and Production Office
Benefits of the Clean Transportation Program

• Provides funding to projects that:
  o Reduce GHG emissions in transportation
  o Improve health by eliminating tailpipe emissions
  o Reduce petroleum reliance
  o Increase zero-emission vehicle (ZEV) mobility
  o Support grid reliability

• Benefits Assessment
  o Fulfills requirement in statute
  o Improves transparency and oversight of program’s portfolio
Program Highlights

- 51% Funding located in disadvantaged or low-income communities
- $734M Matched funding
- 20,000 Trainees
- 15,154 EV Chargers
- 3,152 Natural gas trucks
- 70 Natural gas fueling stations
- 83 Hydrogen fueling stations
- 27 Manufacturing facilities

Source: CEC. Totals as of August 2021.
Quantifying Benefits

• Analytical support from National Renewable Energy Laboratory

• 3 key metrics: GHG reductions, air quality benefits, petroleum displacement

• Expected Benefits
  o Directly proportional to alternative fuel produced, dispensed, or consumed in the project

• Market Transformation Benefits
  o Tougher to quantify, but no less real
  o Range of potential benefits, due to greater uncertainty
Annual GHG Reductions

Source: National Renewable Energy Laboratory, CEC
Staff Recommendation

Adopt 2021 IEPR with Errata:

• Volume I: Building Decarbonization
• Volume II: Ensuring Reliability in a Changing Climate
• Volume IV: California Energy Demand Forecast
• Appendix: Assessing the Benefits and Contributions of the Clean Transportation Program

Thank you!
Item 4: Building Initiative for Low-Emissions Development (BUILD) Program Guidelines

February 16, 2022 Business Meeting

Deana Carrillo, Manager
Renewable Energy Division, Local Assistance and Financing Office
Benefits to California

• Green Jobs Creation
• GHG Reduction
• New Affordable Housing
• Health & Non-Energy Benefits
**BUILD Program: Governance**

<table>
<thead>
<tr>
<th>SB 1477 (Stern, Ch. 378)</th>
<th>CPUC Decision 20-03-027</th>
</tr>
</thead>
</table>
| Authorized 2 building decarbonization programs:  
  • BUILD  
  • Technology and Equipment for Clean Heating (TECH) Initiative | • Established additional program requirements  
  • CEC identified as BUILD Program administrator |
| Develop and deploy near-zero-emission building technologies to reduce greenhouse gas (GHG) emissions | Incent new low-income all electric residential housing to reduce GHG emissions |
## BUILD Budget

<table>
<thead>
<tr>
<th>Budget Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program Costs:</strong> Incentives for Low-Income</td>
<td>$60 Million (no less than)</td>
</tr>
<tr>
<td>Housing Developments</td>
<td></td>
</tr>
<tr>
<td><strong>Program Costs Other</strong></td>
<td></td>
</tr>
<tr>
<td>• Technical assistance Provider - up $8 Million</td>
<td>$10 Million</td>
</tr>
<tr>
<td>over 6 years</td>
<td></td>
</tr>
<tr>
<td>• New Adopter Award – up to $2 Million</td>
<td></td>
</tr>
<tr>
<td><strong>Administrative Costs</strong></td>
<td>$8 Million (no more than)</td>
</tr>
<tr>
<td><strong>Joint Evaluation Cost Share</strong></td>
<td>$2 Million (no more than)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$80 Million</td>
</tr>
</tbody>
</table>

Incentives must be proportional to each gas corporation's contribution:

<table>
<thead>
<tr>
<th>Gas Territory</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCG</td>
<td>49.26%</td>
</tr>
<tr>
<td>PG&amp;E</td>
<td>42.34%</td>
</tr>
<tr>
<td>SDG&amp;E</td>
<td>6.77%</td>
</tr>
<tr>
<td>SWG</td>
<td>1.63%</td>
</tr>
</tbody>
</table>
Project Eligibility

- New all-electric low-income housing
  - Single-family and Multifamily
  - Targets
    - Disadvantaged communities
    - Low-income communities
    - Tribal communities
  - Designed to ensure projects do not result in higher utility bills for residents
Program Designed to Address Barriers and Low-Income Market Needs

- Technical assistance in development phase impacts early design decisions and supports the education of contractors.

- New Adopter design award supports new entrants into market, reducing upfront barriers.

- Streamlined application requirements and staged funding awards support an applicant’s development timetables and aligns with other financing, incentive and rebate programs.

- Addresses split incentive between resident and owner costs and portions of projects paid by residents versus project owner/manager.
Program Overview

Technical Assistance

• Near Zero Emission Building Design support
• Application Assistance
• Education & Outreach

Incentives & Awards

• New Adopter Design Award
• BUILD Incentive
  o GHG Incentive Calculator
  o Modeled resident utility costs savings
• Reservation Process Available
• Progress Payments
Incentive Types

Program Cap: $2 Million Per Applicant

- **Base GHG Incentive**: Based on GHG emissions avoided
- **Building Efficiency - Modeled Resident Utility Costs**: Based on % above Code
- **Incremental PV-Modeled Resident Utility Costs**: Based on flat rate for PV above Code
- **Kicker Incentive**: Incentive for additional GHG reduction technologies

**Total Incentive**
Kicker Incentives

- Grid Flexibility
- Lower-GWP Refrigerants
- Induction Cooktop
- Heat Pump Clothes Dryer
- On-Site Energy Storage
- Basic, Smart, and Bi-Directional EV Chargers
Stakeholder Engagement

Opportunities for Public Input
- Early Interagency workshops with CPUC
- Focus groups
- Public workshops on BUILD design and guidelines
- Public comment periods

BUILD Implementation Plan and Guidelines
- Apr 2021: CPUC Approved Implementation Plan
- Sep 2021: Preliminary Program Design
- Dec 2021: Initial Draft Guidelines
- Jan 2022: Proposed Final Guidelines
- Feb 2022: Final Guidelines to CEC
Program Launch

- Consideration by CEC
- Guidelines submitted to CPUC for enactment
- Technical assistance and outreach
- March 1 – Target to accept incentive applications
Staff Recommendation

- Approve BUILD Program Guidelines
- Adopt staff's determination that action is exempt from CEQA
Item 5: Interim Report to the CPUC on Supply-Side Demand Response
February 16, 2022 Business Meeting

Erik Lyon, Special Advisor
Office of Vice Chair Gunda
Benefits to Californians

Demand Response (DR):

- Provides greater reliability to grid
- Reduces costs
- Reduces fossil fuel consumption
- Aligns electric demand with renewable energy generation
- Reduces need for new power plants and transmission lines

Source: Grounded Analytics
Overview

What is the best way to measure DR's contribution to reliability?

- CPUC requested CEC to take a fresh look
- CEC established stakeholder working group
- CEC staff developed recommendations for CPUC
CEC Working Group Approach

Robust stakeholder process with weekly meetings including utilities, DR and storage providers, customers, energy consultants, agencies, and California ISO

Phase 1
1. Principles Working Group
2. Methodologies Working Group

Phase 2: Combined Working Group
Refocused on interim solutions for 2023
Interrelated challenges for DR need to be addressed holistically

Planned timeline incompatible with developing permanent solution by 2023

Three proposals are viable to temporarily address key challenges
Key DR Challenges

**Crediting:** Most utility DR resources not subject to ISO’s rules for ensuring reliability

**QC Methodology:** Current approach does not accurately value contribution to reliability

**Incentive Mechanisms:** Penalties for underperformance not designed for DR

**Settlement Baselines:** Baseline methods do not accurately account for weather-sensitive resources

**Process:** Onerous, expensive, opaque, and inflexible
Timeline Issues

2023 Compliance Year
• QC process already underway by December 2021
• Insufficient time to develop permanent methodology by 2023

2024 Compliance Year (and beyond)
• RA reform working group proposing significant changes
• Slice-of-Day framework likely to be recommended and adopted
• CEC Working Group must wait for recommendations to ensure compatibility
Interim Proposals

**LIP-Informed Effective Load Carrying Capability (Utilities)**
What is the amount of ‘perfect capacity’ a DR resource can replace without impacting reliability?

**Incentive-based Approach (Third-party Providers)**
How much capacity will DR providers offer if they will be penalized for failing to deliver?

**Loss of Load Probability-Weighted LIP (Backup)**
How do LIP results changed when hourly results are weighted by relative probability of an outage?
Interim Recommendations

- Status quo DR counting methodology to continue for another year
- LIP-informed ELCC for utilities and incentive-based approach for third-party providers, with LOLP-weighted LIP as backup for both
- Utilities and third-party providers choose between above methodologies
- California ISO provide exemptions for LIP-informed ELCC
- Direct investor-owned utilities to move DR onto supply plans
Long-term Recommendations

- Extend CEC stakeholder working group process
- Develop comprehensive, permanent solution for subsequent years
- Ensure alignment with changes to resource adequacy framework
- Collaborate with CEC staff on QC counting implementation
Item 6: DEKRA Certification, Inc.

February 16, 2022 Business Meeting

Jeffrey Lu, Air Pollution Specialist
Fuels and Transportation Division
Benefits to Californians

Advances vision for easy and grid-integrated charging:

• Improved charger interoperability
• Better-than-gas charging experience
• Electric vehicles as distributed energy resources
• Platform for innovative charging services
Overview of Vehicle Grid Innovation Lab (ViGIL)

• $1,970,459 grant
• DEKRA will repurpose existing facility in Concord
• ViGIL will:
  ▪ Provide conformance testing for industry standards and protocols
  ▪ Serve as local resource for charging providers and manufacturers
  ▪ Seek to begin operating this fall
Staff Recommendation

• Approve grant agreement
• Adopt staff determination that project is CEQA exempt
Item 7: Agreement with ChargePoint, Inc. for Depot Charging Pantograph Solution (ZVI-21-014)

February 16, 2022 Business Meeting

Esther Odufuwa
Fuels and Transportation Division, Freight & Transit Unit
Benefits to California

• Innovative MD/HD electric charging options
• Accelerated conversion of all MD/HD vehicles to ZEVs
• Reduced CO$_2$ emissions by $\sim$139,000 MT
Project Overview

Photo credit: ChargePoint, Inc.
Market Potential

**MD/HD Charging Infrastructure**

Demonstrates high capacity and quick charging option

**MD/HD Electric Vehicles**

Increases rate of ZEV deployments, specifically for electric buses and port vehicles
Staff Recommendation

Approve

• Agreement for $1,999,154 with ChargePoint, Inc.

Adopt

• Determination that this action is exempt from CEQA
Item 8: Bringing Rapid Innovation Development to Green Energy (BRIDGE) 2020 (GFO-20-301)

February 16, 2022 Business Meeting

Michael Ferreira
Energy Deployment & Market Facilitation Office
Energy Research & Development Division
Benefits to CA Ratepayers

• Advances clean energy economy
  • Supports clean energy entrepreneurs
  • Quicker transition from fossil fuels

• Improve grid resilience and reliability

• Increased renewable energy production
Yotta Energy

Demonstrating Distributed Solar + Storage with Battery Backup Capability for Grid Resilience and Reliability

- Passive thermal maintains batteries at preferred working temperature
- Panel-level storage reduces footprint, is scalable, easy to install
- Reduces soft costs of designing, installing and maintaining energy storage
Steam Dominated GreenLoop: Proof of Concept at The Geysers, CA.

- Geothermal power production without consuming subsurface water
- Allows for revitalization of declining or idle wells
- Enables cost competitive, continuous and flexible power generation
Staff Recommendation

Approve and adopt staff’s findings that projects are exempt from CEQA.
Item 9: RockeTruck, Inc.

February 16, 2022 Business Meeting

Quenby Lum, Associate Energy Specialist
Energy Research and Development Division
Energy Systems Research Office
Benefits to Californians

Advances:
- Reliability
- Resiliency
- Safety
- Reduced Emissions
- Equity
Project Overview

Mobile fuel cell generator - concept diagram
Staff Recommendation

• Approve grant agreement
• Adopt staff’s determination that project is exempt from CEQA
Item 10: Proposed Resolutions Approving Two ECAA Loans; City of Eureka and City of San Leandro

February 16, 2022 Business Meeting

Sean Lockwood, Associate Energy Specialist
Renewable Energy Division, Local Assistance and Finance Office
Benefits of ECAA Loans to Californians

- Improves Health Outcomes
- Lowers Utility Costs
- Creates Green Jobs - Building a Clean Energy Economy
Project Overview – City of Eureka

- $1,392,677 loan at 1%
- LED lighting upgrades and Solar PV installations at City’s Water Treatment Plant
- Solar PV installation at City’s High Tank site
Project Overview – City of San Leandro

• $1,284,140 loan at 1%
• LED lighting upgrades at 14 city sites
• HVAC upgrades at 4 city sites
• Installation of variable frequency drive for pool pump at City’s aquatic center
## Project Energy Analysis Summary

<table>
<thead>
<tr>
<th>Loan Recipient</th>
<th>Loan Amount</th>
<th>Annual Energy Use Savings</th>
<th>Annual Energy Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Eureka</td>
<td>$1,392,677</td>
<td>525,646 kWh</td>
<td>$94,970</td>
</tr>
<tr>
<td>City of San Leandro</td>
<td>$1,284,140</td>
<td>550,871 kWh</td>
<td>$112,402</td>
</tr>
</tbody>
</table>
Staff Recommendation

- Approve loan agreements
- Adopt staff’s determination that projects are exempt from CEQA