

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

Proceeding on Motion of the Commission to Examine Issues
Related to the Transition to Intermodal Competition
in the Provision of Telecommunications Service

Case 05-C-0616

COMMENTS OF PLUG POWER INC.

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Introduction

Plug Power, Inc. is a designer, developer and manufacturer of on-site energy generation systems utilizing proton exchange membrane fuel cells for stationary applications. Plug Power is based in Latham, New York. Plug Power's fuel cell systems for small stationary commercial applications have been delivered to select customers through a joint venture with the General Electric Company, and fuel cell systems for residential and small stationary commercial applications are expected to be sold globally through a joint venture with the General Electric Company, and through DTE Energy Technologies.

Plug Power's backup fuel cell product – the Gen Core – is a five-kilowatt unit that uses bottled hydrogen as fuel. It produces no emissions other than water and heat, and it provides a seamless transition from grid power to backup power. The run time of the unit is largely a function of the amount of hydrogen that is stored onsite.

Plug Power has sold over 200 Gen Core units to telecom providers and other customers for backup of critical infrastructure

Statement of Position: The Commission should not allow intermodal competition to cause a decline in emergency preparedness.

Intermodal competition is having a strong influence on investments in backup power. Backup power practices among the various carriers and modalities are not directly prescribed by regulation, and are not uniform. Industry and regulatory trends in recent years encourage degradation of backup power capabilities.

Many thousands of remote facilities located across the state – cell sites, digital loop carriers and cable power nodes being the most significant – rely on grid power to operate and must be backed up to prevent failure during a grid outage. The Staff Report on the blackout of August 2003 found that nearly five percent of wireline customers lost dial tone due to backup power failures, and thirty percent of cell sites went out of service for the same reason. Initial Report by the New York State Department of Public Service on the August 14, 2003 Blackout, February 2004, at 81. The Commission has also found

that “More attention should be paid to backup powering.” Case 03-C-0922, Order Concerning Network Reliability Enhancements, July 28, 2004 at 21.

Since 2003 the trend has been toward further degradation of backup power capabilities. Wireline carriers are subject to competitive pressures and any service quality measures that are not specifically prescribed are in danger of being eliminated. Maintaining current levels of backup power capability requires capital investments as old batteries need replacement, and requires operational spending to maintain batteries. Spending in these categories has declined significantly.

Backup power, like emergency preparedness in general, is not a subject that lends itself readily to market forces. The recent disastrous experience with VoIP and 911 illustrates consumers’ tendency to assume that access to emergency services will be available when needed. Wireline consumers assume that dial tone will be available during a power outage, because it always has been. The fact that carriers have allowed backup capabilities to degrade will not be noticed by consumers until service fails during an emergency.

This is more than a theoretical problem. Ensuring the availability of telephone service during a power outage is the type of responsibility that defines the Commission’s core mission. New York City found that during the blackout of 2003, 911 call volume increased 187% over the same period from the previous year. The types of emergencies for which people might need 911 escalate during a prolonged power failure. HVAC systems stop functioning. Home security systems, smoke alarms and carbon monoxide alarms may stop functioning. People who cannot use stairs become stranded in apartment buildings.

Plug Power has demonstrated, in filings in Case 03-C-0922, that fuel cells can perform the backup function at remote facilities less expensively, and with greater reliability, than lead-acid batteries. There is a danger, however, that the pressure of competition will cause reduced reliance on all forms of installed backup capability. Fuel cells can compete with batteries. Neither batteries nor fuel cells can compete with a policy that accepts network failure as an ordinary consequence of a power outage.

To varying degrees, most of the competing modalities still rely on the public switched network. Although intermodal competition is a principal cause of the degradation of backup power capabilities, it will be in the interest of all consumers for the reliability of the network to be maintained.

Response to Individual Questions

Market Power No. 6: Should we allow rates in less densely populated areas to increase to their underlying cost levels?

Plug Power takes no position with respect to rate design. Plug Power suggests, however, that the premise of this question be reexamined. Allocation of resources in recent years has heavily favored competitive markets, at the expense of service quality in less densely populated areas. For example, technicians have been removed from these areas. The result of this trend is that “underlying cost levels” in these areas have already been sharply reduced.

Service Quality No. 1: How should we adapt our service quality regulation to the marketplace realities?

The third principle cited in the Order instituting this proceeding states that “neither should regulatory protections be abandoned merely on the promise that the market may eventually provide them.” It is plain that the market is not driving increased investment in backup power on the part of wireline carriers. Wireless carriers, following the service failures of 2003 and other blackouts, appear to be taking modest steps to improve their ability to withstand power outages. NRIC Charter VII Working Group 3 has identified backup power at cell sites as a gap that needs to be addressed. There is no indication at this time, however, that the wireless industry contemplates a uniform standard for backup power commensurate with the historical public service obligation of wireline carriers.

For this reason, and for the reason explained above in the Statement of Position, backup power should be considered a type of service that cannot simply be left to the market.

Service Quality No. 2: Are output-oriented performance measures still valid as a means of informing consumer choices and, if so, should they be expanded to include all modes (wired and wireless, VoIP and cable telephony?)

There is an important distinction between service quality issues that affect convenience – for which customers might be asked to decide whether they are desired and at what price – and those that are matters of necessity, which the Commission should require all carriers to provide. Maintaining service during emergency conditions falls into the latter category.

The Commission should consider whether it may be advisable to maintain performance standards for non-essential service quality issues, while establishing input-based standards where core issues of safety and reliability are concerned.

It should be noted that the performance standards incorporated in the Verizon Incentive Plan do not directly affect the provision of backup power. If the Commission bases its future quality of service regulation on performance standards, the standards should include a provision for maintaining service during power outages.

Service Quality No. 3: Should proactive service quality performance oversight and enforcement of whatever breadth be limited to less competitive markets or geographic areas? More importantly, indeed critically, how can this be done in a manner that ensures the overall reliability of the underlying inputs, the interconnected networks themselves?

This question assumes that service quality has not already been compromised by allocation decisions based on competitive concerns. Customers in less competitive markets are presently receiving service of a lower quality than those in competitive markets. Inability of rural customers to receive DSL, and unavailability of service personnel during non-business hours, are two examples. If rate design is altered to allow wireline carriers to compete directly, then the migration of service quality dollars into competitive markets will likely accelerate, with the result that customers in less competitive markets will pay higher prices and receive lower service quality. Again, Plug Power takes no position on rate design, but observes that a consequence of changing rate design may be reduced service quality in non-competitive areas.

Service Quality No. 4: Regulatory reform in the area of telecommunications service quality must not compromise the state's economic well-being, security, or safety. How is this done in other critical infrastructure areas (e.g. transportation), and how do those experiences inform us?

In the deregulation of the electric industry, there has been more tolerance for economic risk than for physical risk. Distributed generation, for example, is a competing modality which for many years faced barriers to entry because of a zero-risk approach regarding the safety of interconnection. Although the technology to safely install and interconnect DG equipment has been in place for a long time, only in recent years have standardized rules been adopted which lower the barrier. The New York Public Service Commission has been a leader in that effort. The adoption of standardized interconnection rules does not, however, reflect a loosening of the very low tolerance for risk. It reflects an overwhelming body of evidence that the risk is in fact very low.

The changes in the telecommunications industry have created an increased risk of customers losing access to emergency services from their home telephones. The problems with VoIP and 911 are the most pronounced example of this. Declining expenditures on backup power are another example. The availability of wireless calling has, certainly, increased safety for many customers. However, many customers do not have wireless service. Moreover, with wireless becoming established as a primary service, customers will rely on wireless service for emergency communications although wireless providers are not subject to a public service obligation.

Service Quality No. 9: Is reporting based on size still relevant? Should we focus our reporting requirements on less competitive markets or geographic areas?

Size-based reporting is relevant if performed properly. Trouble-based reporting on a wirecenter basis can be misleading in large wirecenters. Size-based reporting should be done, if at all, at the tracking unit level. This will make it more difficult for the troubles in a particular tracking unit to be ignored.

Service Quality No. 11: Should all carriers be held to a threshold standard for service?

To the extent that jurisdictional concerns permit, the Commission should identify service quality standards that pertain to core safety and reliability issues and should hold all carriers to a basic threshold for these services.

Service Quality No. 12: Are the customer trouble report rate (CTRR) measures still reflective of the quality of service provided to customers?

CTRR, taken as a whole, remains a powerful tool. Its efficacy with respect to loss of backup power is questionable, however. Where thousands of customers in an area all lose service simultaneously, it is likely that the number of customers that report the trouble will be disproportionately small.

Service Quality No. 15: Is our Public Service Commission (PSC) Complaint Rate Level still relevant?

Direct complaints to the PSC remain the best way for consumers to obtain relief from service quality problems. Again, though, the efficacy of this method for backup power issues is questionable.

Service Quality No. 18: (abridged) Is annual construction budget information still needed?

Annual construction budget information is invaluable but only if it is sufficiently detailed and reviewed at the district level. Construction numbers at a higher level can be disproportionately distributed.

Conclusion

The Commission should ensure that intermodal competition does not have the unintended consequence of weakening the emergency preparedness of the network. Reduced investments in backup power create a physical and economic risk to customers that is not easily accounted for in the market and should be subject to regulatory supervision.

Respectfully submitted,

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