Comment 1 for Fuel Cell NEM Program (fuelcellstandard-ws) - 1st Workshop.

First Name: Jennifer
Last Name: Derstine
Email Address: jderstine@capstoneturbine.com
Affiliation: Capstone Turbine Corporation

Subject: Fuel Cell NEM May 30, 2017 Public Workshop Comments
Comment:

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Please find attached comments from Capstone Turbine Corporation on
the May 30, 2017 Public Workshop. Thank you.
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Attachment: www.arb.ca.gov/lists/com-attach/1-fuelcellstandard-ws-W2lWYFZmUzdWYAA2.pdf

Original File Name: 20170614_Comments on Fuel Cell Net Energy Metering May 30 2017 Workshop.pdf

Date and Time Comment Was Submitted: 2017-06-14 15:18:11

No Duplicates.

Comment 2 for Fuel Cell NEM Program (fuelcellstandard-ws) - 1st Workshop.

First Name: Mike
Last Name: Levin
Email Address: MLevin@fce.com
Affiliation: FuelCell Energy, Inc.

Subject: FCE Comments on FC NEM Emission Reduction Standards
Comment:

On behalf of FuelCell Energy, Inc. (FCE) I appreciate this opportunity to provide comments following on the May 30, 2017 workshop held to discuss emission reduction standards for fuel cell customer-generators participating in the California Public Utilities Commission (CPUC) Fuel Cell Net Metering (FC NEM) Program. For the reasons discussed below, FCE recommends that the ARB formally endorse and adopt the emission standards developed by the CPUC for projects participating in the Self-Generation Incentive Program (SGIP).

Background
FCE is the largest manufacturer of combined heat and power fuel cells in the United States, and has deployed fuel cells throughout the state of California in a wide variety of applications at private and institutional locations. The fuel cell technologies FCE employs provide clean baseload power using natural gas or biofuel, and are helping California meet its ambitious greenhouse gas (GHG) emissions reduction targets by displacing high-carbon power plant emissions. FCE has and continues to pioneer new and transformative fuel cell technologies and applications, and is working with customers to develop larger scale projects enabled by the California Legislature's decision in Assembly Bill 1637 (AB 1637) to allow participation in NEM by fuel cell systems sized up to 5 MW.
AB 1637 directs ARB to establish a schedule of annual GHG emission reduction standards to determine eligibility for the FC NEM program in consultation with the California Energy Commission, and to update the schedule of standards every three years. The statutory requirement provides that the emission reduction standard must ensure that each fuel cell "reduces greenhouse gas emissions compared to the electrical grid resources, including renewable resources, that the fuel cell electrical generation resource displaces, accounting for both procurement and operation of the electrical grid." (PU Code §2827.10(b)(2))

The ARB has suggested that key considerations in setting the AB 1637 emission reduction standard include marginal energy resource mix and displacement assumptions, role of renewable resources, line losses, grid response to small load changes, utility procurement and RPS progress, and interpretation of "emission reduction versus grid resources." As some parties at the May 30, 2017 workshop pointed out, another relevant consideration is that the standard will only apply for three years, and that the FC NEM program is only available to projects that commence operation before December 31, 2021.

FCE’s Recommendation

Upon review of the language of AB 1637 and discussion with ARB staff and stakeholders at the May 30, 2017 workshop, FCE strongly supports adoption of the current SGIP program emission reduction standard as the standard for the FC NEM program.
The SGIP program emission reduction standard was established in Decision 15-11-027, after extensive discussion of factors virtually identical to the key considerations identified by ARB staff. It clearly meets the statutory requirement by establishing a reasonable benchmark for ensuring that eligible projects will reduce GHG emissions compared to grid resources, including renewable resources, displaced by the fuel cell. The SGIP emissions standard (described in pages 54-55 of the SGIP Handbook) adjusts by year, as summarized below:
SGIP GHG Eligibility Emissions Factors, kgCO2/MWh

Application Year	2016	2017	2018	2019	2020
10-Year Average	350	347	344	340	337

We also recommend adoption of the methodology adopted for the SGIP program for evaluation of GHG impact for actual projects, including assumed value of carbon content of natural gas, assumed efficiency of offset thermal sources in combined heat and power, and calculation of GHG impact using fuel, power, and thermal measurements that use instruments that are already part of a typical power project. Adding requirements for measurements of N2O and methane adds cost and complexity to projects which is unnecessary given the extremely low levels of these species in fuel cell exhaust, and the difficulty of measuring such low levels.

Adopting the SGIP standard, as described above, for the first three year period prescribed under AB 1637 will comply with the statutory requirement, provide a reasonable analytical basis for the standard, save the ARB staff and interested stakeholders further time and effort essentially duplicating the work that resulted in Decision 15-11-027, and provide continuity and stability for program participants.

We appreciate the Board's consideration of these comments.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2017-06-14 15:35:25

No Duplicates.

Comment 3 for Fuel Cell NEM Program (fuelcellstandard-ws) - 1st Workshop.

First Name: Jack
Last Name: Brouwer
Email Address: jb@nfcrc.uci.edu
Affiliation: National Fuel Cell Research Center

Subject: Joint Fuel Cell Parties Comments on Fuel Cell NEM GHG Emission Standard
Comment:

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The National Fuel Cell Research Center submits these Joint Fuel
Cell Parties Comments on Fuel Cell Net Energy Metering and GHG
Emission Standards.
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Attachment: www.arb.ca.gov/lists/com-attach/3-fuelcellstandard-ws-VDpdPQBiWHlXMgRb.pdf

Original File Name: NFCRC Comments Fuel CEll NEM GHG Standard 06_14_17.pdf

Date and Time Comment Was Submitted: 2017-06-14 15:47:56

No Duplicates.

Comment 4 for Fuel Cell NEM Program (fuelcellstandard-ws) - 1st Workshop.

First Name: Fariya
Last Name: Ali
Email Address: fxao@pge.com
Affiliation: PG&E

Subject: PG&E Comments on Fuel Cell NEM GHG May 2017 Workshop
Comment:

See attached comments.

Attachment: www.arb.ca.gov/lists/com-attach/4-fuelcellstandard-ws-UCAGZwNnBwsLawN2.pdf

Original File Name: PGE Fuel Cell GHG May Workshop Comments.pdf

Date and Time Comment Was Submitted: 2017-06-14 16:19:55

No Duplicates.

Comment 5 for Fuel Cell NEM Program (fuelcellstandard-ws) - 1st Workshop.

First Name: Adam
Last Name: Simpson
Email Address: adam.simpson@etagen.com
Affiliation:

Subject: Comment by EtaGen on the GHG Standard for FC NEM
Comment:

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Please see attached for comments by EtaGen on the GHG Standard for
eligibility in the FC NEM program.
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Attachment: www.arb.ca.gov/lists/com-attach/5-fuelcellstandard-ws-VDdWP1E9BzkLaFQ6.pdf

Original File Name:
CommentsbyEtaGenonGHGEmissionsReductionStandardfortheFuelCellNEMProgram-Final.pdf

Date and Time Comment Was Submitted: 2017-06-14 16:47:42

No Duplicates.

Comment 6 for Fuel Cell NEM Program (fuelcellstandard-ws) - 1st Workshop.

First Name: Jack
Last Name: Brouwer
Email Address: jb@nfcrc.uci.edu
Affiliation: National Fuel Cell Research Center

Subject: Re-Submission of Corrected Joint Fuel Cell Comments on Fuel Cell NEM GHG Emission Standard
Comment:

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Re-submission of Joint Parties Comments on Fuel Cell NEM Program
and GHG Emission Standard.

This version corrects a typo on Page 6.
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Attachment: www.arb.ca.gov/lists/com-attach/6-fuelcellstandard-ws-VTtUNAdlBCUBZABf.pdf

Original File Name: NFCRC Comments Fuel CEll NEM GHG Standard 06_14_17.cr.pdf

Date and Time Comment Was Submitted: 2017-06-16 10:30:29

No Duplicates.

There are no comments posted to Fuel Cell NEM Program (fuelcellstandard-ws) that were presented during the Workshop at this time.