

Tier 2 Advanced Power Strip Follow Up



CALIFORNIA
TECHNICAL FORUM

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California Technical Forum (CALTF)



- A collaborative of experts who use independent professional judgment and a transparent, technically robust process to review and issue technical information related to California's integrated demand side management portfolio.
- A 29 member body supporting the development and approval of utility workpapers (wp) that support energy savings claims reported to the CPUC.

Historical Tier 2 APS Timeline



- **May 2014** – CalTF approved Tier 2 APS abstract
- **Fall of 2014** – phase 1 field trial conducted
- **November 2014** – Phase 1 field trial complete ~ 42 homes
- **February 2015** – CalTF conditionally approves Phase 1 wp values ~ 246 kWh based on CalPlug SVS approach
- **April 2015** – SDG&E ET Report finalized and statewide wp submitted to CPUC
- **September 2015** – Phase 1 field trial values approved at 212 kWh annually/unit for direct install implementation delivery channels only

Go-to-market Roadmap for Emerging Technologies

Manufacturers

SIEMENS

embertec
ENERGY EFFICIENCY TECHNOLOGIES

TrickleStar
Conserving energy. Improving life.

valta

smartenit
Making your world smarter and greener

Neutral 3rd Parties

WECC

STEP I
Volume 0 - 1

From ideas to Prototypes

1 - 10

Live tests and Simulations

10 - 1000

Pilot study and Field Test

1000 - 1M

Promotion and Scale-up

CALIFORNIA
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CalPlug
CALIFORNIA PLUG LOAD RESEARCH CENTER

Utilities

SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL Company

LA
DWP
Los Angeles
Department of
Water & Power

PG&E

ANAHEIM
PUBLIC UTILITIES
AGENCY/UTILITY

CalPlug's Draft Definition for Tier 2 APS

- **Tier 2 Advanced Power Strips are recommended to have the following features:**

1. Usage Sensing – to provide at least one method to sense and determine consumer utilization and usage pattern;
2. Advanced Power Analysis – to perform advanced power analysis in addition to voltage and current sensing. These power measurement and analysis may include, true RMS power, power factor analysis and other load signature detection.
3. Control Algorithms - to perform automated power management of connected devices based on data and information acquired;



CALTF's February Approval of Tier 2



- Approved CALPLUG's Go-2-Market Roadmap
- Approved a more narrower Tier 2 APS definition until future field trials are complete
- Approved workpaper based on Santa Cruz and SDG&E field trials
 - Annual Average Energy Savings: 246 kWh/AV environment
 - DEER Average Peak Demand Reduction: 0.0252 kW
- Factored in a 28% Consumer Persistence In-Service Rate
- Will evaluate a revised wp 1 year from the approval date

Historical Tier 2 APS Timeline Cont...



- **April 2015** – SDG&E ET Report finalized and statewide wp submitted to CPUC
- **September 2015** – Phase 1 field trial values approved at 212 kWh annually/unit for direct install implementation delivery channels only
- **Q3 2015** – Field trial commences
 - October 2015 - Field data collection on ~54 homes complete
 - November 2015 - Data analysis complete
 - December 2015 – Results will be presented to CalTF
 - ✦ Seeking Approval from CalTF to consider Phase 2 results
 - ✦ Seeking CPUC input on ongoing M&V during program deployment to support different delivery channels and commercial applications