STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

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

PETITION FOR MODIFICATION
OF RPS CST ADG PROGRAM

Introduction

The New York State Energy Research and Development Authority (NYSERDA) respectfully requests that the Commission issue an order increasing the maximum project incentive available under the Renewable Portfolio Standard, Customer-Sited Tier (CST) Anaerobic Digester Gas-to-Electricity Program (ADG Program) from $1 million to $2 million per installation.[1]

As is explained below, due to the expiration of a federal incentive program and significantly lower wholesale energy prices, the overall financial picture for ADG projects has deteriorated over the past two years. Based on NYSERDA's experience with the ADG Program, it appears that the existing maximum incentive amount is no longer sufficient to incentivize project development, construction and operation, or to attract new Program participants. Given the numerous benefits provided by ADG projects, NYSERDA proposes to increase the level of CST support to a maximum of $2 million per project.

Background

Based on NYSERDA's experience to date, construction costs for ADG-to-electricity systems ranging in size from 200-600 kW cost from $1.4 million to $4 million for farms and municipal wastewater treatment plants, and more for industrial food and beverage processors.[2] The

[1] The current maximum per installation incentive was set in 2010. Case 03-E-0188, Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, *Order Authorizing Customer-Sited Tier Program Through 2015 and Resolving Geographic Balance and Other Issues Pertaining to the RPS Program*, issued and effective April 2, 2010, p. 22.

[2] NYSERDA's portfolio indicates that construction costs for projects in the 225 to 300 kW size range from $1.4 to $1.8 million; costs for projects in the 500 to 600 kW size range from $3.5 to $4.0 million. For larger-sized projects, construction costs have proven to be moderately higher than the $4,000 - $6,000 per kW anticipated in the Mid Course Report.

operation and maintenance of ADG systems over their presumed 15-year lives adds additional costs of approximately 50% of that amount.[3] Thus, a typical 450 kW system will incur overall lifetime installation and operating costs of approximately $4 million.

Eighteen ADG-to-electricity projects have achieved commercial operation under the Program. In addition to the financial incentives provided through the CST, these projects benefited from the availability of federal funds, energy prices in the range of $60/MWh when they broke ground,[4] and a stable economy. Of the 18 projects, 11 were new farm-based systems including a new digester, engine and generator.[5] Eight of those 11 projects have received or have applied for a Treasury Department § 1603 grant equal to up to 30% of installation costs. For NYSERDA-supported projects that have been awarded § 1603 grants, the value of the grant has ranged from $1,200 to $2,000 per kW or an average of $650,000 for typical project sizes.[6] The remaining 3 projects received various other forms of federal support (e.g., 30% investment tax credit, Rural Energy for America Program Grants, tax depreciation benefits, etc).

As has been noted by the Commission, ADG-to-electricity projects provide numerous benefits. In addition to producing base-load electricity, ADG systems serve directly to reduce greenhouse gas emissions, aid in meeting federal and State water safety and air quality regulations, mitigate solid waste burdens, and to preserve farmlands and open space.[7] ADG systems provide infrastructure that supports economic vitality among sectors that are significant and taxable contributors to the state's economy, including dairy farms and food and beverage processing facilities, and help to lower the cost of operation of municipal wastewater treatment facilities.

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[3] Based on various studies, including feasibility studies on NYS projects, annual O&M costs approximate 5% of capital costs, or 3 cents per kWh which, at a 75% capacity factor, equals approximately $2,950 per kW installed over 15 years. See: http://www.manuremanagement.cornell.edu/Pages/Assessment_Tools/Economic_Models.htmlhttp://dyson.cornell.edu/outreach/extensionpdf/2008/Cornell_AEM_eb0804.pdf

[4] ADG farm projects are generally clustered in NYISO Zone B (Genessee) and Zone C (Central). The average Location Based Marginal Prices (LBMP) for Zone B for 2007-2008 was $59.4 per MWh; for 2009-2012 it was $37.5 per MWh, an erosion of $21.9 per MWh. The average LBMP for Zone C for 2007-2008 was $63.5 per MWh; for 2009-2012 it was $38.5 per MWh, an erosion of $25.0 per MWh. The average price erosion in Zones B and C from 2007-08 to 2012 is $23.45 per MWh = ($21.9+$25.0)/2.

[5] Three were constructed at municipal waste water treatment facilities. Four were at farms adding an engine/generator to be fueled by an existing digester, with correspondingly smaller installation costs.

[6] As of September, 2012, Section 1603 Cash grants to NYS ADG projects totaled nearly $5 million, though one of those projects was substantially larger than NYSERDA typically sees in its ADG Program. See http://www.treasury.gov/initiatives/recovery/pages/1603.aspx

[7] See "Order Approving Request for Inclusion of Methane Digester Systems as Eligible Technologies in the Customer-Sited Tier," issued and effective November 2, 2005, p. 6; The Renewable Portfolio Standard: Mid-Course Report; prepared by Department of Public Service Staff, October 26, 2009, p. 56. See also Case 03-E-0188, Final Generic Environmental Impact Statement, August 2004, p. 90.

The Current Challenge to ADG Development

While the availability of NYSERDA's ADG incentives has remained constant, all of the other financial factors supporting project development have disappeared or eroded. The Treasury Department § 1603 program, under which ADG projects were eligible to receive cash grants equal to 30% of installation costs, has expired. The value of the grid-supplied electricity that would be displaced by the ADG system has dropped by more than a third, or approximately $62,000 per year for a 400 kW system.[8] Project developers have also conveyed that financing options remain limited and difficult to obtain in the aftermath of the fiscal crisis.[9]

In addition to the 18 operational projects, the ADG Program is currently engaged with 17 projects that have made no progress beyond the design stage during the past two years. NYSERDA has received only two new applications since the end of 2010. NYSERDA's experience in this market and discussions with the various farms and developers indicates that in the absence of the Treasury Department § 1603 program, and given the current LBMP prices and forecasts, the $1 million maximum allowable award is no longer sufficient to move projects to construction and operation or to attract new Program participants.

To address the now-higher economic hurdles faced by ADG projects, NYSERDA requests authorization to increase the total award cap from $1 million to $2 million in order to cover more of the actual costs of these projects. If approved, NYSERDA would expect to prepare and submit a revised CST Operating Plan, which would set forth the specific rules under which new awards would be offered, and which may include a lengthening of the performance period to ensure that these systems continue to operate.

Impact of ADG Program Revisions on Expected MW and MWh Achievements

While necessary to spur project development from its current stalled state, the requested increase in the maximum project award will have an impact on the projected MW and MWh achievements of the CST ADG Program. Table 1 presents the forecasted MW and MWh-based on anticipated full encumbrance of the budgets as they appear in the 2012 CST Operating Plan.

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[8] Using an annual capacity factor of 75% and the average eroded value of $23.45 per MWh, losses amount to approximately $62,000 per year for the 400 kW system and $92,000 per year for a 600 kW system (equating respectively to approximately $925,000 to $1.4 million across a presumed 15-year lifespan). Under the net metering law, payment for excess generation is made at the utility's avoided cost, which reflects the wholesale price. PSL § 66-j(4)(c).

[9] ADG projects face particular financing challenges, as the project development path presents a substantial and unfamiliar learning curve to investors, high up-front costs, and a dearth of risk mitigation or risk sharing mechanisms. See, e.g. http://www.usda.gov/oce/reports/energy/RenewablePowerOpportunities-Final.pdf https://financere.nrel.gov/finance/content/renewable-electricity-faces-financing-challenges-end-federal-1603-grant-program

These estimates were based on market and financial assumptions derived in the 2009 Market Study and reflected in the Commission's 2010 CST Order.[10]

Table 1. Forecasted Impact of CST Programs Prior to ADG Program Revisions Herein Proposed (based on 2012 CST Operating Plan)*

CST Program	Expected Capacity in MW Encumbered 2007 - 2015	Expected Annual Generation in MWh Encumbered 2007 - 2015
ADG	31.9	225,490

***All values refer to capacity in MW encumbered or annual generation in MWh encumbered by end of noted period.**

Should the Commission grant NYSERDA's request to increase the maximum per project incentive amount, the ADG Program is expected to deliver 25.8 MW, which is 6.1 MW (or 19%) less than the expected ADG achievements at full budgetary commitment estimated in the Commission's 2010 CST Order. The expected annual ADG generation would be 176,376 MWh, which is 49,114 MWh (or 5%) less than the expected ADG achievements estimated in the Commission's 2010 CST Order.

These reductions represent a 1% erosion of the overall CST Portfolio MW goal and a 6% erosion of the overall CST Portfolio MWh goal. Table 2 presents the forecasted MW and MWh based on anticipated full encumbrance of the budgets and a $2 million maximum project incentive. Under this scenario, the ADG Program will still be contributing a substantial portion (21%) of the annual MWh generation goal for a revised overall CST target.

[10] Renewable Portfolio Standard Customer-Sited Tier Program Market Potential and Funding Considerations (2010-2015) June 22, 2009; Renewable Portfolio Standard Operating Plan 2012-2015, Table 2-3.

Table 2. Forecasted Impact of CST Programs if ADG Program Revisions Herein Proposed are Implemented*

CST Program	Expected Capacity in MW Encumbered 2007 - 2015	Expected Annual Generation in MWh Encumbered 2007 - 2015
ADG	25.8	176,376

***All values refer to capacity in MW encumbered or annual generation in MWh encumbered by end of noted period.**

While these reductions are not insignificant, it appears to NYSERDA that, based on its experience in administering the ADG Program, if the maximum project incentive is not increased it is very likely that none of the 17 projects currently in the design phase will proceed, and few if any new projects will emerge. Should this eventuate, the CST program would lose its largest base-load option and the overall CST generation goal would be further compromised.

Overall ADG Program Budget

The 2010 Order directed that the funding authorized for the ADG Program be administered according to approved calendar-year budget allocations; the pertinent years and budgets are specified in Table 3.

Table 3. Approved Customer-sited Tier Funding Budget for the ADG Program

CST Program	2012	2013	2014	2015
ADG	$12,000,000	$11,600,000	$10,200,000	$10,200,000

At this time, NYSERDA does not seek an increase in the overall ADG Program budget (i.e., the $44 million remaining). Due to the lack of new applications, nearly all of the $12 million budget for 2012 remains uncommitted. The combined budget for calendar years 2012 and 2013 totals $23.6 million.[11] NYSERDA anticipates that, if granted, the requested increase in the maximum per project award will cause a large fraction of the 17 projects in the pipeline that have been stalled to move forward. Any project that chooses not to move forward will have its award

[11] Should this Petition be granted, NYSERDA intends to request in its CST reallocation petition to be filed in January of 2013 that the entire uncommitted 2012 ADG balance be reallocated to the 2013 ADG budget.

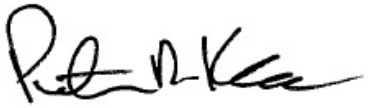
rescinded and those funds will then be available to support new projects entering the Program in 2013 and beyond.

Conclusion

ADG-to-electricity projects provide numerous benefits to the State's energy policy, its environment and its economy. Should the Commission grant NYSERDA's request, the ADG Program will continue to make a significant contribution to goals of the Renewable Portfolio Standard. For the reasons stated herein, NYSERDA respectfully seeks an order increasing the maximum CST ADG Program project incentive from $1 million to $2 million per installation.

Dated: October 19, 2012

Respectfully submitted,



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