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State of Vermont
Public Service Board

MEMORANDUM

To: House Committees on Commerce and Natural Resources and Energy
Senate Committees on Finance and Natural Resources and Energy.

From: James Volz, Chairman
Public Service Board

A handwritten signature in black ink, appearing to read "James Volz".

Re: Report on Renewable Energy Under 30 V.S.A. § 8004(f)

Date: February 23, 2010

Section 8004(f) of Title 30 requires the Public Service Board ("Board") to report to the Vermont General Assembly on several matters related to electrical energy in Vermont, with a particular focus on renewable energy. Attached is the Board's report. I have included 39 copies, one for each committee member, one for the clerk of each committee, and one for Legislative Counsel.

If I can be of further assistance, please let me know.

**Biennial Report to the Vermont General Assembly
Pursuant to
30 V.S.A. § 8004(f)**

by the
Vermont Public Service Board

February 2010

The Sustainably Priced Energy Enterprise Development ("SPEED") program, established in Public Act 61, and significantly modified by subsequent Acts, is designed to promote the development of renewable energy in Vermont.¹ The SPEED provisions require that the Public Service Board ("Board") provide a biennial report on various issues related to renewable energy and Vermont's power supply to the Senate Committee on Finance, the Senate Committee on Natural Resources and Energy, the House Committee on Commerce, and the House Committee on Natural Resources and Energy.² In Section 8004(f) of Title 30 the Legislature articulated nine issues for the Board to address. The following is the Board's analysis of these nine issues.

(1) The total cumulative growth in electric energy usage in Vermont from 2005 through the end of the year that precedes the date on which the report is due.

From January 1, 2005 to December 31, 2008, state-wide energy usage decreased by approximately 0.1 percent.³ Attached as Appendix 1 is a table that provides the amount of energy sold by each utility for the years 2004 through 2008.⁴ The highest annual statewide electric retail sales occurred in 2005. Since 2005, statewide electric retail sales have been declining.

A significant factor in the decline is the electricity usage reductions achieved through efficiency projects completed with the assistance of the Energy Efficiency Utility ("EEU"). The EEU's budget has increased from \$17.5 million dollars per year in 2005 to \$30.75 million dollars per year in 2008 and 2009, with budgets of \$35.4 million and \$40.7 million established for 2010 and 2011, respectively.

The economic recession, in 2008 and 2009, most likely contributes to an additional significant decline in statewide electric retail sales forecast for calendar year 2009. Based on available 2009 data from the state's two largest utilities (Green Mountain Power Corporation ("GMP") and Central Vermont Public Service Corporation ("CVPS")), statewide electric retail sales are projected to decline by about 3.8 percent in 2009.

(2) A report on the market for tradeable renewable energy credits, including the prices at which credits are being sold.

A renewable energy credit ("REC") is designed to capture the renewable attributes of

¹ Those portions of Title 30 concerning renewable energy in general, and the SPEED program in particular, are incorporated into 30 V.S.A. §§ 8001, 8002, 8004, and 8005.

² 30 V.S.A. § 8004(f).

³ The statute focuses on electric energy usage of customers rather than capacity of generating units. Electric usage is expressed in terms of kilowatt-hours or megawatt-hours.

⁴ It appears that Vermont experienced approximately one percent growth in electrical usage for several years preceding 2005. This resulted in total electrical energy use in Vermont for 2004 of 5,748,434 MWh, which is the baseline for calculating load growth under the statute.

electricity that is produced. The attributes that make electricity renewable can be sold separately from the power itself, and these renewable attributes are sold in the form of a REC, which represents one MWh generated by a renewable facility. RECs are commonly used to measure a utility's progress in meeting a Renewable Portfolio Standard ("RPS"). Every New England state except Vermont has some form of RPS, although the primary REC markets have been those in Massachusetts and Connecticut. The price for RECs is driven not only by supply and demand, but also is subject to relevant state statutes.

There are different classes of RECs. For example, Connecticut has three classes: Class I includes renewable projects that come online after July 1, 2003; (2) Class II includes run-of-the-river hydroelectric facilities that began operation prior to July 1, 2003; and (3) Class III includes combined heat and power systems that came on-line after January 1, 2006. The value of RECs for renewable generation units varies significantly according to when the facility came on-line, and thus varies significantly by REC class. These price differences reflect the greater value assigned to new renewable sources in the renewable trading programs of other states.

Several of Vermont's distribution utilities are active in the renewable energy market and conduct transactions and trades in both Class II and Class I REC markets. The Class II markets in Massachusetts and Connecticut ranged in price between \$0.10 per MWh to \$1.25 per MWh over the past several years.

The Class I markets in Massachusetts and Connecticut have been trading between \$15 per MWh and \$55 per MWh over the past several years. The market remains volatile with prices during 2009 swinging between a low price of about \$19 per MWh and a high of \$32 per MWh. Forward sales of RECs for 2010 and 2011 currently range around \$30 per MWh. As the end of each vintage year approaches, a decline in REC prices occurs. At the end of calendar 2009, the price of 2009 vintage RECs declined to the near low price for the year. According to brokers in the marketplace, this pricing dynamic is the result of an excess of RECs currently available.

In 2009, the McNeil Generating station became eligible to sell Class I RECs in the Connecticut market due to the construction at McNeil of a selective catalytic reduction device which reduces NOx emissions. The City of Burlington Electric Department ("BED") has sold upwards of 200,000 Class I RECs from the McNeil generating station, garnering gross annual revenues of \$7 to \$8 million on behalf of all McNeil joint owners.

Washington Electric Cooperative, Inc. ("WEC") sells all RECs generated by the Coventry landfill gas project under a contract that runs through 2011. The price for 2009 RECs under the contract is \$51.50 per MWh and escalates for the remainder of the term. The contract contains a reset provision beginning in 2010, which if triggered, would lower the price to an amount closer to, but still somewhat above, market. Although the contract price is currently above market price, at this time, WEC remains uncertain whether the reset provision will be triggered.

REC market price trends in the future years are likely to depend substantially on changes

in supply and demand, in particular, whether sufficient new renewable projects in the region are completed to meet the increasing RPS volume requirements in several states.

A few changes in RPS rules in Connecticut and Massachusetts may have an effect on REC market prices. Connecticut is considering allowing the "banking" of RECs. For example, load serving entities would be allowed to buy 2009 vintage RECs and use them to meet RPS requirements in 2010 and 2011. This potential rule change has already impacted market prices, and has resulted in a price rebound for 2009 RECs coupled with a slight decrease in 2010 and 2011 vintage REC prices. The conventional market expectation is that implementation of banking will minimize year-to-year price swings and will stabilize Connecticut REC prices in the mid-to-upper \$20 per MWh range. Massachusetts issued a freeze on the certification of new biomass plants pending the completion of two studies to determine if the existing regulations surrounding this type of resource are appropriate. At this time it is unknown what effect this will have on the REC market, but it is possible that the qualification process for biomass facilities in Massachusetts will be changed as a result of the study, which could affect the availability, and therefore price, of RECs.

(3) A report on the SPEED program, and any projects using the program.

The SPEED requirements were added in 2005, as part of Act 61, updated in 2008, as part of Act 92, and updated again in 2009, as part of Act 45. These provisions were intended to establish incentives for the construction of in-state renewable energy generation projects and promote contracts between the Vermont electric distribution utilities and renewable energy generators. The SPEED provisions achieve this goal in two ways: broadly through the requirements that created direct incentives for utilities to acquire power from renewable energy sources (by statute the creation of a state RPS if the SPEED goals are not met) and more narrowly through directives to the Board to establish a program to assist developers of renewable generation with obtaining contracts for the output of their projects.

Pursuant to Section 8005(d)(1), the RPS would not take effect if (1) the Vermont electric distribution utilities met total, incremental statewide growth in electric retail sales between January 1, 2005, and January 1, 2012, through new renewable resources, and in addition, at least five percent of the 2005 total electric sales was provided by renewable resources; or (2) the growth in electric usage for that time period is not met but the amount of new renewable resources exceeded 10 percent of total statewide electric retail sales for calendar year 2005. The SPEED provisions require the Board to evaluate, by July 1, 2012, whether the Vermont utilities have reached these goals.⁵ The statute allows this goal to be met through new, in-state

⁵ For the purposes of the statute, new renewable projects must have come into service after December 31, 2004. See 30 V.S.A. § 8002(4).

renewable resources defined as qualifying SPEED resources,⁶ or through contracts between Vermont electric distribution utilities and new renewable resources located outside of Vermont.⁷

The SPEED provisions also establish a goal that 20 percent of total statewide electric retail sales, by 2017, shall be generated by new renewable resources.⁸ The SPEED provisions requires the Board to evaluate, by December 31, 2011, the Vermont utilities' progress in meeting this goal. In addition, SPEED provisions require the Board to evaluate, by December 31, 2013, the Vermont utilities' progress in meeting this goal and any appropriate recommendations for measures that will make attaining the goal more likely.

The SPEED program required the Board to establish "the regulations and procedures that are necessary to allow the public service board and the department of public service to implement, and to supervise further the implementation and maintenance of the SPEED program."⁹ In 2006, the Board promulgated Rule 4.300 to implement this statutory mandate. More recently, the Board issued a series of orders to implement the standard-offer program in 2009.

To provide an additional incentive for utilities to contract directly with generators, Rule 4.300 established a SPEED Facilitator to assist in identifying and procuring SPEED resources and to encourage the formation of contracts between Vermont utilities and the owners of SPEED projects. The SPEED Facilitator also has the ability to purchase SPEED resources on behalf of the Vermont utilities, but under the rule, the SPEED Facilitator is the purchaser of last resort. The enactment of the standard-offer program has expanded this role for projects that apply, and are accepted into the program. It is not necessary for Vermont utilities to work through the SPEED Facilitator to develop qualifying SPEED resources or contracts with new renewable projects.

VEPP Inc. is the designated SPEED Facilitator and operates under a contract with the Board. VEPP Inc.'s original contract with the Board became effective in April of 2007. The contract has been amended several times, with the most recent amendment dated December 8, 2009.

The activities of the SPEED facilitator initially focused on meeting and explaining the SPEED program to potential renewable energy developers and to the power planners of the Vermont utilities responsible for meeting SPEED goals. To assist with that function, VEPP Inc. has developed a SPEED website (www.vermontspeed.com). In addition to its work directly involving the SPEED program, the SPEED facilitator also participates as a non-voting member

⁶ 30 V.S.A. § 8002(5).

⁷ 30 V.S.A. § 8005(d)(2).

⁸ 30 V.S.A. § 8005(d)(2).

⁹ 30 V.S.A. § 8005(e).

of the Vermont System Planning Committee.¹⁰

Public Act 45, enacted in May of 2009, modified the SPEED program to include a state-wide standard-offer program. The SPEED standard-offer program required the Board to establish prices for long-term power purchase contracts for SPEED projects. The statute required that the prices established by the Board be sufficient to allow developers of SPEED projects to recover their costs plus a return on their investment. The standard-offer program is open to SPEED projects of 2.2 MW or less, with a maximum program cap of 50 MW.

In the summer of 2009, the Board held workshops to obtain information on how best to implement the SPEED standard-offer program. The SPEED Facilitator participated in these workshops as well as several of the subcommittees which studied and reported to the Board on specific aspects of the standard-offer program.

In September 2009, the Board began issuing orders specifying how the standard-offer program was to be implemented. Much of the SPEED Facilitator's time in September and early October was spent preparing for the application process. The standard-offer program went into effect September 30, 2009. Applications were accepted beginning October 19, 2009.

As described below, the qualifying SPEED resources that have been built have an estimated annual energy output of 202,620 MWh. Additional Qualifying SPEED resources with an estimated annual energy output of 233,091 MWh have been approved by the Board, but as of this date, have not been built. There are a further eight projects pending before the Board that would provide approximately 138,430 MWh annually of Qualifying SPEED resources if granted certificates of public good pursuant to 30 V.S.A. § 248. Five of the eight pending projects were accepted projects under the standard-offer program. The following table provides specific information regarding existing and proposed qualifying SPEED resources.

Project Name	Type	Estimated Annual Output (MWh)
<u>Operating projects</u>		
Coventry Landfill gas-to energy ¹¹	landfill gas	50,000
North Hartland Hydroelectric	hydroelectric	17,000

¹⁰The Vermont System Planning Committee ("VSPC") was established pursuant to a Memorandum of Understanding among many parties in Docket 7081. The VSPC is designed to facilitate and support consideration of non-transmission alternatives to reliability problems in the state and to encourage public participation in the selection of solutions to reliability problems.

¹¹ The Coventry Landfill project increased its capacity in 2007 and 2009.

Blue Spruce Farm	farm methane	1,300
Green Mountain Dairy	farm methane	1,820
Montague Farm	farm methane	1,400
Berkshire Cow Power	farm methane	3,500
Gervais Family Farm	farm methane	800
Maxwell Farm	farm methane	1,800
Moretown Landfill	landfill gas	24,000
McNeil SCR Retrofit	emissions upgrade	87,000
Westminister Farm Digester	farm methane	1,400
	total	202,620

Projects approved by the Board but not yet operating¹²

Swanton Peaking Unit ¹³	biodiesel	not available
UPC Wind	wind	111,900
Deerfield Wind	wind	120,000
CVPS 50 kW Solar	solar photovoltaic	57
Chaput Family Farm Digester	farm methane	250
Purpose Energy ¹⁴	biomass	884
	total	233,091

Projects currently before the Board

Georgia Mountain Wind	wind	21,000
AgNorth Digester	farm methane	14,000

¹² The 2007 Biennial Report included a Boucher BioPower project, with an estimated annual output of 3,500 MWh, that was approved by the Board in 2007, but never constructed. The Ethan Allen Cogeneration project, for 2,580 MWh, was approved by the Board in 2007, and constructed, but discontinued operation in 2009.

¹³ The Swanton Peaking Unit project has a capacity of 40 MW, and the fuel to fire the unit includes fuel oil and biodeisel. The amount of generation that will be produced by biodeisel is uncertain at this time.

¹⁴ During its initial two years of operation, the Purpose Energy plant will produce 884 MWh of electrical power to grid, but the brewery operations at the facility will be expanded, using a portion of the biogas internally, and the plant will ultimately produce 285 MWh of electrical power to the grid.

Ampersand Gilman Biomass	biomass	94,000
Monument Farms	farm methane	600
Dubois Farm	farm methane	3,500
GMP Solar	solar photovoltaic	350
Addison Solar Farm	solar photovoltaic	1,200
Brattleboro Carbon Harvest	landfill gas	3,890
	total	138,430
	TOTAL	574,141

A number of other potential renewable projects that could be qualifying SPEED resources are under development. These include:

- A solar program by BED which would subsidize the installation of solar-photovoltaic panels on the roofs of existing buildings through: (1) a net metering rider where solar output is paid 16 cents per kWh rather than standard net meter arrangement; and (2) a standard offer contract for solar projects 10 to 100 kW in size, offering prices in the range of low-to-mid 20 cents per kWh.
- There are a number of relatively large-scale wind projects which are in the early phase of development/feasibility study. Included in these are the Kingdom Community Wind project in Lowell, the Vermont Community Wind project in Ira, and the East Mountain Wind project in East Haven.
- There are also at least four separate proposals for wood-to-energy projects being actively promoted. These projects are typically 20 MW in size.
- A number of the utilities are planning, or have built, improvements to existing hydroelectric projects. The incremental energy that results from these improvements should qualify as SPEED resources.

In October 2009, the standard-offer program was opened to perspective SPEED projects on a first-come, first-serve basis. In the first 8 hours that the standard-offer program was open, over 207 MW of SPEED projects applied for the program, which has a program ceiling of 50 MW.

In December of 2009, standard-offer purchase power contracts for approximately 53 SPEED projects totaling about 50 MW have been sent out for signature. A breakdown of the projects being developed by technology is as follows:

Hydroelectric	8 projects	6.696 MW
Wind (>15 kW)	8 projects	12.102 MW
Biomass	7 projects	12.265 MW
Farm Methane	14 projects	3.838 MW
Landfill Methane	2 projects	1.560 MW
Solar PV	14 projects	13.748 MW

Pursuant to the Board's order implementing the standard-offer program,¹⁵ no one technology can fill more than 25 percent of the program ceiling of 50 MW.¹⁶ In addition, these standard offer projects now have three years in which to complete development and commissioning.¹⁷

Because there has been negative load growth since 2005, it is likely that a RPS will not become a requirement. However, the goal of providing at least five percent of the January 1, 2005, total statewide electric retail sales from qualified SPEED resources must still be met. Statewide electric retail sales, as of January 1, 2005, were 5,748,423 MWh. Therefore the SPEED goal is likely to be 287,421 MWh. Based on these estimates, it appears that qualifying SPEED resources in Vermont will exceed the SPEED goal in 2012.

(4) A summary of other contracts held or projects developed by Vermont retail electricity providers that are likely to be eligible under the provisions of subsection 8005(d) of this title.

Section 8005(d) includes two classes of projects. The first class are qualifying SPEED resources, which are defined as new contracts for in-state renewable projects. These projects were described in section 3 of this report. The second class of projects are those new renewable projects located outside of Vermont but with some portion of their output under contract to Vermont electric distribution utilities. This section of the report only addresses this latter class of projects.

At this time, there are no operating projects in this subcategory. GMP has signed a long-term power purchase agreement for 25 MW of power output and associated renewable attributes from the proposed Granite wind project in New Hampshire. The project is expected to come online in early 2012.

¹⁵ *Investigation into Establishment of Standard-Offer Program, Docket 7533, Order of 9/30/09.*

¹⁶ The last project in the technology-specific cap has the ability to exceed the 25 percent ceiling. For example, if 24.9 percent of the technology-specific cap is filled, the program may accept an additional project of that technology type, even if the addition results in that specific technology increasing the percentage beyond 25 percent.

¹⁷ Eight of the standard-offer projects, three farm methane, one landfill gas, and one solar, have filed applications for certificates of public good.

(5) An estimate of potential effects on rates, economic development and jobs, if the target established in subsection 8005(d) of this section is met, and if it is not met.

Act 61 required contract prices to be at or below anticipated long-run market prices. In general, this meant that the development of these projects would not result in an increase in rates because the price is below the market price. Nonetheless, it is possible that, in limited instances, SPEED resources could displace other, more cost-effective energy sources; it is unlikely that under this original standard, even then, there would be an adverse affect on rates as the SPEED projects are small in size and the utility could resell the displaced power into the market at a profit. Moreover, depending on the size and number of projects built, development of SPEED projects could result in a lowering of rates for some utilities. This has happened to date. For example, the Coventry landfill gas project has provided WEC's ratepayers with power at prices well below market, even before consideration of the revenues from the sale of RECs. Additionally, to the extent that Vermont electric distribution utilities enter into contracts with renewable projects for stably priced terms, ratepayers will see increased stability in their rates.

The development of renewable energy generators has contributed to economic stability for Vermont businesses in some areas. For example, the farm-methane projects provide increased economic stability for the farms building the generation units, thereby promoting the agricultural industry in Vermont. CVPS has offered a "green pricing" rate to its ratepayers for its Cow Power projects. It has used the additional revenue from the green pricing program to subsidize six projects at Vermont farms which digest cow manure to produce methane gas and use the methane gas to fire 200-600 kW generators. The Cow Power projects have provided multiple benefits to the Vermont farms, including an additional farm income stream from the electricity produced and a source for high quality animal bedding. Some of these generators have also begun to utilize food waste in the digester system. In addition, the farm-methane projects have helped to retain Vermont jobs.

Construction and operation of any in-state generation source will provide tax revenues, jobs, and other direct and indirect economic benefits during construction and operation. According to estimates from Deerfield Wind, LLC, the wind generation project in Searsburg and Readsboro, Vermont is estimated to have benefits that will have the potential of amounting to millions of dollars in State economic output, disposable income gains, State and local tax revenues, and other payments. The Deerfield Wind project is estimated to provide over 250 jobs during the construction phase of the project and about nine jobs post-construction.¹⁸

The SPEED standard-offer program established in 2009 modified Act 61's requirement that SPEED contracts be at or below market price. For certain eligible projects, the Board must now establish prices for long term purchase power contracts for SPEED standard-offer projects that are sufficient to allow developers of SPEED projects to recover their costs plus a return on their investment. In September 2009, the Board established interim standard-offer prices. The

¹⁸ *Petition of Deerfield Wind*, Docket 7250, Order of 4/16/09, at 27 and 35.

interim standard-offer prices are above market prices but are limited to projects of 2.2 MW or less in size, up to a program ceiling of 50 MW. These long-term power contracts have the potential to change the price of electricity for households and businesses for up to 25 years, and will vary by customer class. The Department of Public Service estimated that the standard-offer program would result in Vermont ratepayers incurring added costs in excess of \$58 million over the lifetime of the program.¹⁹ The standard-offer program is expected to have an overall positive employment and income impact, and is estimated to create an average of 33 full time jobs for the 26 years that the projects are under contract.²⁰

The statute requires the Board to address the potential impacts if the SPEED goal is not met. At this time, it appears unlikely that such an event would occur. Failure to meet the goal would have two consequences. First, the RPS under Section 8004 would take effect. This would require each utility to have sufficient renewable resources to meet the standard and to hold or acquire RECs. Depending on the market for RECs, this could have a negative rate impact. Second, in the absence of in-state SPEED resources, the state would obviously lose the benefits addressed above associated with these projects.

(6) An assessment of the supply portfolios of Vermont retail electricity providers, and the resources available to meet new supply requirements likely to be triggered by the expiration of major power supply contracts.

The two major supply resources in Vermont are Hydro-Québec and Vermont Yankee. The electric utilities' contracts with Hydro-Quebec will phase out over a period of several years, with the largest contract ending in 2015. Vermont utilities' contracts with Vermont Yankee will terminate in 2012. These two sources supply approximately two-thirds of Vermont's power, with Vermont Yankee providing approximately 273 MW of Vermont load and Hydro-Québec providing approximately 310 MW of Vermont load.

In addition, the Vermont utilities receive approximately 74 MW of power from Qualifying Facilities, which are renewable generation units that came on-line in the past twenty years and are priced according to Board Rule 4.100. These contracts have termination dates beginning in 2008, with the contract for the largest qualifying facility in terms of energy output, the 20 MW Ryegate wood chip plant, ending in 2012.

An important characteristic of the Hydro-Québec and Vermont Yankee contracts is that they provide for baseload power. The only large-scale renewable projects that have currently received a certificate of public good from the Board are the UPC Wind and Deerfield Wind projects, which provide intermittent power. The in-state renewable baseload projects approved to date consist of farm-methane projects (2 MW collectively) and the Coventry and Moretown

¹⁹ Docket 7533, Transcript of 12/3/09 at 176-177 (Nagle).

²⁰ Docket 7533, Testimony of Nagle at 10.

projects (11.2 MW). The Board is currently reviewing a biomass project with a capacity of approximately 12 MW that will be located in Lunenburg, Vermont. However, even if this project is approved and the number of farm-methane projects doubles, it is unlikely that sufficient in-state, baseload, renewable power could be developed within the necessary time frame to provide the amount of energy received under the HydroQuebec and Vermont Yankee contracts.

The Vermont electric distribution utilities are currently reviewing options to renew long-term contracts with Vermont Yankee and Hydro-Québec or replace these contracts with long-term power purchase agreements with other large generation suppliers. Some Vermont utilities completed a two-phase study, in 2008, to examine the strengths and weaknesses of the transmission system and determine areas where different types of generation might be viable. As a result of that study, CVPS, GMP, and Vermont Electric Cooperative ("VEC") are soliciting proposals to purchase long-term replacement supplies of energy and/or capacity of at least 20 MW, up to a maximum of 100 MW, for any and all periods starting in 2012. In addition, CVPS and GMP are soliciting proposals to pursue long-term planning options to identify and initiate discussions with potential long-term suppliers having the capability of supplying up to 150 MW of base load power beginning in March, 2012, or later. Any contracts executed as a result of this proposal request will be entirely contingent on a determination by CVPS and GMP that Vermont Yankee will no longer be part of their supply portfolios beyond March 21, 2012.

All utilities have submitted Integrated Resource Plans ("IRPs") in which they analyze their resource portfolio needs, including the utilities assessment of replacement options. The Board has approved the IRP for BED, CVPS, GMP, VEC, Vermont Marble, and WEC. The Board and Department continue to review the IRPs of the remaining utilities.

(7) An assessment of the energy efficiency and renewable energy markets and recommendations to the legislature regarding strategies that may be necessary to encourage the use of these resources to help meet upcoming supply requirements.

In 2005, Act 61 lifted the statutory cap on the EEU budget and directed the Board to "realize all reasonably available, cost-effective energy efficiency savings."²¹ In response, the EEU budget has been increased from \$17.5 million dollars per year in 2005 to \$30.75 million dollars per year in 2008 and 2009, with budgets of \$35.4 million and \$40.7 million established for 2010 and 2011, respectively. The efficiency measures installed as a result of this budget increase will help decrease load growth in the state, thereby increasing the ability to meet the SPEED requirements.

The Board is also looking more broadly at long-term planning issues to more effectively integrate energy efficiency into planning. As discussed above, the Board has established a process to ensure better coordination of energy efficiency in Vermont Electric Power Company's

²¹ 30 V.S.A. § 209(d)(4).

("VELCO") process for assessing transmission system needs. In addition, as part of the Order of Appointment structure established for the Energy Efficiency Utility in 2009, the Board will establish a Demand Resource Plan Proceeding, that will include long-term electricity resource planning by the EEU, the Department of Public Service, distribution utilities, and VELCO.²²

The current experience also suggests an active renewable energy market in the state. As described above, several renewable projects have come on line in the past two years. The Board has also reviewed and approved several other projects; a number of others are under review or are being seriously considered by developers.

The energy efficiency programs and SPEED requirements represent reasonable strategies for the future. The number of qualifying SPEED resources that have come on-line, in addition to reduction in load growth due to the increased spending on energy efficiency measures, leads the Board to conclude that it is likely that the state will meet the requirements of 30 V.S.A. § 8005(d). As a result, at this time, the Board has no additional recommendations on strategies to help meet upcoming supply requirements with additional renewables.

(8) Any recommendations for statutory change related to this section, including recommendations for rewarding utilities that make substantial investments in SPEED resources.

Given the recent modifications to the SPEED program to include a state-wide standard-offer program, the Board does not have any recommendations regarding the program itself at this time. In addition, as explained above, the development of SPEED projects is now moving ahead so that additional resources are expected to meet the SPEED program goals through 2012. For this reason, the Board does not believe that additional incentives to encourage SPEED resource investment are needed.

(9) The board's recommendations on how the state might best continue to meet the goals established in section 8001 of this title, including whether the state should meet its growth in energy usage over the succeeding 10 years by a continuation of the SPEED program.

The SPEED provisions determined that renewable generation should play an important role in Vermont's resource supply mix. Renewable energy provides fuel diversity and could result in more stable energy prices. Since the start of SPEED requirements in 2005, there has been a steady increase in the number of renewable energy projects being developed over the past five years. In addition, the SPEED standard-offer program has encouraged the development of small scale renewable resources. Along with energy efficiency measures curtailing load growth,

²² *Investigation into Energy Efficiency Utility Structure*, Docket 7466, Order of 11/24/09, at 65. In its November 24 Order, the Board altered the structural model of the Energy Efficiency Utility from a contract-based model to an Order of Appointment model as authorized by 30 V.S.A. § 209(d)(5).

these projects should be able to meet the goals established by the SPEED provisions.

At this time, the recent changes to the SPEED provisions establishing the standard-offer program have been in place for less than one year. Given these changes, an assessment as to whether to continue the SPEED program should be deferred until further information regarding the standard-offer program's results is available.

Appendix 1
kWh Usage by Electric Utility

Total Retail Sales by Electric Utility (kWh)

Utility	2004 kWh	2005 kWh	2006 kWh	2007 kWh	2008 kWh	% Change 2004-2008
Barton	14,956,083	15,226,320	14,988,177	15,040,050	15,214,324	1.73%
Burlington	353,054,000	368,278,948	359,268,266	364,585,659	359,936,986	1.95%
CVPS	2,241,677,000	2,300,103,000	2,284,465,000	2,320,374,000	2,259,211,000	0.50% Note 2
Citizens	83,296,000					Note 1
Enosburg	22,343,555	19,947,472	22,733,653	23,647,200	23,658,268	5.88%
GMP	1,969,925,000	2,006,703,000	1,961,042,000	1,971,720,000	1,959,380,000	-0.54%
Hardwick	31,941,883	32,584,463	31,730,312	31,724,126	31,334,834	-1.90%
Hyde Park	11,625,683	11,967,537	11,572,065	12,045,950	11,527,233	-0.85%
Jacksonville	5,460,288	5,313,201	5,228,600	5,132,015	5,124,779	-6.14%
Johnson	15,266,535	15,478,575	15,007,078	15,092,394	14,796,577	-3.08%
Ludlow	49,736,106	50,778,335	48,681,015	52,202,250	50,418,303	1.37%
Lyndonville	69,801,000	71,772,284	70,993,531	70,975,124	70,127,726	0.47%
Morrisville	45,084,425	45,371,493	45,565,424	45,104,992	43,627,651	-3.23%
Northfield	27,536,610	27,933,185	28,472,344	29,007,567	29,086,016	5.63%
Orleans	14,507,201	13,979,851	13,209,071	12,949,895	12,994,313	-10.43%
Readsboro	2,294,817	2,399,100	2,298,034	2,276,381	2,257,396	-1.63%
Rochester	6,249,838	6,370,219	4,242,565			Note 2
Stowe	61,738,578	65,553,278	66,927,566	72,412,406	72,166,692	16.89%
Swanton	55,800,408	53,165,146	51,312,511	54,888,615	55,725,982	-0.13%
VEC	382,028,000	476,609,516	468,476,165	454,630,845	439,985,284	-5.45% Note 1
VT. Marble	216,856,852	224,157,616	219,234,256	228,957,378	219,001,343	0.99%
WEC	67,244,000	68,790,742	68,545,345	69,335,492	68,288,645	1.55%
Total	5,748,423,862	5,882,483,281	5,793,992,978	5,852,102,339	5,743,863,352	-0.08%

Note 1 - Citizens was purchased by VEC in 2004, and is included in VEC's 2004 baseline to calculate VEC's % change

Note 2 - Rochester was purchased by CVPS in 2006, and is included in CVPS's 2004 baseline to calculate CVPS's % change