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August 29, 2016

Mr. Richard Corey
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Re: Qualification of Fuel Cells as Emissions Without a Compliance Obligation

Dear Richard:

The National Fuel Cell Research Center (NFCRC) and the undersigned stakeholders submit this letter to affirm and emphasize the importance of recognizing fuel cells as a major and critical resource in the California Air Resources Board's (CARB) strategy for a low-carbon future. On August 2, 2016, the Staff Report "Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation" was released, proposing changes to the treatment of GHG reducing natural gas fuel cells.

Since the Cap and Trade Program began, the ARB has recognized the environmental and energy benefits of fuel cell technologies and, accordingly, has exempted their GHG emissions from compliance obligations under the Program. Emissions from natural gas fuel cells are included in Section 95852.2 "Emissions Without a Compliance Obligation." On page 132 of the Staff Report, a strikethrough appears on "emissions from natural gas fuel cells," recommending that natural gas fuel cells will no longer be exempt. This exclusion of fuel cells is contrary to California state policy objectives for a sustainable, low-carbon future and precedents that show that the benefits of fuel cells are directly in line with AB32, to wit:

1. **GHG Reducing Technologies.** Fuel cell systems are fuel flexible and can operate on biogas, hydrogen, or natural gas and, utilizing any of these sources, fuel cells reduce both GHG and criteria air pollutant emissions (e.g., NOx). Power generation produced through natural gas combined cycle (NGCC) power plants meets the majority of electricity demand, but with the concomitant emission of criteria pollutants and efficiencies limited by heat engine constraints. Alternative and emerging clean high-efficiency fuel cells achieve low emissions of GHG and virtually zero emission of criteria pollutants. When using natural gas, fuel cells reduce both GHG and criteria pollutant emissions compared to generation from the current grid.

2. **Pathway to 100% Renewable.** Fuel cells have highly dynamic dispatch capabilities to (1) manage the diurnal variation, constrained capacity factor, and intermittencies associated with solar and wind power generators, and (2) increase the maximum penetration of renewable resources that can be accommodated in the utility grid network. These capabilities will result in additional GHG reductions through the integration of renewables. Over 30% of the power generated by fuel cells in California is already produced from biogas.

3. **Precedent.** Recognizing the superiority of fuel cell technologies in reducing criteria air pollutant and GHG emissions, the South Coast Air Quality Management District (SCAQMD) policy exempts natural gas fuel cells and their supplemental heaters, from the requirement of written permits in Rule 219 and Rule 222 "Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II" (May 13, 2013). Additionally, the CARB DG certification program requires manufacturers of electrical generation technologies - that are exempt from district permit requirements - to certify their technologies to specific emission standards before they can be sold in California. Stationary fuel cells are providing power, heating and cooling in California and the SCAQMD territory today, and are recognized as well suited to provide the required clean, high-efficiency 24/7 load-following power generation resource with virtually zero emission of criteria air pollutants, reduction of GHG emissions and no net water demand.

4. **Fuel Cells are Critical to the Energy System.** To meet the demands of the next-generation grid, stationary fuel cells systems are (1) being developed and deployed with requisite load-following attributes, (2) operate on hydrogen as well as natural gas and biogas, and (3) developed to integrate with a gas turbine engine to create a "hybrid" power generator with remarkably high efficiency. Simply stated, stationary fuel cells are (1) a key resource, along with storage, required to manage and enable a 100% renewable grid, and (2) a perfect match to hydrogen energy storage in providing the ideal means for converting massive amounts of renewable fuel into electricity.

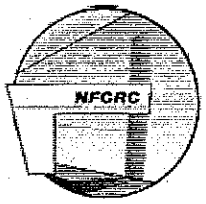
   Fuel cells uniquely create value as a grid resource to provide firm capacity, the most valuable type of distributed energy resource, with respect to deferring future grid investments and benefiting both the regional transmission system and the local distribution system. Firm capacity (i.e., 100% or near 100% availability) is available day and night, rain or shine, and wind or calm without the additional need for forecasting, planning, or storage. This adds resiliency, reliability, stability, and value to both the transmission and distribution systems, and these benefits translate directly into a more rapid transition to a 100% renewable grid.

The proposal to subject fuel cell customers to the Cap and Trade Compliance Mechanisms sends a market signal to customers that they will have limited choice in how to best and most economically meet their environmental objectives and local energy needs. Fuel cells are GHG reducing technologies that can serve both onsite and utility scale generation with negligible criteria air pollutant emissions. They are a critical tool to reduce GHG emissions from the State's energy sector and have a positive, direct public health impact on communities with significant exposure to air pollution. These attributes are consistent with the mission of the ARB and legislative direction through AB 32.

The NFCRC works with Bloom Energy, Doosan Fuel Cell America, Fuel Cell Energy, GE-Fuel Cells, and LG Fuel Cell Systems, Inc. These companies, and the additional undersigned stakeholders, including South Coast Air Quality Management District (SCAQMD) staff, request the continued inclusion of natural gas fuel cells as Emissions Without a Compliance Obligation in Section 95852.2 in the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation.

Sincerely,

Dr. Scott Samuelsen, Director
National Fuel Cell Research Center



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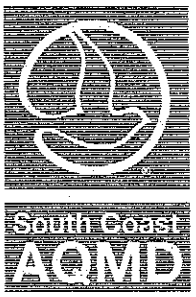

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