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July 8, 2008

State Energy Planning Board  
Comments  
NYSERDA  
17 Columbia Circle  
Albany, NY 12203

RE: Draft Scope of 2009 New York State Energy Plan

Dear Energy Planning Board Members:

On behalf of Plug Power Inc. please accept the following comments relating to the Draft Scope of the 2009 New York State Energy Plan (the "Draft Scope"). Plug Power strongly supports the efforts of New York State Energy Planning Board (the "Board"). We respectfully submit the following comments to the Draft Scope with a view to accelerating the adoption of technologies such as fuel cells, which hold great promise for reducing air pollution and greenhouse gas emissions while lessening our dependence on foreign oil. In addition, Plug Power is generally supportive of the comments submitted by the Alliance for Clean Energy New York.

Plug Power, headquartered in Latham, New York, in the Capital Region, develops and manufactures fuel cell systems and related fuel processing technology. Plug Power has been in business since 1997 and employs more than 200 people in New York. Plug Power currently produces three product lines based on proton exchange membrane (PEM) fuel cell technology: GenDrive™, a complete line of fuel cell power units and hydrogen refueling technology, is already supplying the motive power requirements for electric lift trucks used in large warehouse, distribution and manufacturing operations; GenCore® fuel cell systems provide backup power to wireless towers, remote telecom facilities, and other critical uninterruptible power infrastructure; and GenSys® provides continuous power to critical infrastructure facilities and is currently in field trials in rural India. Plug Power also recently unveiled a commercial prototype of a continuous power fuel cell that is expected to provide electricity, heat and hot water to residential and light commercial customers.

Plug Power has attracted more than \$747 million in private sector capital investment to the State of New York. Since 1999, Plug Power has paid over \$255 million in wages and compensation to employees in New York, more than \$13.5 million in payroll taxes to New York State, and \$89.1 million to suppliers and vendors in New York State. Plug Power has contributed and expects to continue to contribute substantial benefits to the economy of New York State.

A fuel cell is an electrochemical device that utilizes hydrogen and hydrogen-rich fuels to generate electricity and useful heat in a remarkably efficient way. After electricity is produced in the fuel cell stack, the hydrogen combines with oxygen from the air to produce only heat and water as a by-product. Because the conversion of hydrogen occurs without combustion, fuel cells do not produce the emissions normally associated with combustion such as carbon dioxide, oxides of nitrogen, carbon monoxide and particulates. Fuel cells are secure, reliable and high-quality power at the point of demand, with some systems able to provide high quality thermal energy as well as electric energy. They are extremely fuel efficient, generating power using far less fuel than needed by comparable technologies. In the long term, fuel cells offer the promise pollution-free power.

Fuel cells are a natural complement to intermittent renewable technologies such as wind and solar. Fuel cells have the ability to generate electricity regardless of weather conditions and can act as a power storage technology, converting off-peak generated wind and solar energy to peak power. Fuel cells can provide highly reliable electricity. Some studies estimate that power quality and reliability issues cost our economy alone as much as \$150 billion per year in lost materials and productivity, while others have reported estimates as high as \$400 billion per year.

### **Draft Scope Comments**

Specifically with respect to the proposed Issue Briefs we would appreciate consideration of the following issues in the Draft Scope.

The current Draft Scope contains an Issue Brief on **Energy Infrastructure Needs** but this Issue Brief is focused on the bulk energy delivery needs (transmission) and natural gas, fuel oil, LNG, coal delivery infrastructure (i.e., pipelines). If the Draft Scope is to truly focus on the future energy needs of the State of New York the **Energy Infrastructure Needs** Issue Brief should have a section dedicated to Hydrogen Infrastructure. Many scientists believe that a Hydrogen Economy is within reach and with greater concern over greenhouse gas emissions and the impacts of rising fuel costs on our economy, it is likely to be attainable sooner than previously thought. In this context, some critical thought and dialogue should be given to Hydrogen Infrastructure. Production, storage, infrastructure, delivery systems, centralized vs. distributed, fossil fuel derived vs. renewably generated hydrogen should all be topics for consideration in this Issue Brief. As previously stated, Plug Power GenDrive™ fuel cell power

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units and hydrogen refueling technology is already supplying the motive power requirements for electric lift trucks used in large warehouse, distribution and manufacturing facilities. Companies such as Wal-Mart, Nissan, Bridgestone and Ace Hardware are using fuel cells and hydrogen refueling in distribution center and warehouses today and seeing positive value generated by labor saving, productivity improvements (3.5%), and reduced maintenance. They are also being used in military supply logistics. Collectively, the North American market opportunity to supply hydrogen to distribution centers is a multi-billion dollar market. Individual warehouses represent the opportunity to build a commercial scale hydrogen infrastructure with consistent high utilization and predictable adoption, ultimately leading to a comprehensive hydrogen highway network. Refueling of fuel cells requires less than one minute, greatly decreasing vehicle and operator downtime. New York's Energy Plan Issue Brief on **Energy Infrastructure Needs** should give consideration to how the State can foster the implementation of hydrogen fueling stations that can be located strategically around a factory or warehouse, facilitating the adoption of fuel cell motive power lift trucks and eliminating the need for a battery room and freeing up additional commercial space.

Additionally, consideration should be given to an Issue Brief specifically focused on **Critical Infrastructure Needs and Distributed Generation**. For example, following Hurricane Katrina, the worst natural disaster in our Nation's history, and the difficulties that our public and private recovery efforts faced, the Federal Communication Commission (the "FCC") determined to improve our country's disaster preparedness, network reliability and communication among first responders such as police, fire fighters, and emergency medical personnel. Of particular note is the FCC's adoption of several new requirements relating to back up power at cell towers contained in Section 12.2 of the FCC's rules. The FCC has adopted a rule that requires 8 hours of emergency backup power source (e.g., lead-acid batteries, diesel generators, fuel cells) for all assets necessary to maintain communications that are normally powered from local commercial power, including those inside central offices, cell sites, remote switches and digital loop carrier system remote terminals. This rule is critical to our Nation's ability to respond to natural disasters and is equally critical to our national defense. New York's Energy Plan should specifically look at critical communications infrastructure and computer infrastructure necessary for the State to respond to natural and man-made disasters and seek to put in place a plan for clean, reliable distributed generation to support our emergency responders.

Thank you for your consideration.

Respectfully Submitted on Behalf of  
Plug Power Inc.

*/s/John S. Harris*

John S. Harris