STATE OF VERMONT
PUBLIC SERVICE BOARD

Amended Joint Petition of Central Vermont Public Service Corporation, Danaus Vermont Corp., Gaz Métro Limited Partnership, Gaz Métro inc., Northern New England Energy Corporation for itself and as agent for Gaz Métro Limited Partnership's parents, Green Mountain Power Corporation and Vermont Low Income Trust for Electricity, Inc. for approval of: (1) the merger of Danaus into and with Central Vermont, (2) the acquisition by Northern New England of the common stock of Central Vermont, (3) the amendment to Central Vermont's Articles of Association, (4) the merger of Central Vermont into and with Green Mountain, and (5) the acquisition by VLITE of a controlling interest in Vermont Electric Power Company, Inc.	)	Docket No. 7770

REBUTTAL TESTIMONY OF

JOHN J. PLUNKETT

ON BEHALF OF THE PETITIONERS

February 15, 2012

Summary of Testimony

Mr. Plunkett testifies that the projected approximate $40 million in net benefits to CVPS customers through the types of measures the Board has approved under GMP's Efficiency Fund significantly exceeds the amount required under the windfall sharing obligation. Mr. Plunkett's testimony also supports the framework set forth in the direct testimony of DPS witness Dr. Asa Hopkins for assessing the prospective value of the Combined Company's proposed CEED Fund in the territory served by CVPS. Finally, Mr. Plunkett testifies on prospects for leveraging substantially more societal value through innovative financing approaches to efficiency retrofit investment.

REBUTTAL TESTIMONY OF

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1. Q. State your name, occupation and business address.

A. I am John J. Plunkett, a partner in Green Energy Economics Group. My address is 1002 Jerusalem Road, Bristol, VT 05443.

2. Q. Summarize your professional education and experience.

A. My education and experience are summarized in **Exh. Pet.-JJP-1.**

3. Q. Have you testified before the Vermont Public Service ("Board") previously?

A. Yes. I provided expert testimony in Dockets 7466 (Energy Efficiency Utility Order of Appointment), 7213 (previous Green Mountain Power Corporation ("GMP") merger case), 6860 (Vermont Electric Power Co., Inc. ("VELCO NRP"), 5980 (Efficiency Utility Proceeding), 5983 (GMP rate case), 5724 (Central Vermont Public Service Corp. ("CVPS") rate case), and 5270 CV 1 and 3 (CVPS efficiency proceedings).

4. Q. On whose behalf are you testifying?

A. I am testifying on behalf of Petitioners.[1]

5. Q. What is the purpose of your testimony?

A. Petitioners asked me to identify the potential to achieve the amount of net benefits for CVPS customers required under the windfall sharing obligation through the types of measures the Board has approved under GMP's current Efficiency Fund ("EF"). Petitioners also asked me to review the framework Dr. Hopkins put forward in his testimony for assessing the value of the Community Energy and Efficiency Development Fund ("CEED Fund") the Combined Company has proposed for CVPS customers. Finally, Petitioners asked that I assess prospects for leveraging significantly more societal net benefits per fund dollar spent on customer efficiency investment using innovative financing strategies in place of the type of direct (full or partial) investment in customer efficiency retrofits undertaken since 2008 under the EF.

6. Q. Will the types of projects approved under GMP's EF result in the required level of net benefits to CVPS customers?

A. Yes. Funding an additional $20.9 million in residential and business energy-efficiency retrofit investment by Efficiency Vermont in CVPS territory over five years can be

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[1] I am working in this case under contract with GMP. My firm is also a subcontractor to Vermont Energy Efficiency Corp. ("VEIC") under its order of appointment by the Board as Energy Efficiency Utility. While some VEIC personnel reviewed this testimony, VEIC neither endorses nor sponsors it.

expected to generate approximately $40 million in net societal benefits. This estimate is predicated on projections of benefits and costs for residential and business retrofit investment that VEIC developed for the Demand Resource Plan approved by the Board in August 2011. **Exh. Pet.-JJP-2** details the assumptions and calculations supporting this estimate.

7. Q. Do you agree with the framework Dr. Hopkins presents for assessing the economic performance of Petitioners' proposed CEED Fund?

A. Yes, I do. It is in customers' best interest for the Combined Company to invest the money on their behalf if, and only if, by doing so the Company can create more value for its customers than they could if they spent or invested the money on their own. (Hopkins pf. at 11). The challenge is to choose a portfolio of investments that collectively and cumulatively maximizes societal value from the $20.9 million (inflated) the Combined Company proposes to invest on CVPS customers' behalf. Dr. Hopkins discusses how the Combined Company should balance the diverse array of potentially worthwhile clean energy investment opportunities, including additional efficiency and renewable supply. If the Combined Company can find ways to increase the economic yield on some investments, then more of the CEED Fund can be allocated to other, less cost-effective but still worthwhile clean-energy investment opportunities such as solar projects.

8. Q. What are the prospects for raising the economic yield on customer funding of efficiency investment using innovative financing approaches?

A. Instead of paying all or most of the costs of efficiency retrofits as GMP's EF has in the past, the Combined Company may be able to direct funds in ways that make it easy for consumers to fully repay the costs of efficiency retrofits over time. Depending on the success and costs of such innovative financing approaches, it may be possible for the Combined Company to raise substantially the dollar value of net societal benefits yielded per dollar of Combined Company funding.

9. Q. What innovative financing approaches do you have in mind?

A. Two separate financial strategies offer the potential for expanding the Combined Company's customers' access to capital for retrofit efficiency investment: on-bill financing, and loan-loss guarantees or reserves. They are mutually reinforcing in terms of their potential impacts on increasing the volume and lowering the cost of capital accessible to the Combined Company customers to pay for efficiency investment.

10. Q. How would on-bill financing enable customers to pay the full costs of retrofits?

A. Participating customers would pay fixed monthly installments as an individualized line item on their bills. Monthly payments would be calculated to be less than one-twelfth the estimated annual bill savings, thereby accomplishing positive cash flow for

participating customers. In practice this is done by setting the length of the repayment term to one year longer than the simple payback period of the retrofit investment.

11. Q. Would the Combined Company lend money directly to customers?

A. No. The Combined Company would not have to enter the banking business. Instead, one or more lending institutions would advance the funds to pay for individual customers' efficiency retrofits. The Combined Company's role would be to collect the money borrowers pay on their bills and remit it to lenders over time. The Combined Company would pay lenders fees for loan origination and administration, plus prepayment of any interest-rate discount built into the on-bill installment payment.

12. Q. How would on-bill financing raise the net societal yield per dollar of Combined Company funding?

A. Rather than paying most or all efficiency investment costs, the Combined Company would incur costs an order of magnitude less.

13. Q. Why would you expect the fees the Combined Company would have to pay lenders to be so much lower as a percentage of project costs?

A. Costs would be significantly lower for lenders because the administrative tasks having to do with billing and collection would be handled by the Combined Company instead of the bank, and because the credit risks and related costs associated with electric bill financing are much lower than they would be for a separate loan administered by a bank.

14. Q. What about the risk of nonpayment?

A. Ultimately this would be a cost of doing business. All the evidence I have seen suggests it would be low. I have attached as **Exh. Pet.-JJP-3** a recent report by the American Council for an Energy-Efficient Economy ("ACEEE") entitled "On-Bill Financing For Energy-Efficiency Improvements: A Review of Current Program Challenges, Opportunities, and Best Practices," dated December 2011. As the title suggests, this report draws lessons from the experience of utilities in several jurisdictions. This report found that the default rate on utility-sponsored efficiency loans has historically been in the low single digits. Programs with on-bill repayment have experienced default rates of 2 percent or lower (**Exh. Pet.-JJP-3** at 3). One way to address this risk systematically and cost-effectively would be for the Combined Company to establish a loan-loss reserve fund. It is far cheaper to pay the full cost of one out of fifty or even twenty efficiency retrofits than to pay fully for all of them.

15. Q. Explain how a loan loss reserve fund would work.

A. The Combined Company would negotiate a fixed percentage of the face value of each loan to set aside and post to a reserve fund for lenders to draw against for any loans the Combined Company notifies them have defaulted. Given the lack of experience with large volumes of such lending in Vermont, financial institutions would likely demand a loss reserve one or more percentage points above the predicted default rate. The lender would then draw upon the loan loss reserve fund to close the loan account and pay itself the uncollected principal. The Combined Company's actual expense for maintaining the loan loss reserve fund would be limited to actual amount of unpaid loan principal and interest. Once lending institutions

establish a track record for loan performance, over time they can be expected to accept a loan loss reserve percentage closer to the historical default rate.

16. Q. Is a loan-loss reserve fund the only option for protecting lenders against potential loan losses?

A. No. Another option could be to contract for loan guarantees through a third party. The Combined Company or participating financial institutions could eventually purchase this service after several years of experience.

17. Q. What about the Combined Company's own costs of administering these innovative financing approaches?

A. The Combined Company's costs would be confined to the one-time set-up costs for developing and launching the on-bill installment payment billing and processing, plus ongoing costs of operating and maintaining the system over time.

18. Q. Are other states pursuing on-bill financing?

A. Yes. As discussed in **Exh. Pet.-JJP-3**, New York utilities are planning on offering on-bill financing for efficiency measures in the next year.

19. Q. What types of efficiency investments offer the best prospects for maximizing value with innovative financing?

A. The greatest opportunities for the Combined Company to increase cost-effective efficiency investment are in thermal efficiency retrofits to residential buildings heated with unregulated fuels, and in electric and process heating efficiency upgrades in business. Available funding for heating and process fuel efficiency investment is highly constrained, both from electric customers (limited to proceeds from FCM and RGGI auction) and from private financial institutions (limited by tight credit conditions despite low prevailing interest rates). Given the almost complete absence of a natural gas provider in CVPS's service territory, moreover, thermal efficiency opportunities are especially compelling for CVPS customers.

20. Q. Can you provide a numerical example that illustrates how much investment value the financing innovations could potentially leverage?

A. Yes. **Exh. Pet.-JJP-4** illustrates the potential magnitude of net societal benefits that could be realized from a loan-loss reserve fund for residential thermal efficiency retrofits under several rough but not unreasonable assumptions.

Suppose the goal is to reach 75% of CVPS non-low income customers heating with oil or propane over the next ten years. This would be roughly 10,500 participants per year. Suppose further that the average retrofit costs $7,500 and has a societal benefit/cost ratio of 1.5. Net benefits per retrofit would thus be $3,750, or $40 million for all 10,500 participants each year.

Finally, assume a 5-percent loan-loss reserve fund. This would be 5 percent of the total annual investment of $79 million, or $4 million. Consequently, one year's worth of loan-loss reserve funding would generate the same net societal benefits as five years of funding further investment through Efficiency Vermont's current retrofit programs shown in **Exh. Pet.-JJP-2**. In other words, each dollar put into the loan-loss reserve fund would leverage $20 in efficiency investment. In terms of societal net benefits, **Exh. Pet-JJP-4** shows that each dollar of the Combined Company's loan-loss reserve funding generates $10 in value.

21. Q. Would increased efficiency investment on this scale have positive repercussions for the Vermont economy?

A. Absolutely. According to a recent analysis by Optimal Energy for the DPS's Comprehensive Energy Plan released ("DPS Plan") on December 15, 2011 (available at www.vtenergyplan.vermont.gov), energy-efficiency investment generates $5 dollars in increased economic activity for every one dollar spent and creates 43 job-years per million dollars of investment (DPS Plan Appendix 5 at 6). This economic boost comes not just from increased use of in-State resources to save energy compared to supplying it, but to the subsequent re-spending and re-investment of the energy cost reductions for years in the future.

22. Q. Could additional efficiency investment on such a scale make a material contribution toward achieving Vermont's policy goals for reducing fossil-fueled energy consumption and carbon emissions?

A. Indeed, it would go a long way toward filling the gap between the carbon emission reductions goals identified in the DPS Plan. The DPS Plan notes that Vermont is likely to fall short of its goal to reduce greenhouse gas emissions 25% by January 1, 2012 from a 1990 baseline. The DPS Plan goes on to note that "further steep emissions reductions will be required to meet the 2028 goal (50% below 1990 levels)." (DPS Plan Vol. 2 at 10).

23. Q. If it turns out that the Combined Company can leverage so much value from efficiency investment with innovative financing approaches, would this create more room in the CEED Fund for other types of investments that do not yield as much societal net benefits?

A. Yes. Using the figures in **Exh. Pet-JJP-4** as an example, devoting half the fund to funding loan loss reserves for two years would generate almost $80 million in societal net benefits over the lifetime of the retrofits. This would leave $13 million to fund other clean energy investments that may generate less than a dollar in net benefits per dollar of clean energy funding.

24. Q. Based on the foregoing findings, what are your conclusions and recommendations regarding Petitioners' proposed CEED Fund?

A. I conclude that the Board can expect the Combined Company to achieve roughly twice as much societal value as it would spend to fund additional efficiency retrofit investment by Efficiency Vermont in CVPS territory. Innovative financing approaches hold the prospect of achieving unprecedented value from the Combined Company's CEED Fund. Use of on-bill financing and loan-loss reserves for efficiency investment is still in its infancy in the State and the rest of the country. Accordingly, I recommend that the Board approve the Combined Company's proposal to work through a stakeholder process to guide the development and staged implementation of innovative financing approaches for efficiency investment, and to set priorities for other prospective clean energy investments.

25. Q. Does this conclude your testimony?

A. Yes.