AFV OIR Workshop

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SCE enthusiastically supports widespread EV adoption

• Electrification of the transportation sector is essential to realizing California’s bold climate and air quality goals
  – Using ARB’s emission factors\(^1\), light and heavy-duty EVs reduce 2-3 times more CO\(_2\) per kWh than renewables or energy efficiency programs
  – Light-duty and heavy-duty EVs reduce 100% of smog-forming gases from vehicles in the South Coast Basin\(^2\)
  – Electrification will become even more attractive as reductions grow larger from increased renewable generation

• EV charging load is uniquely flexible and can provide significant grid benefits with both scale and effective load management
  – SCE has been incorporating major EV load growth in its system planning for years
  – Charging mainly takes place in the evening when there is plenty of excess capacity, improving system utilization and potentially providing downward pressure on rates
  – Eventually, EVs may serve as a significant grid resource and help with future solar over-generation

• Pollution and GHG reduction due to electrification will benefit all customers and especially disadvantaged communities

\(^1\) Using LCFS emission factors Final Regulation pg. 32 and EERs pg. 45, e-Truck: 1.6x; LDV: 2.2x; e-Bus: 3.1x relative to offsetting CA average emissions per kWh with zero-emission RE or EE

\(^2\) Smog-forming gases refer NO\(_x\) – Relative to RE and EE, light-duty EVs reduce 8 times more NO\(_x\) and HD EVs reduce 15-60 times more (depending on HD vehicle type). Additionally, light-duty EVs reduce 5 times more particulate matter and HD EVs reduce 3-9 times more PM than either RE or EE.
Electricity is one of the cleanest alternative fuels per unit of energy used

- Electricity is also one of the only truly scalable ultra-low carbon fuels
- Using LCFS methodology, approved by ARB, electricity emissions per MJ of energy used emit 70% less CO₂ than gasoline or diesel
- Many CA utilities already have more renewables than reflected in the electricity number above which will continue to decrease as RE increases

1 LCFS Final Regulation Order Table 6 pg.66  2 LCFS Final pg. 32  3 LCFS Final Table 7 pg. 82-83  1,2,3 LCFS Final EER: Table 4 pg. 45
### SCE’s Proposed Phases for TE Acceleration in IOU Applications

<table>
<thead>
<tr>
<th>Phases</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
<td>Market Launch</td>
<td>Transition</td>
<td>Based on Approved Integrated Resources Plan</td>
</tr>
<tr>
<td><strong>Time period</strong></td>
<td>2014-2015</td>
<td>2016-2020</td>
<td>2020 and beyond</td>
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<tr>
<td><strong>Application Examples</strong></td>
<td>First applications to accelerate light duty EVs</td>
<td>First application to accelerate other EVs: e-freight, e-transit and/or e-ports</td>
<td>All types of TE applications in an approved IRP (from 2018)</td>
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<td>Second application to accelerate light duty EVs</td>
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<td><strong>Application design guidelines</strong></td>
<td>Based on D. 14-12-079 case-by-case balancing test in AFV OIR decision</td>
<td>Based on draft guidelines in March 2016 Scoping Memo Appendix A and final Q3 2016 guidelines in future ruling</td>
<td>To be determined</td>
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- Phasing allows for both quick action to meet SB 350’s call for acceleration of TE now as well as establishes a long-term role for IOUs to help meet the 2050 goals
- A well-designed application “checklist” for TE program approval in the transition period (prior to IRP) is needed
- After an approved IRP, more comprehensive application metrics could become part of the process for securing funds
Benefits of a multi-phased approach

• Provides time for all stakeholders to focus on and develop the IRP and its new core mission on TE investments

• Data provided 2016-2020 will inform and prepare for:
  – IRP scenario modeling and optimization
  – The next decade of TE application design metrics based on an LSE’s approved IRPs
  – The development of general TE policy

• Case by case decisions on individual applications (per D.14-12-079) is preferred over broad policy making in initial years
  – Without data from initial programs and investments, a broad policy would be based on hypotheticals about market

• Helps the state meet its goals to accelerate TE this decade