



Fuel Cell Net Energy Metering GHG Emission Standards

May 30, 2017

Governing Legislation

Assembly Bill 1637 (Low, 2016):

- Effective January 1, 2017
- Extends the CPUC's Fuel Cell Net Energy Metering (NEM) program tariff through 2021
- Increases individual system eligibility to 5 MW, and extends overall program cap to 500 MW over existing installed capacity
- Directs ARB to establish annual GHG emission reduction standards for "customer-generators" participating in Fuel Cell NEM program
- GHG standards are to reduce emissions relative to grid resources, including renewable resources, and account for both procurement and electrical grid operation

Fuel Cell NEM Background

- Program designed to continue market growth for on-site fuel cell electrical generation
- Oversight by CPUC with IOU program administration
- Customer-generators receive generation rate credits and avoid “nonbypassable” utility charges for onsite energy consumption
- Incentives amount to approximately \$200k/MW of installed capacity
- Historical annual growth of about 8 MW of installed capacity (total of 97 MW to date)

Fuel Cell NEM Background Cont'd

- Eligible fuel cell technologies must reduce GHG emissions and meet ARB's Distributed Generation (DG) Certification Program requirements for criteria pollutants
- Program works in tandem with CPUC's SGIP, which provides financial incentives for various DG technologies
- Prior legislative directive to use the GHG standard developed for the SGIP for the Fuel Cell NEM (350 kg CO₂/MWh)

Key Considerations

- Marginal energy resource mix and displacement assumptions
- Role of renewable resources in the resource mix
- Line Losses
- Grid response to small load changes
- Utility procurement considerations and RPS program progress
- Interpretation of “emission reduction versus grid resources”

Potential Bases of GHG Standard

Method	Basis	kg CO2e/MWh
1	Displacement of combined-cycle gas turbine (CCGT) power plants (Marginal grid resource)	<i>400</i>
2	Displacement of CCGT generation with a 25% renewable energy adjustment (RPS target of 25% by January 1, 2017)	<i>300</i>

Recommended Test Procedures

- Staff is proposing to include advisory test methods and testing parameters for carbon dioxide, methane, and nitrous oxide in the regulation:
 - Carbon Dioxide: ARB Test Method 100
 - Methane: US EPA Method 3C
 - Nitrous Oxide: ARB Test Method MLD 136

Regulation Development Schedule

Ongoing

Discussions with CEC and CPUC staff

Spring 2017

Conduct public workshops

Fall 2017

Start of formal 45-day
public review period
for proposed regulation

Winter 2017

ARB Board Meeting

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