

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service
Commission held in the City of
Albany on August 18, 2011

COMMISSIONERS PRESENT:

Garry A. Brown, Chairman
Patricia L. Acampora
Maureen F. Harris
Robert E. Curry, Jr.
James L. Larocca

CASE 03-E-0188 - Proceeding on Motion of the Commission
Regarding a Retail Renewable Portfolio
Standard.

ORDER DECLINING TO MAKE ELEVATOR REGENERATIVE DRIVES
AN ELIGIBLE TECHNOLOGY IN THE CUSTOMER-SITED TIER

(Issued and Effective August 19, 2011)

BY THE COMMISSION:

INTRODUCTION

In this order, the Commission declines to make elevator regenerative drives an eligible technology in the Customer-Sited Tier of the Renewable Portfolio Standard (RPS). An elevator "regenerative drive" generates electricity when the gravitational pull or force of an elevator or counterweight going down is greater than the weight going up, and the force of gravity is held in check by a braking system that includes an elevator motor rotating backwards and functioning as a brake and regenerator of electricity. Such eligibility was sought in a petition dated March 23, 2011, submitted by Energy Investment Systems and C.V. Starr Research Foundation at The Cooper Union for the Advancement of Science and Art (EIS/Cooper).

BACKGROUND

In an April 2006 Order, the process for the addition of new technologies to the existing RPS program was presented. A petition process was described that urged petitioners to address "origin and composition of the generation fuel; extent to which the technology will result in new and incremental renewable resources; nature of the process transforming that fuel into electricity; totality of the environmental and other impacts of the generation process, such as air emissions and waste products; degree of development of the technology; and probable cost of providing RPS Program support for that technology."

In a September 24, 2004 Order, the structure and goals of a Customer-Sited Tier program within the RPS to allow small customer-operated systems to receive RPS payments for behind-the-meter renewable energy technologies was presented.¹ In an April 14, 2005 Order, the goals for the Customer-Sited Tier were outlined as follows:

- cost effectiveness relative to the retail price of electric power;
- market risk as indicated through consumer awareness, the potential market size, and the availability of deployment services to meet consumer demand;
- the net environmental impact relative to clean fossil technology;
- technical risk as indicated through the stage of product manufacturing, proven field experience and the ability of the technology to meet reasonable performance standards for

¹ Case 03-E-0188, Retail Renewable Portfolio Standard (RPS), Order Regarding Retail Renewable Portfolio Standard (issued September 24, 2004).

the expected life of the technology, which should at least extend beyond 2013;

- the likelihood that manufacturing and/or deploying the technology will maintain or increase employment in New York State;
- benefits to the New York State electric system through reduction in the peak load or the cost of power;
- fuel diversity impact through a reduction in the use of fossil fuels; and
- the potential for residential and small business sector participation.²

Based on these criteria, the Commission has included solar photovoltaic (PV), anaerobic digester generation (ADG), small wind turbines, fuel cells, and solar thermal water heating when used to displace electric water heating. Most recently, the Commission added the Geographic Balance program to the Customer-Sited Tier, which includes solar PV and the use of biogas by generators.³

In an order issued April 2, 2010, the Commission noted comments submitted by EIS/Cooper to add regenerative drive technology to the RPS Customer-Sited Tier program and stated: “[w]e do not have enough information on this proposal to address it at this time, but will not preclude future consideration.”⁴

On March 23, 2011, EIS/Cooper petitioned the Commission to expand the list of eligible technologies for the RPS Customer-Sited Tier program to include regenerative elevator technology. In its petition, EIS/Cooper states that

² April 14, 2005 Order, pp. 25-26.

³ April 2, 2010 Order.

⁴ Case 03-E-0188, Retail Renewable Portfolio Standard (RPS), Order Authorizing Customer-Sited Tier Program Through 2015 and Resolving Geographic Balance and Other Issues Pertaining to the RPS Program (issued April 2, 2010).

regenerative drive technology meets all of the Commission conditions for inclusion in the Customer-Sited Tier program. EIS/Cooper suggests that the technology is particularly suited to New York City and notes that while new elevators are already required to have this feature, fewer than 2% of all City elevators employ it.

NOTICE OF PROPOSED RULEMAKING

A Notice of Proposed Rulemaking concerning the RPS program proposals under consideration in this order was published in the State Register on April 27, 2011 [03-E-0188SP28]. The minimum period for the receipt of public comments pursuant to the State Administrative Procedure Act (SAPA) regarding the notice expired on June 13, 2011. All of the comments received in response to the notice that relate to the issues dealt with in this order have been considered whether or not they are directly referenced within this Order. The actions taken in response to the comments are addressed below.

COMMENTS

The Environmental Protection Committee of the New York City Council (NYC-EPC), the Building Performance Lab of the CUNY Institute for Urban Systems (CIUS), S.W. Management, LLC (SWM), and Automated Energy (AE) all filed comments supporting the petition. NYC-EPC notes that the technology "has singular potential for New York City and its universe of 60,000 elevators" and describes it as "an important opportunity to establish greater geographic balance" in the RPS program, urging the Commission to "establish a new renewable resource in the state's largest City." CIUS cites petitioner in estimating a 200-300 MW potential for regenerative drive technology and touts its ability to reduce electric demands in New York City. SWM

owns and manages over 200 multifamily rental buildings in the New York City area and believes that RPS incentives could help "reduce energy usage and costs for ... and greatly enhance the health and safety of thousands of tenants." In urging the Commission approval of the petition, AE claims there is "a unique opportunity to explore and evaluate the potential energy resources available in the approximately 60,000 elevators in New York City alone."

Other petitioners echo the sentiment of those cited, but none address whether the petitioner has demonstrated that the technology meets the conditions set for RPS Customer-Sited Tier eligibility.

RESOLUTION OF ISSUES

In its petition, EIS/Cooper addresses the Commission's Customer-Sited Tier goals point-by-point. The petition states that the technology uses gravity as its renewable power source. EIS/Cooper seeks to distinguish regenerative drive technology from efficiency measures, by comparing a compact fluorescent light (CFL) to the drive technology. In doing so it states that the CFL consumes less electricity to create the same amount of light as an incandescent bulb. In contrast, it claims that the elevator drive generates electricity when the elevator is not performing its normal function or work. However, the comparison equally supports the argument that the elevator does use less energy overall while performing the same basic amount of work. Notably, EIS/Cooper also states that "the elevator industry ... is embracing energy efficiency with a vengeance" and provides citations that describe the technology as delivering "energy savings of up to 75 percent compared to that of conventional systems."

As well, the petitioner compares the technology to energy storage, specifically to pumped hydroelectric storage. It distinguishes regenerative elevator drives from storage based primarily on the purpose served by the energy consumed in creating the gravity potential that is converted to electricity. It claims that storage consumes energy specifically to store energy, while this technology "consumes electricity to perform work ... in the same manner as any other energy-consuming transportation system ... while generating electricity." Later in its petition, EIS/Cooper compares its proposed technology to "innovative flywheel technology" used in shipyards.

EIS/Cooper also recognizes that it may be a matter of opinion whether the proposed regenerative elevator drive is "a renewable resource, an energy efficiency measure, or an energy storage technology" and that "storage, generation, and efficiency are often blurred when used in a policy framework."

Discussion

We appreciate the efforts of EIS/Cooper to distinguish the regenerative elevator drive technology from efficiency and storage. Clearly the technology is environmentally friendly. However, we do not have a one-size fits all green energy program, but rather the RPS to promote renewable energy, the Energy Efficiency Portfolio Standard (EEPS) to provide incentives for efficiency programs, and the proposed Technology and Market Development (T&MD) program to promote the development of other clean-energy technologies. Here the issue is whether regenerative elevator drive technology is a renewable energy source eligible for support in the New York RPS program and whether we want to provide increased RPS collections to fund such support. In expending ratepayer-provided funds in promoting renewable energy, we have established standards that the technology being proposed does not meet. Regenerative

elevator drive technology cannot generate electricity by itself. It requires that electricity be used to create the motion that is recaptured through regeneration from the relative weights and positions of the elevator vehicle and the counterweight. In comparing its technology to shipyard flywheel, electric/hybrid automotive, and electric railway technologies, EIS/Cooper reveals that its proposed addition, while environmentally beneficial, is not renewable generation. It clearly is a technology that recaptures other energy already being expended. It is equally clear that without consuming electricity from the grid, it cannot generate electricity, renewable or not. In that regard, it is akin to pumped storage hydro and we note that for Environmental Disclosure purposes, we treat pumped storage generated power as electricity coming from the generation source used to pump the water up into the storage facility and not as "clean" hydropower.

We are also troubled by sections of the petition that indicate that studies are necessary to determine its "potential in commercial and residential buildings, determine its economic value ... [and] recommend incentives to promote implementation and accelerate commercialization." The RPS Customer-Sited Tier is a procurement program, not a research program. We also note that a primary driver in the petition appears to be a downturn in an established market. The petitioner states that the elevator retrofits to which the technology is directed "are down 75 percent in today's economy in New York City." Further, the petitioner does not suggest the level of support necessary for regenerative elevator drive technology, but rather states that a study has been proposed.

Given the nature of the technology, the uncertainties noted above, and our desire to not diminish financial support for the other technologies that have already been deemed

eligible in the RPS program or to raise RPS collections at this time, we will not approve the proposal. This determination is without prejudice to a consideration of the technology as eligible, if deemed appropriate, for either the SBC IV Technology and Market Development (T&MD) program proposed by the New York State Energy Research and Development Authority (NYSERDA), or for a future energy efficiency program proposed by an EEPS program administrator.

CONCLUSION

The petition and comments filed in this proceeding have been helpful in determining the value of regenerative technology in New York environmental policy. However, the technology does not meet the prescriptions of the RPS program or the Customer-Sited Tier. Therefore, we shall decline to make elevator regenerative drives an RPS-eligible technology.

The Commission orders:

1. The petition is denied. Regenerative elevator drive technology is not added to those eligible for support under the Customer-Sited Tier of the Renewable Portfolio Standard (RPS) program.
2. The proceeding is continued.

By the Commission,

JACLYN A. BRILLING
Secretary