STATE OF NEW HAMPSHIRE
GENERAL COURT

State Energy Policy Commission

HB1146, Chapter 257, Laws of 2006
SB140, Chapter 364, Laws of 2007

2008 Final Report

Prepared for:
Governor John H. Lynch
Senate President Sylvia Larsen
Speaker of the House Terie Norelli
Senate Clerk
House Clerk
State Librarian

December 1, 2008

Commission Members

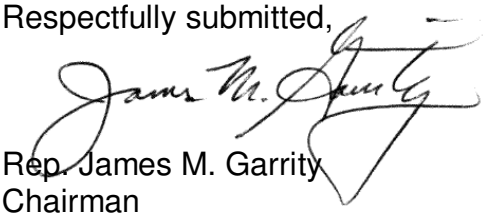
Legislative Appointments:

Senator Peter Bragdon
Senator Martha Fuller Clark
Representative Gene Anderson
Representative Richard Barry
Representative Roger Berube
Representative David Borden
Representative Jacqueline Cali-Pitts
Representative James Garrity
Representative Naida Kaen
Representative Leigh Webb

Gubernatorial Appointments:
Thomas Kelly, PhD.
Harold T. Judd, Esq.

Amy Ignatius, Director, Office of Energy and Planning
Thomas B. Getz, Chairman, Public Utilities Commission
Meredith Hatfield, Consumer Advocate, Office of Consumer Advocate
Robert Scott, Air Resources Director, Department of Environmental Services

Respectfully submitted,



Rep. James M. Garrity
Chairman

Organization

The 2006 Laws of New Hampshire, Chapter 257, approved May 25, 2006, and the 2007 Laws of New Hampshire, Chapter 364, approved July 17, 2007 established and expanded the State Energy Policy Commission and charged it with the duty to study: the adequacy of electricity supplies to meet demand including, but not limited to consideration of the following issues: a) diversity of fuel supplies and availability, b) reliability of service, c) price to end-use customers, d) divestiture of PSNH generation assets, e) structure, effectiveness, and competitiveness of wholesale and retail markets, f) renewable portfolio standards, g) Federal Energy Regulatory Commission (FERC) and Independent System Operator (ISO) initiatives to promote increased capacity within the region, such as the forward capacity market initiative. h) protection of public health and the environment; energy efficiency opportunities and programs, in all forms of energy uses; promoting renewable energy, both for electrical production and as a heat and transportation fuel source; the adequacy of natural gas supplies and fuel diversity within the state and region; and the regulatory process for siting commercial wind energy facilities in the state and the economic, environmental, visual and ratepayer effects associated with such facilities; Whether the state should allow electric distribution companies to invest in small scale generation resources as part of a strategy for balancing load and distribution, reducing transmission line losses, minimizing transmission and distribution costs, improving energy conservation, and enhancing renewable energy; Demand management and response mechanisms and programs. The Commission was directed to report its findings and any recommendations for legislation in the form of an interim report by December 1, 2006, December 1, 2007 and a final report by December 1, 2008.

The members of the Commission are: Senators Peter Bragdon and Martha Fuller Clark; Representatives Gene Anderson, Richard Barry, Roger Berube, David Borden, Jacqueline Cali-Pitts, James Garrity, Naida Kaen and Leigh Webb ; gubernatorial appointments Thomas Kelly, PhD. and Harold T. Judd, Esq.; for the Office of Energy and Planning, Amy Ignatius, Director; for the Public Utilities Commission, Thomas B. Getz, Chairman; for the Office of Consumer Advocate, Meredith Hatfield, Consumer Advocate; and for the Department of Environmental Services, Robert Scott, Air Resources Director. The Commission elected Representative Garrity to serve as Chairperson at the re-organizational meeting held on August 7, 2007.

Proceedings from December 1, 2007 to November 30, 2008

The Commission did not meet during the busy 2008 legislative session. Most of the Commission's members were actively involved in crafting, discussing and debating energy-related legislation during the session.

On July 15, 2008 the Commission met to develop a recommended working definition of the term "Sustainable Energy". This discussion was needed because of the passage of *HB1561 "establishing an energy efficiency and sustainable energy board*". Although the legislation made frequent use of the term "sustainable energy", there is still no official definition in NH Statutes. After a detailed discussion, the Commission reached majority

consensus on the following definition: “Sustainable energy means energy which meets the needs of the present without permanently depleting resources, with minimal impact to the environment, and without compromising the ability of future generations to meet their own needs.” Several legislative members of the Commission have already filed legislation for 2009 using this suggested wording.

On September 11, 2008, the Commission meeting was devoted to reviewing, in depth, the document, *Conceptual Framework Windpower Siting Guidelines*. The draft guidelines had been developed over 16 months by an ad-hoc group of stakeholders. The document was delivered to the full Commission in November 2007 by the Wind Siting Subcommittee.

Mr. Ken Kimball of the Appalachian Mountain Club explained the background, proceedings, and goals of the stakeholder group. Mr. Kimball then led the Commission through the document, section by section, explaining the reasoning behind each section. The session was interactive, with Mr. Kimball and other stakeholders in attendance fielding questions from the Commission.

At the conclusion of the session, the Commission agreed that Mr. Kimball and all of the stakeholders had done very valuable work for New Hampshire citizens. The Commission could not immediately agree on what recommendation to make concerning the document, and to whom to make such recommendation. The Commission’s deliberations were complicated by the fact that there was an active wind farm proposal docket before the NH Site Evaluation Committee (SEC); several members of the Commission are also members of the SEC, and were unable to participate in the discussion of the document. The Commission decided that individual Commission members should follow-up with more background research before the next meeting. On November 24, 2008, at its final meeting, the Commission agreed it was best to recommend the document to the House Science, Technology and Energy Committee to study and determine which concepts should become legislation in the 2009 – 2010 session. The Commission also urges the legislature to consider the economic impact (positive and negative) that commercial wind developments would have on local communities, regions of the state and the state as a whole.

The entire conceptual framework document is included as Attachment C of this report.

The Commission held its final meeting on November 24, 2008. Mr. Dana Robinson of Concord was the Commission’s special guest. Mr. Robinson, a retired international marketing consultant, and resident of Concord, shared with the Commission his interest in national and state energy policy. He has read the New Hampshire Energy Plan (first published in 2002) and had specific questions and concerns about some of the specific categories in the plan: the state’s fuel mix, the future of the Seabrook nuclear plant, and questions about how the plan was being updated. During the discussion, Commission members explained to Mr. Robinson that many of the recommendations made in the original Energy Plan have been adopted.

Mr. Robinson further suggested that the State of New Hampshire should consider establishing energy-related business and industry contacts with regions of China which

have similar topographic and demographic features as New Hampshire. He believes that, because of China's growing economy and willingness to embrace and invest in innovative technology, such a relationship could be beneficial to New Hampshire.

The Commission thanked Mr. Robinson for his thoughtful testimony and encouraged him to remain engaged with the energy policy making process during the 2009 – 2010 legislative session.

After hearing from Mr. Robinson, the Commission discussed the draft outline of this final report and what should be included in it.

Guiding Energy Policy Pillars

The Commission reaffirmed a set of overarching guiding principles, or Policy Pillars, it had developed in 2006, and agreed they would be useful for evaluating current energy policy initiatives and designing the State's short-term and long-term strategic energy policy. The Commission reaffirmed the following Energy Policy Pillars and recommends that the Governor and Legislature use these Energy Policy Pillars to evaluate any new energy policy initiatives:

- Peak Energy Demand
  - *Goal is to meet peak demand (both electricity & transportation)*
- Fuel Diversity/Buffer Against Global Instability
  - *Reduce fossil fuel component of energy mix, promote use of renewables.*
- Environmental and Public Health Benefits
  - *Reduce undesirable emissions and climate change*
- System Reliability
  - *Energy transmission infrastructure must be dependable and reliable to encourage businesses to locate, remain, and expand in New Hampshire.*
- Consumer Price Stability
  - *Goal is to minimize spikes in energy prices.*
- Economic Benefits and Certainty
  - *Benefits to New Hampshire economy and long-term economic predictability.*

Year in Review: Energy-Related Legislation Passed in 2008

Many pieces of energy-related legislation were passed and became law in 2008. Below are some highlights:

HB 1628, relative to renewable energy generation incentive programs.

- The bill provides a one-time incentive payment of $3 per watt of generation capacity up to a maximum payment of $6,000, or 50 percent of system costs, whichever is less, for residential installations of renewable energy systems of less than 5 kilowatts in peak capacity.
- The systems may be on or off the grid.

- The systems must begin operation after July 1, 2008 to qualify.
- The Public Utilities Commission will make the incentive payments using revenues from RPS payments that have been deposited in the Renewable Energy Fund.

HB 1434, relative to the regional greenhouse gas initiative and authorizing a cap-and-trade program for controlling carbon dioxide emissions.

- The bill caps carbon dioxide emissions from fossil fuel fired generation plants that are greater than 25 MW in capacity, by means of regional cap and trade program.
- The new law will encourage new generation from sources not under the cap, because electricity generated from sources under the cap will become more costly and supply constrained.
- The creation of the RGGI fund that is dedicated to energy efficiency as well as other important aspects of the RGGI bill.
- New generation not under the cap would include those that are alternatively fueled, as well as other sources such at nuclear.

HB 1561, establishing an energy efficiency and sustainable energy board.

- The bill establishes a permanent, 22 member board "to promote and coordinate energy efficiency, demand response, and sustainable energy programs in the state."
- The membership of the board includes various state agency personnel, legislators, energy and financial experts, and representatives of business, consumer, local government, public health and environmental interests.
- The charge of the board is very broad and is intended to integrate efforts at transforming the way energy is used in the state so that efficient, economical and sustainable practices are the norm in all aspects of energy usage in our society.
- The board is not regulatory in nature, but advisory.
- The board is to provide recommendations at least annually to the Public Utilities Commission on the administration and allocation of energy efficiency and renewable energy funds under the Commission's jurisdiction.
- An annual report with recommendations for action and any legislation is due by December 1 of each year.

HB 310, allowing municipalities to regulate small wind energy systems.

- The bill prohibits municipalities from unreasonably limiting or unreasonably hindering the performance of small wind systems 100 kilowatts or less in peak generation capacity. This prohibition includes:
    - Using generic building or structure height ordinances to restrict the tower height of such systems.
    - Requiring setbacks from property boundaries greater than 150 percent of the system height.
    - Setting allowable noise limits lower than 55 decibels at the property line.

- The bill requires abutter notification when a building permit application is submitted and provides a 30 day comment period.
- Includes a process by which the building inspector can make a determination that a proposed system has the potential for regional impact in which case affected neighboring towns and the Regional Planning Commission are notified and allowed 30 days to comment on the proposed system.
- Directs the Office of Energy and Planning to develop a model municipal ordinance regulating the construction of small wind energy systems. The Office is to take public comment on the proposal and publish the model ordinance by September 30, 2008.
- The bill goes into effect one year after its enactment.

HB 1405, regulating outdoor wood-fired hydronic heaters.

- The bill's primary function is to allow only cleaner burning outdoor wood boilers to be sold in the state as phased in over a 2 year time period.
- The findings section of the bill declares that:

  > …. technologies are emerging that will result in cleaner burning and more efficient outdoor wood boilers. Requiring new boilers to incorporate these technologies will enhance the desirability of their use. This is consistent with a sound energy policy that promotes indigenous, renewable energy sources and an increase in the diversity of the state's fuel supply.

- As of January 1, 2009, only boilers meeting a Phase I standard may be sold. (0.6 pounds of particulate matter per million BTUs input)
- As of April 1, 2010, only boilers meeting a Phase II standard may be sold. (0.32 pounds of particulate matter per million BTUs output)
- New Hampshire needed to take action because EPA is only establishing voluntary emission standards. The bill makes these federal emission standards state law and relies upon certification by EPA.
- Similar action is being taken by surrounding states, including their municipalities, as well other jurisdictions throughout nation.
- Certified units will be tagged with an EPA label that provides the particulate matter emission rate of the unit, similar to what is done with indoor wood stoves.
- Cleaner units will rely on newer technology, some of which are already in production.
- Though clean units are more expensive, they need less fuel because of increased efficiency.
- The bill also establishes setback and stack height requirements when installing current units that have higher emissions. These requirements are less stringent for Phase I units, and even more so for Phase II units.
- Municipalities are given greater authority to regulate outdoor wood boilers (setbacks, stack heights, etc.) and to address nuisance and public health situations.

- The Department of Environmental Services is also charged with enforcing the new law.
- Sellers of outdoor wood boilers must provide buyers with a copy of the new law, a list of fuels that may be burned, and notice that ordinances imposed by the buyer's municipality and possible findings of adverse effects may limit or prohibit the use of the purchased unit.

HB 415, establishing a geothermal assessment project.

- The bill directs the State Geologist to conduct a detailed geothermal assessment project to locate where deep sited geothermal energy exists or may exist that may be used as an energy source, with a focus on potential electricity generation.
- The project includes field measurements, including taking deep well temperatures.
- An interim report is due by July 1, 2010, with a final report by July 1, 2011.
- No funding is included in the bill.

HB 1631, relative to the state purchase of biodiesel fuels.

- The bill requires that diesel fuel purchases by the state for bioheat or transportation purposes contain at least 5% biodiesel, except if it is more costly, in which case the purchase is discretionary.
- If it is more costly, the purchasing agent is required to consider any savings associated with equipment maintenance and longevity that may result from biodiesel use.
- Blends up to 20% biodiesel are encouraged at fueling depots where such fuels are compatible with the vehicles served there.
- Biodiesel fuel at state fueling stations is to be made available to municipalities, nonprofits that transport elderly or disabled persons under contract with the department of transportation, and the federal government.

SB 451, authorizing rate recovery for electric public utilities investments in distributed energy resources.

- This bill will allow electric public utilities to invest in distributed energy resources including programs and equipment for clean electric generation (5 MW or less), energy storage, energy efficiency, demand response, and load reduction and control.
- The reason for investing in distributed resources is to minimize transmission and distribution costs as such investment can reduce line losses, shave peak load, support voltage regulation, and lessen the need to upgrade transmission and distribution systems.
- Renewable generation is eligible, though biomass generation must meet emission limits established in the RPS law.

- Primary purpose of any generation equipment owned by a customer or sited at a customer's property must be to displace the customer's own use, though renewable generated electricity may be net metered.
- A utility may only own distributed generation that will be used to offset distribution system losses or the utility company's own use.
- Fossil fuel fired distributed generation is limited as follows:
    - It must meet stringent emissions requirements, which necessitates natural gas usage.
    - It has to be installed as an integrated combined heat and power application with a minimum energy efficiency of 60 percent.
    - It cannot exceed 3% of a utility's peak load unless distributed renewable generation is added in an amount that is twice what the RPS law would require for the total amount of distributed generation added.
- Total distributed generation is limited to 6% of a utility's peak load.
- A public utility must apply to the Public Utilities Commission for permission to implement a distributed energy resource program.
- The Commission must find that a proposed program will be in the public interest based on consideration of numerous factors related to the economy, consumer interests and the environment.
- Approved and prudently incurred investments are recoverable through a utility's base distribution rates.
- The Commission may add an incentive to the return on equity component as it deems appropriate to encourage investments in distributed energy resources.

HB 1632, relative to continuing the commission to study the production and distribution of biodiesel in New Hampshire.

- The bill continues this study Commission for another year.
- Last year's Commission was successful in pushing for passage of HB 1631 having to do with state government purchasing biodiesel, and also SB 522 having to do with licensing small quantity biodiesel producers and distributors.

SB 522, relative to licensing requirements for small quantity biodiesel producers and distributors and prohibiting the sale or delivery of biodiesel not meeting the state ASTM standard.

- Establishes licensing requirements for small quantity biodiesel producers and distributors.
- Exempts those who refine, distill, prepare, blend, manufacture, or purchase less than 10,000 gallons of biodiesel in a month from having to file a bond.

Prohibits the sale of biodiesel that does not meet ASTM specifications

Other Policy Updates

Adequacy of Electricity Supplies: In its 2008 Regional System Plan, the New England Independent System Operator reports that capacity resources are sufficient through 2015 to meet the Northeast Power Coordinating Council's reliability criterion. The ISO credits the success of the Forward Capacity Market auction in promoting new demand and supply resources and it concludes from the level of resources in the Generator Interconnection Queue that capacity resource needs over the long term likely will be met. The ISO also reports that there is no apparent transmission congestion on the system from 2009 through 2018, which is attributable to improvements previously identified and placed in service. Furthermore, the ISO observes that New England is expected to remain heavily dependent on natural gas for the foreseeable future. Finally, it notes that environmental regulations and renewable portfolio standards are increasingly important factors in creating the need for development of renewable resources and it notes that production cost scenarios for the next ten years vary considerably with the uncertainty in natural gas prices and CO2 emission price adders.

Adequacy of Natural Gas Supplies: U.S. domestic production continues to be strong despite some Gulf area slowdowns due to hurricanes. The Energy Information Administration forecasted a 6% increase in production for 2008 and noted that shale gas output, particularly from Barnett Shale, has been a major boost. FERC staff observed that the U.S is in the midst of a second year of robust production growth and the Natural Gas Supply Association predicted that production gas gains should lead to market stability this winter. Storage levels as of mid-November are 4.2% above the 5-year average nationally and 5% higher in the East. In terms of demand, the biggest variables for the upcoming winter are weather and the state of the economy. The Natural Gas Supply Association forecasts a 1.8% increase in demand due to continued strong growth in the electric sector and a recovery in gas demand in the industrial sector. FERC staff expects that growth in winter gas demand will not be as robust as the growth in supply because of a slowing economy.

Energy Efficiency Programs: The CORE energy efficiency programs funded by ratepayers through the System Benefits Charge serve all customers of PSNH, Unitil, National Grid and the NH Electric Cooperative. The utilities administer the programs, which have an annual budget of just under $20 million. For the period June 2002 through December 2007, the programs have saved 5.2 billion lifetime kWh of electricity, enough to power the state for six months, and saved customers $839 million in energy costs. This represents a return for customers of more than $7 for every $1 invested in the programs. The programs have also reduced emissions by 3.2 million tons, which is equivalent to taking 688,000 cars off the road for a year. The programs serve approximately 90,000 customers per year.

New Hampshire's two natural gas utilities, National Grid (formerly KeySpan) and Northern Utilities, also have ratepayer-funded energy efficiency programs. The utilities administer the programs, which have budgets totaling approximately $2.5 million annually. These programs serve approximately 6,000 customers per year.

Looking Ahead to 2009: Major Policy Challenges

The last several years have seen the passage of some major energy policy legislation in New Hampshire, such as the Renewable Portfolio Standard (RPS), Regional Greenhouse Gas Initiative (RGGI) and Distributed Energy Generation. There are at least 20 energy-related pieces of proposed legislation filed for the 2009 legislative session (see Attachment B for a list).

Additional energy-related recommendations will be coming from *The Governor's Climate Change Task Force, The Energy Efficiency and Sustainable Energy Board, Commission to Study Production and Distribution of Biodiesel Fuel in New Hampshire, Commission to Develop a Plan for the Expansion of Transmission Capacity in the North Country* and others.

When polled about 2009 major policy challenges, members of the Commission expressed the following concerns:

- Now that RPS and RGGI are law, the legislature should pause to make sure that both policy initiatives and their related funds are properly implemented.
- Remember and defend the residential electric ratepayer, especially in the face of rate increase pressure caused by the implementation of RPS and RGGI.
- Revisit tidal energy potential.
- The energy picture in NH should include the discussion of a more efficient and integrated transportation infrastructure, including freight and passenger rail.
- Encourage small scale power generators to participate in the generation incentive market.

Conclusion

The essential conclusion for this Energy Policy Commission final report is that most of the assigned tasks have been accomplished through, among other things, RPS (Renewable Portfolio Standards) and RGGI (Regional Greenhouse Gas Initiative) legislation, SB 451 permitting utilities to invest in distributed energy resources, changes to 162-H on siting for renewables, and establishment of the EESE (Energy Efficiency and Sustainable Energy) Board.

The Commission encourages the permanent Energy Planning Advisory Board (EPAB) to proactively monitor the state energy policy and assist future legislatures in coordinating and integrating new policy initiatives with existing state, federal and regional policies and rules.

ATTACHMENT A
BACKGROUND MATERIALS

This Attachment provides some current information regarding New Hampshire's energy market.

New Hampshire

Introduction

The following is a snapshot of the bulk electric power system and wholesale electricity markets in New Hampshire.

New Hampshire represents nine percent of the population in New England and nine percent of the region's total electricity consumption.* Transmission, generation and demand-side resources are being added to the system in New Hampshire to keep up with the state's growing demand for electricity and to meet mandatory reliability standards. (*Population and consumption figures are from the 2006 U.S. Census and 2007 Regional System Plan, respectively.)

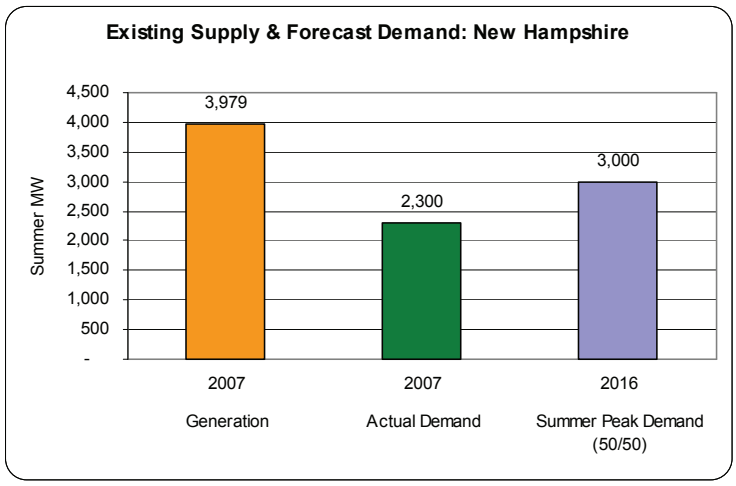
Growth in Demand

ISO New England forecasts the state's overall electricity demand to grow at a rate of 1.6% annually over the next decade, above the 1.2% rate projected for New England.

ISO forecasts the state's peak demand, or summertime usage, to grow 2.3% annually over the next decade, significantly higher than the 1.7% rate projected for the region. These forecasts are revised on an annual basis and strategies being developed at the state level are incorporated into the regional planning process. New Hampshire's 2007 summer peak demand for electricity was 2,331MW. This is below the record of 2,475 MW set in 2006.

Resources in New Hampshire

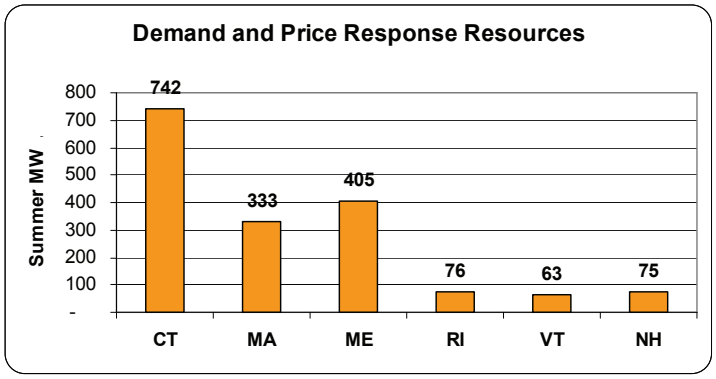
The total capacity of generating plants located in New Hampshire is approximately 4,000 MW. (These resources are owned and operated by private generation companies and regulated utilities.) At any given time, however, resources may not operate due to planned or unexpected outages, not clearing in wholesale electricity market, environmental restrictions that limit operation, or other reasons. The total capacity of generation on the New England bulk electric power system is 30,526 MW.



ISO dispatches the lowest-priced resources on a system-wide basis to meet the region's demand for electricity. The electricity delivered to customers in each state flows across a regional grid and may or may not come from power plants located in that state. The region benefits by having a robust transmission system to move the lowest-priced resources to consumers throughout New England. States play an important role in siting transmission and generation in New England, which affects system reliability and the region's fuel mix for power generation.

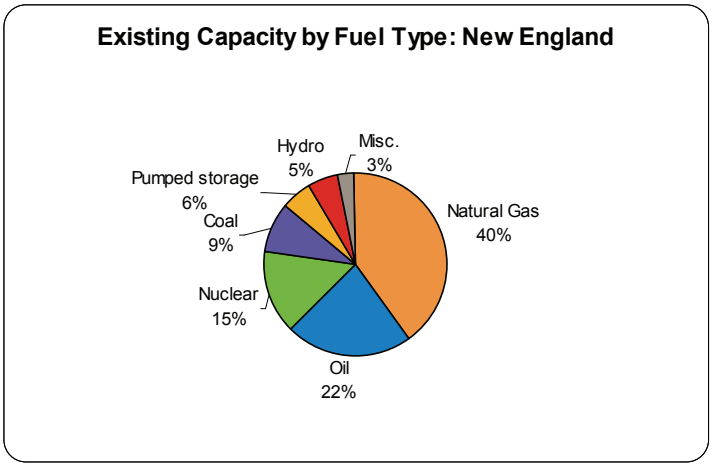
Demand & Price Response

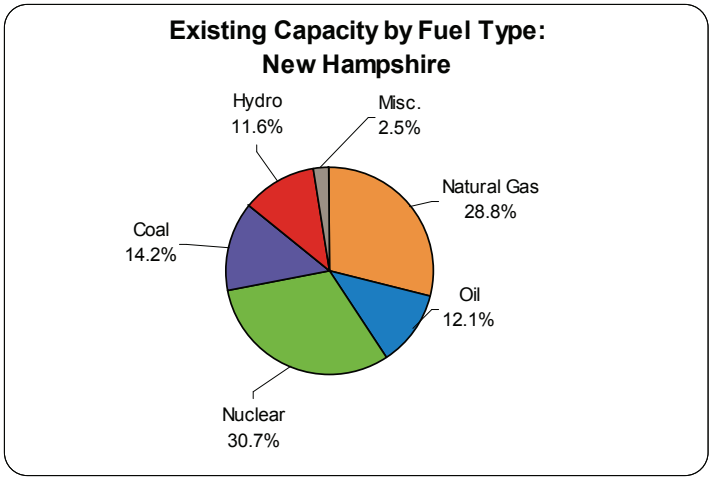
There are currently more than 75 MW of demand resources in New Hampshire that can be activated in response to reliability problems on the bulk power system, or in response to high wholesale prices. There are more than 1,600 MW of demand-response resources enrolled in ISO's Demand Response Programs throughout New England. Demand-side resources also have opportunities to participate in the wholesale markets.



Fuel Mix

New Hampshire has a diverse portfolio of resources for generating electricity. Natural gas and oil are the primary fuels for more than 60% of the generating capacity of New England.





Proposals for New Resources

There are more than 1,400 MW of resources that have submitted requests through the ISO's Generator Interconnection Procedures to connect to the regional power grid in New Hampshire. This is also known as the queue process (History shows that not all of these proposals will be developed.) These interconnection procedures, established by the Federal Energy Regulatory Commission, involve the planning, design, and implementation of transmission upgrades necessary to connect generation resources to the grid.

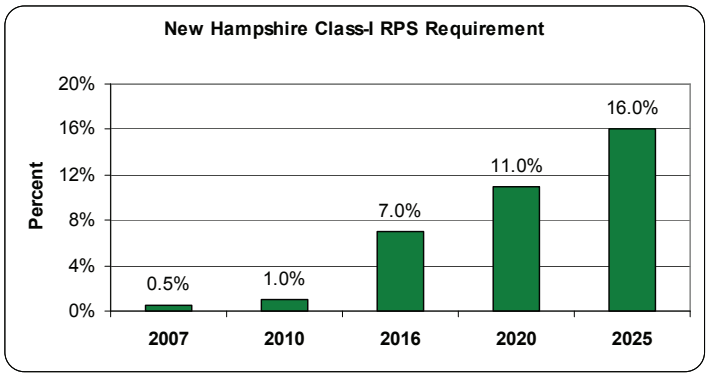
The new Forward Capacity Market (FCM) in New England provides opportunities for generation and demand-side resources to compete to provide the capacity resources the region needs to meet future reliability requirements. There are proposals for 10 MW of generation resources in New Hampshire that qualified to participate in the first auction under the FCM in February 2008, and all of this was selected in the auction. These projects may or may not have been through the queue process; however, any generation proposals that are selected in the FCM will ultimately need to go through the queue process before they can connect to the grid.

More than 100 MW of demand-side resources in New Hampshire qualified to participate in the first FCM auction. Of this amount, 64 MW were selected in the auction.

These proposals to add new generation and demand-side resources in New Hampshire are consistent with the needs identified through ISO's regional system planning process.

Renewable Resources

Utilities and competitive suppliers must obtain specified percentages of the electricity they provide to customers from renewable resources to meet New Hampshire's state-mandated renewable portfolio standard (RPS) requirements. New Hampshire has established three classes of renewable resources. New Hampshire's Class-I RPS requirement increases to 16% in 2025. Class-I resources include certain types of wind, geothermal, biomass, ocean-derived energy, and other specified resources.

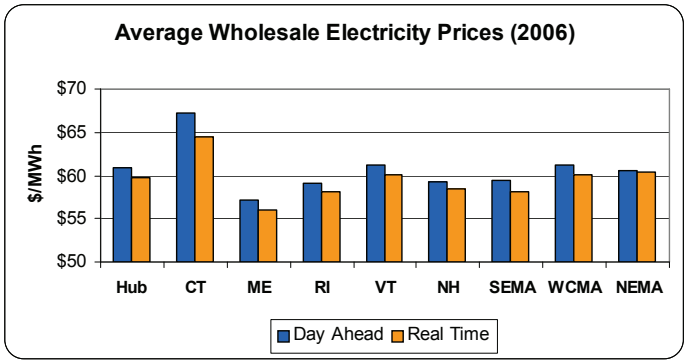


Wholesale Market Prices

Locational pricing is a key feature of New England's wholesale electricity markets. ISO calculates the locational marginal price, or "LMP" for eight zones in New England, including one zone in New Hampshire. ISO also calculates a Hub price, which represents the average of the prices at 32 locations on the system. The Hub price is intended to represent an uncongested energy price.

LMPs have three components: congestion, transmission line losses and energy costs. Congestion occurs when the ISO cannot dispatch the lowest-priced resources on the system due to transmission constraints. Losses occur when electricity is transmitted over long distances.

Wholesale prices in New Hampshire were generally lower than prices in other areas of New England and the Hub in 2006.



ISO administers a Real-Time Energy Market and a Day-Ahead Energy Market as well as markets for ancillary services. These markets ensure that adequate resources are committed to meet demand and operating reserve requirements. Prices in the Real-Time Energy Market are more variable than prices in the Day-Ahead Energy Market due to unexpected events, such as generator and transmission line outages that may occur in real time. New England's Day-Ahead prices were generally higher than Real-Time prices in 2006.

Transmission

New Hampshire has enacted legislation to encourage development of renewable energy in the North Country. In order to develop these resources, the existing transmission infrastructure will need to be upgraded or new transmission facilities will need to be built. ISO is working with New Hampshire and other regional stakeholders to identify new sources of renewable energy and transmission solutions to bring these supplies to market.

The bulk power system in the Monadnock region of New Hampshire is connected to southwestern New Hampshire, southeastern Vermont, and north-central Massachusetts. The transmission facilities in this region are critical for supplying load in Vermont and northern New Hampshire. A new 345/115 kilovolt (kV) substation at Fitzwilliam and a number of 115 kV upgrades are being developed to address existing and near-term voltage and thermal performance concerns for the transmission system in the area.

ISO has identified the need for transmission upgrades to reduce overloading the existing system and improve the ability to serve peak demand in the Seacoast Area, one of the fastest growing areas of New England.

About ISO New England

ISO New England is the Independent System Operator (ISO) and Regional Transmission Organization (RTO) for New England with more than 10 years of experience ensuring the reliable operation of the New England bulk electric power grid, administration of the region's wholesale electricity markets, and administration of the regional Open Access Transmission Tariff, including regional system planning. ISO-NE is a not-for-profit corporation governed by an independent Board of Directors. ISO-NE has no financial interest in any companies participating in the region's wholesale electricity markets.

Sources

2007 Regional System Plan, *2006 Annual Markets Report*, and other public ISO information.

For More Information

- *ISO New England:* http://www.iso-ne.com
- *New Hampshire Public Utilities Commission:* http://www.puc.state.nh.us/
- *New Hampshire Office of Energy and Planning:* http://www.nh.gov/oep/index.htm

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New Hampshire STATE ENERGY PROFILES

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Last Update: November 27, 2008
Next Update: December 04 , 2008

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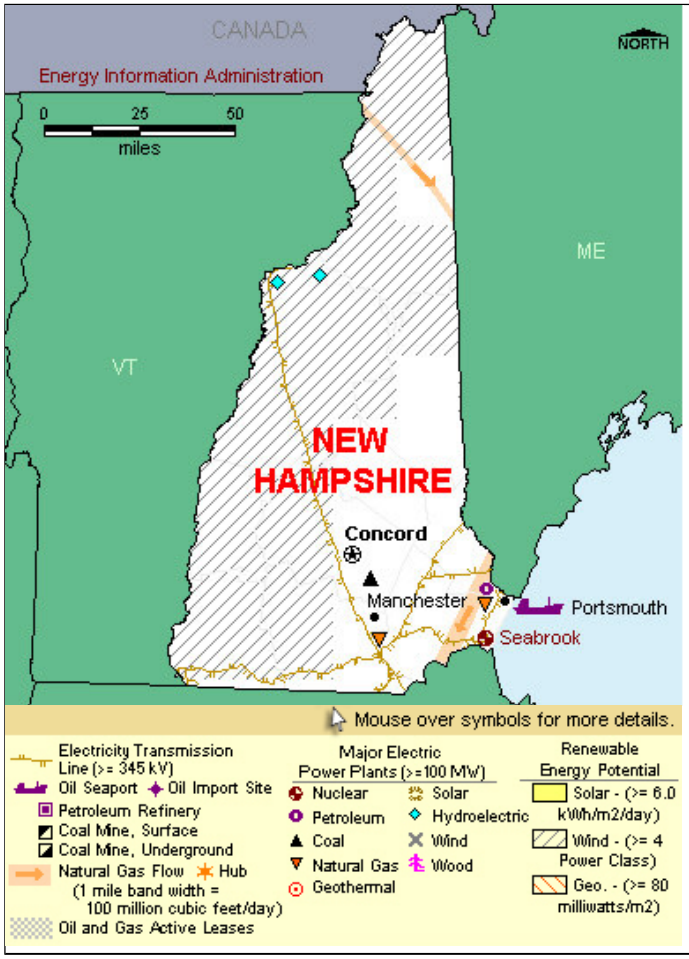

New Hampshire Quick Facts

- The Seabrook nuclear power plant, located near Portsmouth, is the largest single nuclear reactor in New England.
- More than half of New Hampshire households use fuel oil for winter heating.
- The transportation and residential sectors are New Hampshire's largest energy consumers.
- New Hampshire's total energy consumption and per capita energy consumption are among the lowest in the country.

Overview

Resources and Consumption

New Hampshire has no fossil fuel reserves but has substantial renewable energy potential. The Appalachian Mountains, which cover much of western New Hampshire, offer wind power potential, and several waterways, including the Connecticut River, are hydropower resources. In addition, dense forests in northern and southern New Hampshire offer potential fuel wood for electricity generation. New Hampshire is not an energy-intensive State; both total energy consumption and per capita energy consumption are among the lowest in the country. The transportation and residential sectors are New Hampshire's largest energy consumers.

Petroleum

Portsmouth, on New Hampshire's Atlantic coast, receives petroleum product shipments from other States and from abroad. Per capita petroleum consumption is high in New Hampshire due to widespread use of fuel oil for home heating during long, cold winters. New Hampshire households are among the most

petroleum-dependent in the country, as more than one-half of New Hampshire homes use fuel oil as their primary energy source for home heating. The State requires reformulated motor gasoline blended with ethanol in the populated areas in southeastern New Hampshire.

New Hampshire, along with much of the U.S. Northeast, is vulnerable to distillate fuel oil shortages and price spikes during winter months. In January and February 2000, distillate fuel oil prices rose sharply when extreme winter weather increased demand unexpectedly and hindered the arrival of new supply, as frozen rivers and high winds slowed the docking and unloading of barges and tankers. In July 2000, in order to reduce the risk of future shortages, the President directed the U.S. Department of Energy to establish the Northeast Heating Oil Reserve. The Reserve gives Northeast consumers adequate supplies for about 10 days, the time required for ships to carry heating oil from the Gulf of Mexico to New York Harbor. The Reserve's storage sites are located in New Haven, Connecticut (two sites); Providence, Rhode Island (one site); and Woodbridge, New Jersey (one site).

Natural Gas

New Hampshire's natural gas supply is shipped in by pipeline from Maine, Canada, and Massachusetts. Although New Hampshire's total natural gas consumption is low compared to other States, demand has grown rapidly in recent years, particularly for use in electricity generation.

Coal, Electricity, and Renewables

New Hampshire's net electricity generation is among the lowest in the country. Before 2003, the Seabrook nuclear power plant near Portsmouth provided more than one-half of State generation. Since then, however, that dominance has slipped as two new natural gas-fired power plants have come online. As in other New England States, the growing use of natural gas in New Hampshire's power industry has been driven by the benefits of natural gas's lower emission levels compared with other fossil fuels and the ease of siting new natural gas-fired power plants. Natural gas-fired generation now accounts for more than a quarter of the State's power production. New Hampshire also produces electricity from renewable energy sources, including hydropower and fuel wood. New Hampshire's residential electricity use is low compared with the national average, in part because demand for air-conditioning is low during the generally mild summer months and because few households use electricity as their primary energy source for home heating.

Data

Economy

Population and Employment	New Hampshire	U.S. Rank	Period
Population	1.3 million	41	2007
Civilian Labor Force	0.7 million	39	2007
Per Capita Personal Income	$41,512	9	2007
Industry	**New Hampshire**	**U.S. Rank**	**Period**
Gross Domestic Product by State	$57.3 billion	42	2007
Land in Farms	0.4 million acres	48	2002
Market Value of Agricultural Products Sold	$0.1 billion	48	2002

Prices

Petroleum	New Hampshire	U.S. Avg.	Period
Domestic Crude Oil First Purchase	—	$112.83/barrel	Aug-08
No. 2 Heating Oil, Residential	$3.986/gal	$3.872/gal	Aug-08
Regular Motor Gasoline Sold Through Retail Outlets (Excluding Taxes)	$3.338/gal	$3.25/gal	Aug-08
State Tax Rate on Motor Gasoline (other taxes may apply)	$0.195/gal	$0.2159/gal	Aug-08
No. 2 Diesel Fuel Sold Through Retail Outlets (Excluding Taxes)	$3.823/gal	$3.751/gal	Aug-08
State Tax Rate on On-Highway Diesel (other taxes may apply)	$0.195/gal	$0.2214/gal	Aug-08
Natural Gas	**New Hampshire**	**U.S. Avg.**	**Period**
Wellhead	—	$6.40/thousand cu ft	2006
City Gate	$15.49/thousand cu ft	$10.16/thousand cu ft	Aug-08

Residential	$18.93/thousand cu ft	$19.62/thousand cu ft	Aug-08

Coal	New Hampshire	U.S. Avg.	Period
Average Open Market Sales Price	—	$26.20/short ton	2007
Delivered to Electric Power Sector	$ 3.64/million Btu	$ 2.17 /million Btu	Aug-08

Electricity	New Hampshire	U.S. Avg.	Period
Residential	16.02 cents/kWh	12.10 cents/kWh	Aug-08
Commercial	14.90 cents/kWh	11.07 cents/kWh	Aug-08
Industrial	13.76 cents/kWh	7.61 cents/kWh	Aug-08

See more Price data for all States

Reserves & Supply

Reserves	New Hampshire	Share of U.S.	Period
Crude Oil	—	—	2007
Dry Natural Gas	—	—	2007
Natural Gas Liquids	—	—	2007
Recoverable Coal at Producing Mines	—	—	2007

Rotary Rigs & Wells	New Hampshire	Share of U.S.	Period
Rotary Rigs in Operation	0	0.0%	2007
Crude Oil Producing Wells	0	0.0%	2007
Natural Gas Producing Wells	—	—	2006

Production	New Hampshire	Share of U.S.	Period
Total Energy	140 trillion Btu	0.2%	2005
Crude Oil	—	—	Jun-08
Natural Gas - Marketed	—	—	2006
Coal	—	—	2007

Capacity	New Hampshire	Share of U.S.	Period
Crude Oil Refinery Capacity (as of Jan. 1)	—	—	2008
Electric Power Industry Net Summer Capability	4,340 MW	0.4%	2006

Net Electricity Generation	New Hampshire	Share of U.S.	Period
Total Net Electricity Generation	2,205 thousand MWh	0.6%	Aug-08
Petroleum-Fired	17 thousand MWh	0.7%	Aug-08
Natural Gas-Fired	600 thousand MWh	0.6%	Aug-08
Coal-Fired	372 thousand MWh	0.2%	Aug-08
Nuclear	926 thousand MWh	1.3%	Aug-08
Hydroelectric	179 thousand MWh	0.9%	Aug-08
Other Renewables	106 thousand MWh	1.2%	Aug-08

Stocks	New Hampshire	Share of U.S.	Period
Motor Gasoline (Excludes Pipelines)	—	—	Aug-08
Distillate Fuel Oil (Excludes Pipelines)	—	—	Aug-08
Natural Gas in Underground Storage	—	—	Aug-08
Petroleum Stocks at Electric Power Producers	W	W	Aug-08
Coal Stocks at Electric Power Producers	W	W	Aug-08

Production Facilities	New Hampshire
Major Coal Mines	None
Petroleum Refineries	None
Major Non-Nuclear Electricity Generating Plants	Granite Ridge (Granite Ridge Energy LLC) • Newington Power Facility (Newington Energy LLC) • Merrimack (Public Service Co of NH) • Newington (Public Service Co of NH) • S C Moore (TransCanada Hydro Northeast Inc. •)
Nuclear Power Plants	Seabrook (FPL Energy Seabrook LLC)

See more Reserves and Supply data for all States

Distribution & Marketing

Distribution Centers	New Hampshire
Oil Seaports/Oil Import Sites	Portsmouth
Natural Gas Market Centers	None

Major Pipelines	New Hampshire
Crude Oil	Portland
Petroleum Product	None
Liquefied Petroleum Gases	None
Interstate Natural Gas Pipelines	Granite State Gas Transmission Inc. • Tennessee Gas Transmission Pipeline Co.

Fueling Stations	New Hampshire	Share of U.S.	Period
Motor Gasoline	1,700	1.0%	2007
Liquefied Petroleum Gases	11	0.5%	2007
Compressed Natural Gas	3	0.4%	2007
Ethanol	1	0.1%	2007
Other Alternative Fuels	22	1.9%	2007

See more Distribution and Marketing data for all States

Consumption

per Capita	New Hampshire	U.S. Rank	Period
Total Energy	257 million Btu	45	2005

by Source	New Hampshire	Share of U.S.	Period
Total Energy	335 trillion Btu	0.3%	2005
Total Petroleum	32,122 thousand barrels	0.4%	2006
Motor Gasoline	17,326 thousand barrels	0.5%	2006
Distillate Fuel	8,837 thousand barrels	0.6%	2006
Liquefied Petroleum Gases	3,015 thousand barrels	0.4%	2006
Jet Fuel	162 thousand barrels	0.0%	2006
Natural Gas	62,549 million cu ft	0.3%	2006
Coal	W	W	2006

by End-Use Sector	New Hampshire	Share of U.S.	Period
Residential	98,477 billion Btu	0.5%	2005
Commercial	79,083 billion Btu	0.4%	2005
Industrial	53,489 billion Btu	0.2%	2005
Transportation	104,380 billion Btu	0.4%	2005

for Electricity Generation	New Hampshire	Share of U.S.	Period
Petroleum	31 thousand barrels	0.7%	Aug-08
Natural Gas	4,255 million cu ft	0.5%	Aug-08
Coal	160 thousand short tons	0.2%	Aug-08

for Home Heating (share of households)	New Hampshire	U.S. Avg.	Period
Natural Gas	18%	51.2%	2000
Fuel Oil	58%	9.0%	2000
Electricity	8%	30.3%	2000
Liquefied Petroleum Gases	11%	6.5%	2000
Other/None	5%	1.8%	2000

See more Consumption data for all States

Environment

Special Programs	New Hampshire
Clean Cities Coalitions	Granite State

Alternative Fuels	New Hampshire	Share of U.S.	Period
Alternative-Fueled Vehicles in Use	916	0.2%	2006

Ethanol Plants	0	0.0%	2008
Ethanol Plant Capacity	0 million gal/year	0.0%	2008
Ethanol Use in Gasohol	0 thousand gal	0.0%	2004
Electric Power Industry Emissions	**New Hampshire**	**Share of U.S.**	**Period**
Carbon Dioxide	7,064,970 metric tons	0.3%	2006
Sulfur Dioxide	37,091 metric tons	0.4%	2006
Nitrogen Oxide	9,152 metric tons	0.2%	2006

See more Environment data for all States

— = No data reported; NA = Not available; W = Withheld to avoid disclosure of individual company data.

Recent Updates

- **November 20, 2008**
  Updated the following electricity statistics to August 2008:
  • Price of electricity sold to the residential, commercial, and industrial sectors
  • Price of coal delivered to the electric power sector
  • Net electricity generation by fuel
  • Fuel stocks at electric power producers
  • Consumption for electricity generation by fuel

See previous updates

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References

- Notes & Sources: Maps | Data
- State Data Directory
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Related Reports

- State Energy Data System (SEDS)
  tables that display comprehensive State data from as early as 1960 to the present
- State Electricity Profiles
  tables that provide time series data from 1990 forward for key electricity indicators by State
- State Renewable Electricity Profiles
  tables that provide data for the most recent year on capacity and generation of electricity from renewable sources
- State Compendium of Nuclear Power Plants
  State-by-State reports on the nuclear industry
- Natural Gas Residential Choice Programs
  written overviews of the status of natural gas industry restructuring in each State, focusing on the residential customer class
- Status of Electricity Restructuring by State
  annotated map showing details of the status of electricity restructuring in each State
- Regional Energy Profiles
  reports and maps that explore regional variations in U.S. energy consumption

ATTACHMENT B
ENERGY-RELATED LEGISLATIVE SERVICE REQUESTS FILED FOR 2009

Below is a list of proposed energy-related legislation filed for consideration by the New Hampshire legislature during the 2009 session. This list is current as of November 30, 2008. To view a complete list of 2009 LSRs, go to the following web link on the New Hampshire General Court web page: http://www.gencourt.state.nh.us/ie/lsrsearch/default.asp

2009 Legislative Service Requests (LSR)

2009-H-0053-R requiring electric utilities to offer a renewable energy service option.

2009-H-0155-R relative to a definition of "sustainable energy."

2009-H-0271-L relative to local government eligibility for energy efficiency improvements.

2009-H-0295-R enabling municipalities to establish energy commissions.

2009-H-0364-R clarifying the eligibility requirements for class IV renewable energy generating facilities.

2009-S-0472-R relative to fuels used by small power production facilities under the limited electric energy producers act.

2009-H-0533-R prohibiting the investment of state funds in the energy sectors of countries that have been identified by the United States Department of State as state sponsors of terrorism.

2009-H-0616-R relative to renters' rights to weatherization credits under the renewable portfolio standards program.

2009-H-0094-R relative to the rate of the gas tax

2009-H-0095-R increasing the rate of the gas tax and dedicating the increased revenues to development and improvement of highway-related transit systems serving New Hampshire residents.

2009-H-0137-R relative to suspension of a driver's license for gasoline theft.

2009-H-0253-R banning corn-based ethanol as an additive in gasoline sold in New Hampshire.

2009-H-0537-R increasing the rate of the gas tax and changing gas tax assessment and collection procedures.

2009-H-0330-R relative to fuel assistance.

2009-H-0399-R relative to signs prohibiting idling in parking lots and fuel stops.

2009-H-0054-R relative to real estate developers creating space for drying laundry without electricity.

2009-H-0096-R relative to the definition of "bulk power supply facilities."

2009-H-0580-R requiring the public utilities commission to perform a cost/benefit analysis for the Merrimack power plant in Bow.

2009-H-0061-R relative to outdoor lighting efficiency.

2009-H-0320-R relative to heating assistance.

2009-H-0130-R requiring measurement of carbon dioxide produced and sequestered in the state.

2009-H-0424-R establishing an optional tax credit for "green buildings."

2009-H-0592-R establishing a radiological emergency evacuation infrastructure program.

ATTACHMENT C
Conceptual Framework Windpower Siting Guidelines

The Energy Policy Commission commends the ad-hoc stakeholder working group on commercial wind siting for its outstanding work over 16 months in drafting the following *Conceptual Framework Windpower Siting Guidelines*.

We recommend that the House Science, Technology and Energy Committee study this whitepaper and determine which concepts should become legislation in the 2009 – 2010 session. The Commission also urges the legislature to consider the economic impact (positive and negative) such commercial wind developments would have on local communities, regions of the state and the state as a whole.

Wind Energy Facility Siting Guidelines Working Group

Conceptual Framework Windpower Siting Guidelines[1] – May 29, 2007

Forwarded to the NH Energy Policy Committee Wind Siting Subcommittee

INTRODUCTION/BACKGROUND

Promotion of windpower development is an important component of state and national renewable energy policies. The New Hampshire Energy Plan of 2002[2] states, "It is now widely recognized that in order to continue building upon our state's strengths, we should consider energy policies and programs that take advantage of new technologies, promote energy efficiency, encourage the development of cleaner, affordable alternative energy sources, utilize our plentiful renewable natural resources, and reduce our dependence on foreign oil." New Hampshire possesses an indigenous wind resource that is capable of supporting commercial and "community scale" windpower development. Utilizing this resource for energy generation can create many benefits, including a reduction in the need to import fossil fuels to the region and a reduction in future emissions of greenhouse gasses and other pollutants.

The siting of windpower facilities presents some challenges that are different from those faced by other types of energy facilities. In New Hampshire, the wind resource capable of supporting commercial development is located primarily on ridgelines and in coastal and off-shore areas – places that may possess environmental, recreational and scenic values that need to be considered when evaluating development. The state's Energy Plan notes "While there is strong potential for siting wind farms in the state, they also raise numerous concerns." Among the potential obstacles cited in the plan are the distance from the grid, the proportion of windy ridgeline that lie on public conservation land, and the aesthetic and habitat values associated with undeveloped high-elevation open space.

The New Hampshire Energy Facility Evaluation, Siting, Construction and Operation Act (NH RSA 162-16:H.IV) sets forth the following criteria for the permitting of energy facilities under the jurisdiction of the state's Site Evaluation Committee (SEC):

> The Committee must find that the proposed site and facility:
>
> a) Applicant has the adequate financial, technical, and managerial capability to assure construction and operation of the facility in continuing compliance with the terms and conditions of the certificate.
> b) Will not interfere with the orderly development of the region with due consideration given to the views of municipal and regional planning commissions and municipal governing bodies.

[1] This document is intended to address windpower development on terrestrial ridgelines. While many of the issues addressed here will also apply to coastal and off-shore areas (the other part of the state with a strong wind resource), these areas will involve additional jurisdictional and resource issues that are not addressed here.
[2] See http://www.nh.gov/oep/programs/energy/StateEnergyPlan.htm.

c) Will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety.
d) Operation is consistent with the state energy policy established in RSA 378:37.

The recommendations set forth here are intended to provide greater clarity to permitting authorities, developers and stakeholders as to how the above criteria should be evaluated, especially regarding criteria (b) and (c). They are intended primarily for projects under the jurisdiction of the SEC, but should prove useful for municipal permitting authorities as well. These recommendations put a strong emphasis on early site evaluation and screening and consultation with state resource agency personnel, local officials and citizens, and other stakeholders. They identify resource and social issues that should be considered during permitting and set forth guidance for evaluating the level of concern regarding a project's potential impact on natural resources and other issues[3].

GENERAL GUIDELINES FOR APPROPRIATELY SITED PROJECTS

Ideally, appropriately sited windpower projects will have the following characteristics:

- Have substantial support from the local community.
- Provide positive economic benefits to the local community.
- Are compatible with local land use plans and regulations.
- Avoid or minimize degradation of the quality of life for local residents.
- Maximize the amount of power generated for the given level of impact.
- Avoid or minimize disturbance of populations of or habitat for rare plant and animal species.
- Avoid areas that create a high risk of mortality to birds and bats.
- Avoid or minimize disturbance of uncommon or high-quality wildlife habitat.
- Avoid or minimize fragmentation of large blocks of natural habitat.
- Avoid or minimize disturbance of steep or fragile soils.
- Avoid or minimize disturbance of wetlands, streams and riparian areas.
- Avoid or minimize disturbance of areas of high recreational use, especially use that is focused on the natural environment.
- Avoid or minimize degradation of scenic views, especially from areas of recognized high scenic value that depend on the undeveloped natural environment for their appeal.
- Have necessary infrastructure (access roads and transmission lines) on-site, in close proximity, or able to be constructed without undue impacts.
- Are located in areas that have been and continue to be altered by human use (e.g., developed or agricultural areas or lands under active timber management)[4].

[3] While every attempt has been made to make this guidance as objective as possible, an element of subjective judgment is inevitable.
[4] The strongest terrestrial winds are found on ridgelines, which are most often areas of undeveloped forest land. If located on forested ridgelines, projects should be in areas of relatively common or younger forest types, and avoid the core of large areas of mature forest. (This is related to the fragmentation issue previously listed.)

It is recognized that few if any projects will have all of these characteristics, and that siting of windpower inevitably involves tradeoffs between the benefits and impacts of development. Also, these ideal characteristics need to be considered relative to the nature of the regional landscape. The ideal site will be much different in Coos County (where much of the landscape is undeveloped forest and infrastructure is less well developed) than in more heavily developed parts of the state.

REVIEW PROCESS

NH RSA 162-H sets up the Site Evaluation Committee, which has jurisdiction over permitting of energy facilities greater than 30 megawatts capacity. Projects smaller than 30 MW may come under the jurisdiction of the SEC if petitioned by the applicant, local officials or citizens as specified in the law. The SEC also has the authority to exercise jurisdiction over any project as specified in 162-H:2.II(a) and 162-H:2.VII.

The proposed process outlined below does not change the existing permitting structure, and is not intended to change other existing review or permitting processes that may be required in addition to SEC approval. It is intended to provide a framework for consultation and preliminary review early in the development process, and to provide a more structured approach to assessing the issues associated with development.

There are two modifications that could improve the current process, particularly in the pre-application phase. First, there should be a point person (hereafter referred to as the "state coordinator") designated by the Chairman of the SEC to provide centralized coordination of the permitting process from the initial inquiries by an applicant to the final SEC review. This person would be responsible for guiding the applicant through the process (essentially providing "one-stop shopping"), promoting and facilitating collaborative discussion to resolve issues of concern (most likely through the windpower advisory group proposed below, augmented as necessary with municipal and local stakeholders with an interest in the particular project under consideration), and coordinating the necessary input and review by state agencies once an application has been submitted. Currently many of these functions are provided by the Administrator of the Public Information and Permitting Unit within DES. However, currently the Administrator's role is limited to all activity up to the acceptance of the application by the SEC, after which he can no longer interact with the applicant, SEC members or intervenors to prevent the appearance of ex parte communication. The responsibilities of the state coordinator, as well as the pre-application consultation process, should be expanded and more clearly defined.

Second, the state should consider creating a windpower advisory group that would include representatives of state agencies, non-profit organizations, the windpower industry and community interests. The group would not have any regulatory authority, but would serve as a forum for discussion of issues related to both general windpower policy and specific development proposals. There are many such groups currently in existence in the state that provide a range of models as to how the group could be organized, including DES's Dredge Management Task Force and Rivers Management Advisory Committee and DOT's Statewide Trails Advisory Committee and Community Advisory Committee.

With these recommendations in mind, the following general process for windpower permitting is proposed:

Step 1 – Preliminary consultation/Initial data compilation[5]: Applicant is encouraged to consult with the state coordinator, who can assist the applicant with the identification of preliminary information to be collected and local government officials, state agency personnel and other stakeholders who the applicant should consider contacting. Applicant gathers existing data relevant to the resource issues listed below for one or more site(s) being considered for development, augmented by preliminary on-site evaluations (but not detailed studies).

Step 2 – Pre-application consultation: Applicant submits the results of the initial data compilation to the windpower advisory group. All proposals under the jurisdiction of the SEC would be required to undergo this consultation. Other proposals are encouraged to consult with the group, especially if the proposal involves known natural resource concerns, and submit the initial data compilation information and feedback from the advisory group to the appropriate permitting municipality(ies). Local officials, citizens and stakeholders could be provided with an opportunity to provide initial comments on the proposal. The purpose of this consultation would be to:

- Make a preliminary assessment of the suitability of the proposal.
- Assess the relative level of concern for the various resource issues (see Appendices) and identify those issues that are of greatest concern.
- Recommend additional information and detailed studies that should be developed for the application. (Because the windpower advisory group is non-regulatory, any formal recommendations in these areas would need to come from the participating state regulatory agencies.)

Step 3 – Detailed field studies/project planning/application preparation.

Step 4 – Application submission and permitting at appropriate level.

OTHER PROCESS ISSUES

Several other issues have been raised regarding the review process as it applies to windpower development (and potentially other types of energy development as well):

- Projects not under SEC jurisdiction may create impacts to resources of recognized state significance. There is currently no provision for state review of these impacts, other than that required for specific permits from individual state agencies (such as Alteration of

[5] The applicant shall determine when a proposal is sufficiently well-defined to begin this process. The erection of a meteorological tower or conducting other preliminary studies does not necessarily constitute a proposal under these guidelines.

Terrain or wetlands permits)[6]. The SEC's authority to exercise jurisdiction on its own volition over other proposals could address the issue of providing state review of smaller projects with the potential to impact resources of state significance. However, it is not clear under what conditions, or by what process, the SEC would exercise jurisdiction over other proposals that have not been petitioned.

- There is a difference of opinion regarding the relationship between state and municipal jurisdiction for projects petitioned to the SEC (i.e., does SEC jurisdiction supersede local authority or is it concurrent with it). This needs to be clarified.
- The SEC review process was developed primarily to address large energy generating projects. The process may be overly cumbersome for windpower projects (and other renewable energy projects). It has been suggested that an expedited review process for windpower (and other renewable energy) projects may be appropriate. Others believe that such an expedited review may be appropriate, but only for proposals that have been determined to be of relatively low concern regarding their potential impact on natural resource and other values based on an initial screening process.
- The state currently has no regulations or standards that would provide guidance as to how the issue of noise should be evaluated. (See Appendix A.11.)
- The SEC now has some experience in processing an application for commercial windpower development. This document was developed without reference to that application process. The lessons learned from that process should supplement the material presented in this document.
- There are a wide range of resources available to assessing site suitability spread among the various state agencies. (Many of these resources are described in the appendices.) However, there is no central repository of such information or guidance dedicated for use by parties to a windpower proposal. Future proposals may benefit from such a compositing of resources, which could be posted on the SEC Web page.
- There is disagreement as to whether the state should undertake an analysis that overlays wind resource data onto available data on natural resource values of concern. This analysis could provide guidance as to the relative level of resource conflict for different areas.

RESOURCE AND SOCIAL ISSUES TO BE CONSIDERED

The issues listed here are primarily issues of environmental or social concern. Other issues relevant to the permitting criteria listed under RSA 162-H also need to be considered but are not discussed here (for example, grid interconnection and system reliability, the financial capability of the applicant, the clean air benefits of a proposal, etc.).

- Rare plants (Appendix A.1)
- Rare and exemplary natural communities (A.2)

[6] NH RSA 362-A (the Limited Electrical Energy Producers Act) does provide for consideration by the Public Utilities Commission of smaller projects. However, it deals primarily with producers not primarily engaged in electrical power production, but who generate electricity wholly or partially for on-site use. The statute addresses issues such as net metering, rates and exemption from utility regulations, but does not involve PUC review of siting issues or create PUC permitting authority.

- Soils and topography (A.3)
- Waters and Wetlands (A.4)
  -Wetlands
  -Streams and riparian areas
  -Water quality
- Wildlife (A.5)
- Existing land use (A.6)
- Existing infrastructure (A.7)
- Recreational use (A.8)
- Visual (A.9)
  -Views from recreational and scenic areas
  -Views from communities and residential areas
- Cultural, historic and archaeological features (A.10)
- Noise (A.11)
- Other "nuisance" issues (shadow flicker, hazardous waste, etc.) (A.12)
- Conservation status of land (A.13)
- Regional conservation plans (A.14)
- Municipal issues (A.15)
  -Compatibility with local land use plans and regulations
  -Support of local officials and citizens
  -Social and economic impacts

EVALUATION OF RESOURCE AND SOCIAL ISSUES

The initial data compilation should contain available information for each of the issues listed above. Some of these issues cannot be fully evaluated without detailed field work, analysis or consultation that would be included only in the final application. For both the initial data compilation and the final application, the appendices provide a tool for organizing the information so that all parties have a way of understanding the issues of greatest concern.

Appendices A.1 through A.15 contain the following information for each of the resource issues: a definition of the issue, a description of pertinent existing New Hampshire laws and regulations, a description of the grounds for concern relative to that issue, guidelines for information collection and assessment (separated into information to be collected for the initial data compilation and the final application), and guidance for assessing the relative level of concern for that issue. The appendices do not include guidelines for post-construction monitoring or mitigation, though these may also be an important part of the permitting process.

Several things should be kept in mind when using these appendices:

- They are not intended to be a "scorecard", but to assist the applicant, permitting authorities, and stakeholders with understanding which issues may be of notable concern, and which need to be considered in site selection, project design and permitting review.

- They do not provide guidance as to how the benefits of a proposal should be assessed, though this information is critical to an overall evaluation of a proposal.
- They are not intended to propose or create any new regulatory requirements.
- Not all issues are of equal significance or concern.
- Evaluation of a proposal should consider the degree to which potential impacts to issues of concern can be avoided, minimized or mitigated.
- Where similar information is requested for several appendices, it should be assumed that the same information is intended unless specifically noted otherwise.

APPENDIX A.1 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: RARE PLANTS

- **Definition:** "Rare plant" shall mean any species included on the most recent version of the "Rare Plant List for New Hampshire" maintained by the New Hampshire Natural Heritage Bureau.

- **Pertinent Existing New Hampshire Laws and Regulations**

  The New Hampshire Native Plant Protection Act of 1987 (RSA 217-A) sets forth a general program for the protection of native plants, including the establishment of the Natural Heritage Bureau and a process for listing of species as threatened or endangered. It prohibits the possession, transport or sale of listed species without a valid permit, but specifically does not prohibit the taking of listed species by landowners on their own property.

  The Act also states (Section 217-A:7, Cooperation With Other State Agencies), "*All state agencies, consistent with their authority and responsibilities, shall assist and cooperate with the commissioner to carry out the purposes of this chapter. To the extent possible actions funded or carried out by state agencies shall not jeopardize the continued existence of any protected plant species*." For any state regulatory review of windpower facilities, the state agency(ies) conducting the review would need to comply with this provision.

  The New Hampshire Energy Facility Evaluation, Siting, Construction and Operation Act requires that in order to permit a project under its jurisdiction, the Energy Facility Site Evaluation Committee must, among other findings, find that the project "*Will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety.*" This implies that rare plants should be considered in permitting decisions.

- **Grounds for Concern**

  Localized populations of rare plants may be directly eliminated or reduced due to clearing associated with development. Populations proximate to developed areas may be indirectly affected by changes in hydrologic regimes or microclimate or competition from invasive species.

- **Assessment Guidelines**

  Initial data compilation
  - The New Hampshire Natural Heritage Bureau should be consulted for information as to whether the site contains known or historical occurrences of rare plant species or contains habitat likely to support such species.
  - If NHNHB consultation indicates no known or historical occurrences of rare species and a low likelihood of the presence of suitable habitat for rare species, a general assessment of the site shall be conducted to confirm the nature of the habitat.

  Application information
  - If NHNHB consultation indicates no known occurrences of rare species but the possible presence of habitat that could support such species, or if the initial assessment indicates the presence of habitat suitable for rare species, a targeted survey of this habitat will be conducted to map the habitat and determine whether any rare species are present. This survey shall be conducted at the time of year when such plants are most likely to be observed.

- If NHNHB consultation indicates that known or historical occurrences of rare species are located on the site, or if the habitat survey identifies the presence of rare species, then a detailed assessment will be undertaken to map the location of existing specimens and the extent of suitable habitat for these species.

- **Relative Level of Concern**

  - ***Low***: No known or historical occurrences of rare plants are present and the site does not contain habitat with a high likelihood of supporting such species.
  - ***Moderate***: Rare plant species or habitat with a high likelihood of supporting such species are present in the proposal area, but will not be directly disturbed by development activity.
  - ***High***: Rare plant species or habitat with a high likelihood of supporting such species are present in the proposal area and will be directly disturbed by development activity.

APPENDIX A.2 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: RARE AND EXEMPLARY NATURAL COMMUNITIES

- **Definition:** "Natural communities" are recurring assemblages of plants and animals found in particular physical environments as classified in the New Hampshire Natural Heritage Bureau publication *Natural Communities of New Hampshire*. Rare natural communities are those ranked S1 (critically imperiled), S2 (imperiled) or S3 (very rare and local). Exemplary natural communities are those that have had relatively little alteration from human activity and retain a relatively natural composition and structure, including high-quality examples of common natural communities (i.e., those ranked S4 or S5).

- **Pertinent Existing New Hampshire Laws and Regulations**

  No statutes, including the Native Plant Protection Act specifically mention natural communities. However, the New Hampshire Energy Facility Evaluation, Siting, Construction and Operation Act requires that in order to permit a project under its jurisdiction, the Energy Facility Site Evaluation Committee must, among other findings, find that the project "*Will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety.*" This implies that rare and exemplary natural communities should be considered in permitting decisions. In addition, New Hampshire Department of Environmental Services includes consideration of exemplary natural communities as a component of its regulatory process, at least for some of its permits, and has embedded exemplary natural communities directly into a number of their permits and Rules, including Env-Wt 302.04 (Wetland Rules) Requirements for Application Evaluation, and Env-Wt 803.06 Alternative Compensatory Mitigation Plans, and possibly others.

- **Grounds for Concern**

  Rare or exemplary natural communities may be eliminated, fragmented or degraded by clearing associated with development. Communities proximate to developed areas may be indirectly affected and altered by changes in hydrologic regimes or microclimate or competition from invasive species.

- **Assessment Guidelines**

  Initial data compilation
  - The New Hampshire Natural Heritage Bureau should be consulted for information as to the site contains known or historical occurrences of rare or exemplary natural communities or contains geophysical features likely to support such communities.
  - If NHNHB consultation indicates no known or historical occurrences of rare or exemplary natural communities and a low likelihood of the presence of suitable conditions for rare natural communities, a general assessment of the site shall be conducted to identify the communities that are present. Common communities shall be assessed as to whether they might qualify as "exemplary".

  Application information
  - If NHNHB consultation indicates no known occurrences of rare or exemplary natural communities but the possible presence of suitable conditions for rare natural communities, or if the initial assessment indicates the presence of rare or exemplary communities, then the extent and condition of these communities will be mapped and assessed according to NHNHB protocols.

- **Relative Level of Concern**

  - ***Low***: No rare or exemplary natural communities are present within the proposal area.
  - ***Moderate***: Rare or exemplary natural communities are documented within the proposal area but will not be impacted by construction activity.
  - ***High***: Rare or exemplary natural communities are documented within the proposal area and will be directly impacted by construction activity.

APPENDIX A.3 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: STEEP OR FRAGILE SOILS

- **Definition:** "Steep or fragile soils" are any soils classified by the US Natural Resource Conservation Service as having moderate or severe hazard of erosion, soils which are classified as very poorly drained or which meet any of the criteria for hydric soils, and any slopes over 20%.

- **Pertinent Existing New Hampshire Laws and Regulations**

  Soils *per se* have no legal protection under New Hampshire law or regulation. However, one of the primary concerns regarding steep or fragile soils is the potential they create for erosion and degradation of water quality, which is governed by an extensive body of law and regulation. In addition, very poorly drained or hydric soils may be classified as wetlands, which also have extensive legal protection (see Hydrology section). Any project involving "Construction, earth moving, or other significant alteration of the characteristics of the terrain" of over 100,000 square feet (which would include most windpower projects) requires an Alteration of Terrain permit from the NH Department of Environmental Services.

- **Grounds for Concern**

  Excessive soil erosion associated with improperly designed or inadequately stabilized cleared slopes and road corridors may degrade water quality and aquatic habitat for considerable distances downstream of project areas. Large areas of cut and fill on steep slopes may increase a project's visual impact.

- **Assessment Guidelines**

  Initial data compilation
  Existing NRCS soils maps should be examined to determine the nature of the soils in the proposal area, and to determine the extent of steep or fragile soils within the proposal area that may be disturbed by project construction.

  Application information
  NRCS or NHDES staff should be consulted to determine the extent of detailed field mapping of soils and topography necessary to properly evaluate the proposal. Requirements for detailed engineering plans and other information necessary for the permit application should conform to existing NHDES rules for the Alteration of Terrain permit.

- **Relative Level of Concern**

  - ***Low***: Construction of the project (including turbine strings, access roads and transmission lines) will create little to no disturbance of steep or fragile soils.
  - ***Moderate***: Construction of the project will create some disturbance of limited areas of steep or fragile soils.
  - ***High***: Construction of the project will create extensive disturbance of steep or fragile soils and involve significant terrain alteration ("cut and fill").

APPENDIX A.4 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: WATERS AND WETLANDS

- **Definition:** "Hydrology" encompasses a range of issues related to the flow of water across and through the landscape, including impacts to streams, lakes, ponds, wetlands, seeps and springs and their associated shoreline or buffer ("riparian") areas.

- **Pertinent Existing New Hampshire Laws and Regulations**

  There is an extensive body of both state and federal law and regulation designed to protect the quality of surface waters, groundwater and wetlands. Projects may require permitting by NH Department of Environmental Services (e.g., Dredge and Fill permits or Section 401 Water Quality Certification) or U.S. Army Corps of Engineers (USACE). RSA 482-A regulates the conversion of wetlands and states that, "No person shall excavate, remove, fill, dredge or construct any structures in or on any bank, flat, marsh, or swamp in and adjacent to any waters of the state without a permit from the department." Between the Army of Corps of Engineers definition of a wetland and that of the DES, there are few hydrologic impacts that do not involve wetlands. However, in those rare cases such impacts should be closely examined.

- **Grounds for Concern**

  Lakes, ponds, streams, rivers and wetlands and their associated riparian areas are perhaps the most critical component of the state's natural landscape. Degradation of water quality and aquatic habitats can affect a wide range of values important to the state's economy and quality of life, included drinking water supplies, critical wildlife habitat and recreational uses.

- **Assessment Guidelines**

  Initial data compilation
  The initial data compilation should include a map showing all wetlands, stream courses and hydric soils as determined from existing data sources, as well as the general location of proposed project roads, transmission lines and facilities that might impact hydrologic features to the extent that they have been developed.

  Application information
  NHDES and USACE staff should be consulted for assistance in minimizing impacts to hydrologic features. The requirements for consideration of hydrologic and wetland impacts during the application process is well-developed under existing regulation. No changes to the existing procedures are proposed.

- **Relative Level of Concern**

  - ***Low***: Impact to wetlands, new stream crossings and disturbance of riparian areas are limited with no quantity, quality or secondary impact issues. No Army Corps or 401 permit is required. DES Dredge & Fill Permit is either not required or is classified as a Minimum Impact Project.
  - ***Moderate***: Project involves some impact to wetlands, streams or other jurisdictional areas sufficient to trigger one or more of the above permits.

- ***High***: Project involves impacts to wetlands, streams or other jurisdictional areas and attendant resources that may trigger a quantity and/or quality threshold or a secondary impact issue in a state or federal permit review.

APPENDIX A.5 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: WILDLIFE

- **Definition:** Title XVIII Section 207.1.XXXV of the New Hampshire Revised Statutes defines wildlife as "all species of mammals, birds, fish, mollusks, crustaceans, amphibians, invertebrates, reptiles or their progeny or eggs which, whether raised in captivity or not, are normally found in a wild state." Section 212-A:2 defines wildlife as "any member of any non-domesticated species of the animal kingdom, whether reared in captivity or not, including, without exception, any mammal, fish, bird, amphibian, reptile, mollusk, arthropod or other invertebrate, and includes any part, product, egg or offspring thereof, or the dead body or parts thereof."

- **Pertinent Existing Laws and Regulations**

  Federal

  - Migratory Bird Treaty Act (16 U.S.C. 703-712) provides for the protection of migratory birds.
  - Endangered Species Act (16 U.S.C. 1531-1544) provides for the protection of federally listed threatened and endangered plants and animals and their habitats.
  - Bald and Golden Eagle Protection Act (16 U.S.C. 668) provides for the protection of Bald and Golden Eagles.

  State

  - Title XVIII, Section 207 of the New Hampshire Revised Statutes establishes State's exclusive authority and jurisdiction over the wildlife of the state and the authority of the New Hampshire Fish & Game department to regulate, protect, restore, and conserve the wildlife resources of the state.
  - The Endangered Species Conservation Act of 1979 (RSA 212-A) provides for the protection of wildlife species normally occurring within the state that are in jeopardy in order to maintain and enhance their numbers.
  - The Nongame Species Management Act of 1988 establishes the state's policy to maintain and manage the native wildlife resources of New Hampshire for future generations.
  - The New Hampshire Energy Facility Evaluation, Siting, Construction and Operation Act requires that in order to permit a project under its jurisdiction, the Energy Facility Site Evaluation committee must, among other findings, find that the project "will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, *the natural environment*, and public health and safety."
  - The Water Management and Protection Act of 1989 (RSA 482-A) finds that it is in the public good and welfare of the state to protect and preserve submerged lands under tidal and fresh waters and salt water and fresh-water wetlands from despoliation and unregulated alteration, because despoliation or unregulated alteration will, among other impacts, "adversely affect the value of such areas as sources of nutrients for finfish, crustacea, shellfish and wildlife of significant value, and will damage or destroy habitats and reproduction areas for plants, fish and wildlife of importance," and requires a permit to fill or dredge jurisdictional wetland habitats. Permit applicants must assess impacts to plants, fish, and wildlife including rare, special concern species, state and federally listed threatened and endangered species, species at the extremities of their ranges, and exemplary natural communities identified by the NH Natural Heritage Bureau (NHDES Wt 302.04).

- **Grounds for Concern**

Wildlife issues of particular concern in wind energy development include: habitat loss for species of conservation concern, including threatened and endangered species; impacts to sensitive and high quality wildlife habitats; mortality risks for migrating birds and bats; fragmentation of large blocks of contiguous forest; degradation of wetlands and waterways, particularly perched wetlands and headwater streams; interference with auditory perception that affects critical life functions (e.g., detection of predators and prey; communication with mates, young and conspecifics); and loss of critical localized resources such as hard and soft mast.

- **Assessment Guidelines**

Reviewers of proposed projects shall include a Wildlife Advisory Committee[7], consisting of qualified scientists or technical representatives from the following: the US Fish & Wildlife Service, the NH Fish & Game Department, the NH Department of Environmental Services, the developer or its consultants, an environmental non-governmental organization, and a representative from the municipality(ies) in which the proposed project is located, compensated as appropriate by the applicant. The responsibilities of reviewing parties include review of data (initial data compilation and field study results) provided by the applicant, determination of adequacy of information (initial data compilation and field study results) provided by the applicant, recommending field study design for pre-construction studies and post-construction monitoring, assessing the level of potential wildlife impacts, providing site plan recommendations to minimize wildlife impacts, recommending any operational changes to reduce wildlife impacts, evaluating pertinent aspects of mitigation and decommissioning plans, and preparing reports of their findings. Reports from this committee shall become part of the final application.

Initial data compilation

The applicant should assemble the following existing baseline information in narrative and mapped forms, as appropriate, for natural resource features within the proposed development as well as access corridors and areas adjacent to the development that are reasonably likely to be affected by the project:

- Delineation of project area on USGS 7.5-minute quadrangles.
- Highly or moderately erodible soils within project area as identified by Natural Resource Conservation Service County Soils Surveys.
- Slopes in excess of 20% within project area as delineated from Digital Elevation Model data available from the NH GRANIT database.
- Mapped surface waters and wetlands from the NH Hydrography and National Wetlands Inventory data layers available from GRANIT.
- Delineation of areas above 2500 feet and above 2700 feet elevation within project area as identified from Digital Elevation Model data.
- Rare, threatened and endangered plants and animals and exemplary natural communities within project area documented in the NH Natural Heritage Bureau database.
- Delineation of project area and 3.5-mile radius on current NH Fish & Game Department maps of Highest Ranked Wildlife Habitat by Ecological Condition, Conservation Focus Areas, and Wildlife Habitat Land Cover.

Application information

[7] This committee in no way supercedes the regulatory authority or responsibilities of participating state and federal agencies.

All wildlife studies are to be designed in consultation with the Wildlife Advisory Committee. Surveys to be performed for all sites include:

- Identification of wetlands, including seeps, springs, and vernal pools, and perennial, intermittent, and ephemeral streams within 400 meters of areas to be disturbed during project construction.
- Radar and acoustical surveys to develop an understanding of nocturnally migrating bird and bat activity and migration characteristics. Such studies should be conducted both during spring (April through May) and fall (August through October) migration periods for a minimum of one year. Results should be related to meteorological data (wind speed, wind direction, precipitation and cloud cover) from the site and from the two nearest ASOS (Automated Surface Observing System) stations (cloud ceiling and coverage). If initial surveys suggest a moderate or high level of risk for migrating birds or bats within the proposed rotor-swept zone, at least one and potentially two additional years of surveys are likely to be required to further assess site suitability.
- Visual surveys for diurnally migrating raptors, documenting species, numbers, pathways, and flight elevation for a minimum of one spring and one fall migration period. If initial surveys suggest a moderate or high level of risk for migrating birds or bats within the proposed rotor-swept zone, at least one and potentially two additional years of surveys are likely to be required.
- Breeding bird survey of the project area for a minimum of one breeding season.

Surveys to be performed only where deemed appropriate based on initial data compilation:

- Field surveys for the presence of rare, threatened, and endangered species and associated habitats.
- Identification of suitable habitat and key corridors linking high elevation ridgeline habitat for Lynx and Pine Marten.
- Field surveys for Small-footed Bat.
- Identification of March – August foraging areas and flight paths between breeding cliff and foraging areas for any Peregrine Falcons breeding within 5 kilometers of the site.
- Mapping of beech, oak, and mountain ash occurrence within and adjacent to area to be disturbed.

- **Relative Level of Concern**

Low:

- The proposed project area includes no suitable habitat for a state or federally listed threatened or endangered species, or for species of regional conservation concern within the pertinent Bird Conservation Region as designated by the North American Bird Conservation Initiative.
- The proposed project area is entirely below 2500 feet elevation.
- The proposed project includes no area ranked as Tier 1, 2, or 3 on the current Wildlife Habitat maps of the NH Wildlife Action Plan.
- First-year on-site radar and acoustic monitoring suggest low risk for migrating birds or bats as indicated by passage rates, flight elevations, and species composition of migrants during various weather conditions.

Moderate

- The proposed project area includes no documented occurrences of state or federally listed threatened or endangered species, or of species of regional conservation concern within the pertinent Bird Conservation Region as designated by the North American Bird Conservation Initiative.

- The proposed project area is entirely below 2700 feet elevation.
- The proposed project includes no area ranked as Tier 1 or 2 on the current Wildlife Habitat maps of the NH Wildlife Action Plan.
- First-year on-site radar and acoustic monitoring suggest moderate risk for migrating birds or bats as indicated by passage rates, flight elevations, and species composition of migrants during various weather conditions.

High

- One or more documented occurrences of state or federally listed threatened or endangered species, or species of regional conservation concern within the pertinent Bird Conservation Region as designated by the North American Bird Conservation Initiative, exist for the project area.
- The proposed project includes areas above 2700 feet elevation.
- The proposed project includes areas ranked as Tier 1 or 2 on the current Wildlife Habitat maps of the NH Wildlife Action Plan.
- First-year on-site radar and acoustic monitoring suggest high risk for migrating birds or bats as indicated by passage rates, flight elevations, and species composition of migrants during various weather conditions.

APPENDIX A.6 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: EXISTING LAND USE AND LAND COVER

- **Definition:** "Existing land use and land cover" refers to the current condition of the site. Land use refers to the general category of use, such as urban/commercial development, residential, agriculture, forested, etc. Land cover refers primarily to the type of vegetation on undeveloped land.

- **Pertinent Existing New Hampshire Laws and Regulations**

  None

- **Grounds for Concern**

  As a general rule, a wide range of impacts associated with development (including affects on wildlife habitat, recreational uses and scenic quality) are likely to be less severe if they take place on land that has already been altered by human use, and will be of greatest concern in areas that are the most "natural".

- **Assessment Guidelines**

  Initial data compilation
  Current land use and land cover should be determined from the 2001 New Hampshire Land Cover Assessment available from the GRANIT database maintained by the UNH Complex Systems Research Center (or more recent data if available). This information should be supplemented by preliminary on-site assessment.

  Application information
  No additional information is required.

- **Relative Level of Concern**

  - ***Low***: Land already heavily altered by human uses (e.g. developed or agricultural land).
  - ***Moderate***: Undeveloped forested land consisting of common second-growth forest types showing extensive evidence of past and on-going timber management.
  - ***High***: Undeveloped non-forested land (wetlands, natural grasslands, etc.); undeveloped forest land consisting of uncommon or noticeably mature forest types with little indication of recent timber management.

  Note: Developed or agricultural land may be well-suited for smaller or "community-scale" projects but may have limited availability for commercial-scale projects. Also, agricultural land may provide important wildlife habitat, and is an important component of the cultural and aesthetic fabric of rural communities. In some landscapes development of agricultural land may be of relatively higher concern, and development of common forest types managed for timber production may be of relatively low concern.

APPENDIX A.7 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: EXISTING INFRASTRUCTURE

- **Definition:** "Existing infrastructure" refers to the extent to which roads and transmission lines are available in close proximity to the proposed development site.

- **Pertinent Existing New Hampshire Laws and Regulations**

  Existing infrastructure is not a specific resource value that is subject to regulatory oversight. However, it is a useful guideline as to the extent to which a project will be able to utilize existing roads and transmission lines or will require new infrastructure.

- **Grounds for Concern**

  Impacts associated with windpower development include not only the construction of turbine strings but also the construction of associated infrastructure. The impacts will be reduced if projects are able to utilize roads or transmission lines (or their associated corridors) that are already in existence.

- **Assessment Guidelines**

  Initial data compilation
  Existing roads capable of providing access to the project area, as well as the location at which the project would access the existing electrical grid, should be identified on base maps. A general layout of proposed new or upgraded access routes and transmission lines should be provided if available.

  Application information
  Detailed engineering plans of existing, upgraded and new infrastructure should be provided as required by current rules.

- **Relative Level of Concern**

  - ***Low***: Suitable road access is available in close proximity to the project area (generally less than 1 mile). New road construction is limited to turbine string corridors and short access roads connecting to the existing road system. Transmission lines can be located along new or existing roads, requiring no new powerline corridors.
  - ***Moderate***: Suitable road access is available to lower elevations in the proximity of the project area, though construction of new road in excess of 1 mile to the project area will be required. Most transmission lines can be located along new or existing roads, though some construction of new corridor will be required.
  - ***High***: Project will involve extensive construction of new access roads and transmission line corridors through currently undeveloped land.

APPENDIX A.8 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: RECREATIONAL USE

- **Definition:** "Recreational use" refers to all types of public recreation associated with a relatively undeveloped outdoor environment, including but not limited to hiking, camping, canoeing, motorboating, hunting, fishing, snowmobiling, cross-country and downhill skiing, and wildlife viewing.

- **Pertinent Existing New Hampshire Laws and Regulations**

  Protection of recreational uses is not specifically mentioned in the RSA 162-H or the Site Evaluation Committee administrative rules. However, there is a large body of state policy which is focused on or includes consideration of the importance of outdoor recreation to the state's economy and quality of life. The inclusion of the Director of the Division of Parks and Recreation as a member of the SEC is an indication that recreational uses should be considered during permitting decisions.

- **Grounds for Concern**

  Outdoor recreation is a major contributor to both the state's economy and its quality of life. Ridgeline windpower development may eliminate or displace recreational trails, impact the scenic quality from developed or dispersed recreational areas, and reduce opportunities for dispersed recreation (such as hunting or bushwacking) if project areas are closed to public access.

- **Assessment Guidelines**

  Initial data compilation
  The initial data compilation should include a discussion of the general pattern of recreational use in the area, as well as a map showing all public recreational features, areas or facilities within 1 mile of the project area, including municipal, state or national parks and forests, hiking, skiing, snowmobile and ATV trails, campgrounds, picnic areas, boat launches, wildlife viewing areas, scenic overlooks, etc.

  Application information
  A more detailed evaluation may be required if the project is likely to cause a significant impact on public recreational facilities or uses in proximity to the project.

- **Relative Level of Concern**

  - ***Low***: Recreational use within and proximate to the project area is generally dispersed and not tied to any particular feature or facility. Project will not cause undue disturbance to recreational use patterns.
  - ***Moderate***: Specific recreational features, areas or facilities are located within 1 mile of the project area, however, project will not cause permanent disruption of the use of these areas.
  - ***High***: Project will have a direct impact on the use of specific recreational features, areas or facilities. (As used here, "impact" implies a disruption, loss or reduction of the public's ability to use the feature, area or facility in question, for example, the closure or major relocation of a recreational trail. It is not intended to consider scenic impacts, which are addressed elsewhere.)

APPENDIX A.9 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: VISUAL IMPACTS

- **Definition:** "Visual impacts" refers to any change in the visual character of a landscape that degrades the aesthetic quality of the landscape from one or more viewpoints. As considered here, visual impacts fall into two basic categories: 1) impacts to public recreational or scenic sites or facilities that depend on a relatively naturally-appearing landscape, and 2) impacts to towns, village centers, and residential areas.

- **Pertinent Existing New Hampshire Laws and Regulations**

  NH RSA 162-H specifically recognizes aesthetic quality as a factor that must be considered in permitting of energy facilities. The third of the four criteria set forth for approval is that the site and facility "Will not have an unreasonable adverse effect on *aesthetics*, historic sites, air and water quality, the natural environment, and public health and safety."

- **Grounds for Concern**

  Undeveloped forest landscapes are an important component of both the state's economy (as they form the backdrop for outdoor recreation) and its quality of life (especially for rural communities). While there are diverse opinions on the aesthetic qualities of modern windpower facilities, they can be a dominant and potentially discordant element within undeveloped forested landscapes.

- **Assessment Guidelines**

  Initial data compilation
  Detailed visual simulations are not required for the initial data compilation. The assessment should include a map extending at least 10 miles in every direction from the turbine strings which includes:

  – The general location of proposed project.
  – Boundaries showing Foreground (<½ mile), Midground (½ to 4 miles) and Background (4 to 10 miles) zones from the proposed location of turbine strings.
  – Areas from which the turbines will be potentially visible, based on standard topographic viewshed analysis.
  – The location of any sites or facilities from which the project will be visible, and for which visual impact may be considered a concern. These would include but not be limited to recreational trails; town, state or national parks or forests; campgrounds and picnic areas; scenic viewpoints; lakes, ponds and rivers that receive regular recreation use; scenic roads, town and village centers, and residential areas[8].

  The assessment should include a general description of those features and areas from which the project will be most prominently visible and describe the general visual context in which the project will be seen from these features and areas. Photographs of the project site from selected viewpoints that will assist with the assessment should also be included.

[8] Mapping of all residential areas is not likely to be feasible. However, USGS 1:24000 quads include most structures, though they may not be up do date and do not specifically distinguish residences from other structures. However, if these maps are used as a base map, they will provide a general indication of residential patterns in the area.

Application information

The final application should include a detailed visual assessment based on professionally-accepted standards of landscape architecture. The assessment should include photosimulations or other representations that show the appearance of the project from major vantage points, including visually sensitive features from which the project will be prominently visible.

- **Relative Level of Concern**

Note: Evaluation of visual impacts is an inherently subjective process and the guidelines below are necessarily general in nature. Several tools have been developed by landscape architects that provide relatively objective standards for assessing the degree to which a proposed modification to a landscape can be considered a significant impact. These systems consider such features as the scale and shape of the project, its contrast with the surrounding landscape, nature of the landscape in which the project lies and the visibility of the project (considering both viewing distance and number of potential viewers). Most prominent is the Visual Management System developed by the U.S. Forest Service. The Maine Department of Environmental Protection has also developed a standard operating procedure for evaluating visual impacts.

- ***Low***: Project would not be a prominent feature from any visually sensitive viewpoint. Where visible, it is either seen in the background and is not a dominant feature of the landscape, or is viewed in the context of other human development and landscape modifications.
- ***Moderate***: Project may be visually prominent feature from one or more visually sensitive viewpoints but is not an incongruous element in an otherwise relatively naturally-appearing landscape.
- ***High***: Project is a visually prominent feature within the Fore- or Midground of one or more visually sensitive viewpoints and may be considered an incongruous element within an otherwise relatively naturally-appearing landscape.

APPENDIX A.10 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: CULTURAL, HISTORIC AND ARCHAEOLOGICAL FEATURES

- **Definition:** NH RSA 227-C defines "historic property" as "any building, structure, object, district, area or site that is significant in the history, architecture, archeology or culture of this state, its communities, or the nation." "Historic resource" has a somewhat broader definition and includes historic properties on or eligible for the National Register of Historic Places, objects associated with historic properties that enhance an understanding and appreciation of New Hampshire history, and skeletal remains (human and animal).

- **Pertinent Existing New Hampshire Laws and Regulations**

  NH RSA 162-H specifically recognizes historic sites as a factor that must be considered in permitting of energy facilities. The third of the four criteria set forth for approval is that the site and facility "Will not have an unreasonable adverse effect on aesthetics, *historic sites*, air and water quality, the natural environment, and public health and safety."

  All federally funded, licensed, or assisted projects in New Hampshire are subject to the review requirements of Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), implemented by the procedures of the federal Advisory Council on Historic Preservation (ACHP), Protection of Historic Properties (36 CFR Part 800). See www2.cr.nps.gov/laws/NHPA1966.htm and www.achp.gov for more information.

  Federal agencies or their legal designees are required to take into account the possible impacts of their projects on historical resources, and to submit proposed projects to the Director/State Historic Preservation Officer (SHPO) of the Division of Historical Resources (NHDHR), for a determination of potential effects on properties that are listed, or are eligible for listing, in the National Register of Historic Places.

  All New Hampshire state-licensed, assisted, or contracted projects, activities, and programs are subject to the review requirements of a similar state law, RSA 227-C:9, as implemented by state administrative rules. State agencies, departments, commissions, and institutions are required to submit such undertakings to the SHPO for a determination of whether such proposed actions are located in, or may affect, historical resources.

- **Grounds for Concern**

  Cultural, historic and archaeological sites contribute to an understanding and appreciation of the process by which our current society and land use patterns have developed, both prior to and subsequent to European colonization. Sites of Native American use as well as sites and features from early colonial times may be unrecorded, dispersed throughout the landscape, and hidden or obscured by forest growth. Because use of ridgelines by both Native Americans and early settlers was generally intermittent and transient, areas or features of significance are most likely to be affected by access roads or transmission line corridors. Development of these corridors may disturb or destroy sites that can provide important scientific or cultural information.

- **Assessment Guidelines**[9]

  Initial data compilation
  Initial data compilation shall consist of the following:

  - A search of NHDHR records for recorded archaeological sites in the project area.
  - Consultation with cultural groups including local and regional Native American organizations.
  - A file search to locate properties listed on or eligible for the National Register of Historic Places (NRHP) within 5 miles of the project area.

  Application information
  In consultation with the New Hampshire Division of Historic Resource, a Phase 1a archaeological survey shall be conducted by a qualified archaeological consultant, including:

  - Field investigation of all areas of potential ground disturbing activity.
  - Based on the results of these investigations, shovel testing and analysis may be required at identified sensitive areas.

  A viewshed analysis will also be conducted to determine potential effects on historic properties, consisting of:

  - Preparation of an NHDHR Project Area Form to provide historical and architectural context for the project, in collaboration with towns in the project area.
  - A viewshed analysis for a 3-mile radius around the project area to indicate what areas would be within the viewshed of the project.
  - Identification and mapping of properties listed on or eligible for the NRHP that lie within the mapped viewshed.
  - A field survey to locate, record and evaluate the National Register eligibility of any other properties over 50 years of age within the 3-mile viewshed.
  - Providing NHDHR with photographs toward the project area from properties that are 1) within the 3-mile radius and 2) are listed on or eligible for the NRHP, or which have been identified through survey and evaluation as meeting the eligibility requirements for the National or State Registers.
  - Based on review of photographs by NHDHR, photosimulations may be required from properties identified as having a potential visual impact.
  - Providing NHDHR with photographs toward the project area from an example property (or properties that are listed on or eligible for the NRHP and which lie 3 to 5 miles from the project area, in order to provide NHDHR with an idea of potential viewshed impacts from that range.

- **Relative Level of Concern**

  - ***Low***: There are no known historic resources in the project area (either in existing records or as determined from field survey), and no properties listed on or eligible for the National Register of Historic Places within the 3-mile project viewshed.
  - ***Moderate***: There are known historic resources within the immediate project area, but they will not be impacted or disturbed by project activities; *or* there are properties listed on or eligible for

[9] These guidelines are adapted from the "Memorandum of Understanding on Historic/Cultural Work Scope – April 2006 – New Hampshire Department of Historical Resources & Lempster Wind LLC" posted on the SEC web site as part of the Lempster project application.

the NRHP within the 3-mile project viewshed, but project development will not have a significant negative impact on the view from these properties.

- ***High***: The project has the potential to directly impact or disturb known historic resources; *or* the project has the potential to have a significant negative impact on the view from properties listed on or eligible for the NRHP.

APPENDIX A.11 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: NOISE

- **Definition:** "Noise" refers to sound generated by the operation of a project that may have a negative impact on public health, safety, or quality of life for people who live, work, or recreate in the vicinity of the project, or on wildlife use of habitat in the vicinity of the project.

- **Pertinent Existing New Hampshire Laws and Regulations**

  Regulation of noise levels in New Hampshire falls within the jurisdiction of individual municipalities (NH RSA 31:39). However, NH RSA 162-H requires the SEC to find that the project "Will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety." In addition, the SEC's draft rules specifically require that applications address the issue of noise.

- **Grounds for Concern**

  Wind turbines generate complex acoustic emissions. Several factors affect the level and spatial pattern of these emissions, including but not limited to atmospheric conditions, topography and synchronous arrival at a given location of sound waves from multiple turbines. The issue is technically complex and involves considerable uncertainty at the present time.

- **Assessment Guidelines/Relative Level of Concern**

  There was no consensus within the working group as to whether noise levels or distance from source should be the basis for developing assessment guidelines or evaluating the relative level of concern. The group does not have sufficient expertise to resolve this issue.

APPENDIX A.12 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: OTHER "NUISANCE" ISSUES

- **Definition:** "Nuisance issues" refers to factors related to the construction or operation of a project that may have a negative impact on public health or safety or the quality of life of local residents and others in the vicinity of the project. These include but are not limited to shadow flicker, electromagnetic interference, ice or blade throw, dust, odor, traffic and the generation and disposal of waste materials.

- **Pertinent Existing New Hampshire Laws and Regulations**

  NH RSA 162-H requires the SEC to find that the project "Will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and *public health and safety*." In addition, the SEC's draft rules require the application to address these issues, either by specific listing (waste disposal, odor) or under the general heading of "public health and safety".

- **Grounds for Concern**

  These issues are primarily of concern to residents and users of developed areas in relatively close proximity to the project. Some of these issues (such as traffic and waste disposal) are common to all major development projects and are generally well-addressed in the existing permitting process. Other issues (such as shadow flicker and ice throw) are unique to windpower projects and an understanding of their potential to affect public health or safety is still emerging.

- **Assessment Guidelines**

  Initial data compilation
  The initial data compilation should map residential areas and other areas or facilities that receive regular use (commercial facilities, developed recreational areas, etc.) that are in close enough proximity to the project to be affected by one or more of these issues, and generally describe the level of impact that the project may cause to these areas.

  Application information
  Depending on the specific issues and the concerns that they present, a detailed discussion of the issue, its potential to impact local residents and users of the area, and steps to address or mitigate the impact, may be required. Detailed application requirements should be developed through consultation with appropriate state regulatory agencies.

- **Relative Level of Concern**

  - ***Low***: Project is sufficiently removed from residential areas and other areas of regular use that no nuisance is expected.
  - ***Moderate***: Project may potentially cause some nuisance to local residents or other users of the area, but these impacts are either temporary (i.e., associated with construction), mitigatable, or of limited concern.
  - ***High***: Project may potentially cause long-lasting and unmitigatable nuisance to local residents or other users of the area.

APPENDIX A.13 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: CONSERVATION STATUS OF LAND

- **Definition:** "Conservation status of land" refers to and legally recognized restriction, goal, policy or plan intended to conserve natural resource values on a particular tract or tracts of land and which may prohibit or conflict with windpower development.

- **Pertinent Existing New Hampshire Laws and Regulations**

  Some potential sites are legally unavailable for development because of deed restrictions (conservation easements) or statutes (Wilderness areas). Other sites lie on publicly-owned land and may legally be available for development, but such development may conflict with the goals of ownership as defined in statute or in management policies and plans developed by the managing entity. For example, NH RSA 227:H (Public Forest Lands) states, "It is hereby recognized and declared that state-owned reservations contribute to the conservation of natural resources and distinctive quality of life in the state. The public welfare of this state is served by the prudent acquisition and management of reservations to provide forest benefits and for the purposes of demonstrating sound forestry principles, protecting habitat for plants, animals, and other organisms, conserving forested watersheds, preserving areas of rare and exemplary natural beauty and ecological value, and providing for perpetual public access and use." The statute authorizes the state to acquire and manage lands for these purposes. Other state and federal resource agencies that own and manage land have similar authorizing statutes. It is likely that development on public lands would require permitting by the management agency as well as the SEC or municipality.

- **Grounds for Concern**

  Determining the legal availability of land being considered for development is an obvious early step that would be undertaken by developers. Most windpower projects are proposed for private land where this issue in not relevant. This issue will be relevant for projects proposed for public conservation land, where development has the potential to conflict with the conservation goals of public ownership, as well as with existing management plans and policies and public use of these lands.

- **Assessment Guidelines**

  <u>Initial data compilation</u>
  For sites on public land, the managing agency should be consulted so that a determination can be made as to whether windpower development is consistent with the ownership goals and management plans for the tract under consideration.

  <u>Application information</u>
  Specific requirements shall be determined by the managing agency.

- **Relative Level of Concern**

  - ***Low***: Unrestricted private land; developed public land (e.g., landfills, utility facilities).
  - ***Moderate***: Undeveloped public land where windpower development would not conflict with ownership purposes or management plans and policies.

- ***High***: Undeveloped public land specifically owned and managed for the conservation of natural resource values.

APPENDIX A.14 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: REGIONAL CONSERVATION PLANS

- **Definition:** "Regional Conservation Plans" refers to the results of any planning process, whether conducted by governmental agency, non-governmental organization or multi-stakeholder group, that identifies areas or features as priorities for conservation. The state Wildlife Action Plan and Statewide Comprehensive Outdoor Recreation Plan are examples of such process; others include The Nature Conservancy's ecoregional assessments, the Audubon Society's Important Bird Areas program, and the Quabbin-to-Cardigan planning process.

- **Pertinent Existing New Hampshire Laws and Regulations**

  These plans are intended to provide guidance to local- and state-based land use planning and open space conservation efforts, but the specific results generally have no legal recognition or status. Plans developed by public agencies (such as the Wildlife Action Plan) may have some level of legal recognition in statute, rule, or policy.

- **Grounds for Concern**

  Extensive efforts have been undertaken by both public agencies and non-profit organizations to assess the state's landscape in order to develop priorities for conservation of the most important features or areas. These efforts can provide important information about resource values that might be adversely affected by development. Proposed development of areas or features identified as conservation priorities by these plans may create conflicts with existing state resource conservation policies and may lead to increased concern among stakeholders with an interest in these conservation priorities.

- **Assessment Guidelines**

  Initial data compilation
  State resource agencies and major non-profit organizations should be contacted for information regarding regional conservation planning efforts and how the proposed project relates to the results of these efforts.

  Application information
  Additional information may be required if the project has the potential to conflict with conservation plans developed by public agencies as part of a legally recognized public policy. The specific requirements shall be determined by the relevant agency.

- **Relative Level of Concern**

  - ***Low***: Proposed project lies outside priority areas identified in existing regional conservation plans.
  - ***Moderate***: Proposed project lies within a priority area identified in existing regional conservation plans, but would not have a significant negative impact on the features or values that were the basis for the designation of the area.
  - ***High***: Proposed project lies within a priority area identified in existing regional conservation plans and could have a significant negative impact on the features or values that were the basis for the designation of the area.

APPENDIX A.15 – GUIDANCE FOR EVALUATION OF INDIVIDUAL ISSUES

ISSUE: MUNICIPAL ISSUES

- **Definition:** "Municipal issues" include a wide range of issues including: 1) the fit between the proposed project and local land use planning ordinances, goals, policies and concerns; 2) property tax implications for the municipality; 3) the affect on energy costs and availability to municipality; 4) the interest of municipality in becoming involved in the project; and 5) local opinion and reaction to the project.

- **Pertinent Existing New Hampshire Laws and Regulations**

  The role of municipalities in wind energy siting is outlined in RSA 162-H. Briefly, municipalities have the ability to request copies of long-range bulk power facility plans from utilities and are required to be given notice and copies of applications that are filed with the siting committee. Municipalities also have the ability to petition the siting committee to take jurisdiction over projects below the 30MW threshold. The siting committee is required to hold at least one public hearing in each county where the proposed facility would be located, and at the host municipality's request, the applicant is required to hold informational meetings to inform the public about the proposed project. Most importantly, for the siting committee to approve an application, it must make four specific findings, one of which is that the "site and facility will not unduly interfere with the orderly development of the region with due consideration to views of municipal and regional planning committees and municipal governing bodies."

- **Grounds for Concern**

  Commercial windpower projects may be dominant features of, and create significant changes to, municipal landscapes (natural, social and economic), especially in small rural communities. These changes may be both positive and negative. Among the major concerns are aesthetic impacts to relatively undeveloped rural landscapes, impacts to local property values and tax bases, and impacts to the quality of life (due to noise or other nuisance issues) in residential areas and community centers.

- **Assessment Guidelines**

  Initial data compilation
  - Pre-site selection consultation with the municipal governing body, land use boards, and other involved municipal officials is encouraged.
  - The master plan, ordinances, bylaws, and regulations of each municipality in which a proposed project site or alternative site would be located should be reviewed.
  - A preliminary assessment of the public reaction to the project should be made.

  Application information
  - The tax status and history of the proposed location should be documented, along with the values of surrounding properties and the potential effect of the project on those values.
  - The municipality's energy costs, resources and needs should be evaluated to determine: 1) whether the project would help reduce energy costs to the municipality and its residents, and 2) whether the project will make energy more readily available to facilitate future growth that the municipality would like to encourage.

- **Relative Level of Concern**

  - ***Low***: Local regulations specifically permit such projects in the area being considered, project is in harmony with local land use and development goals, project will have a positive tax impact, will improve local energy costs and availability, and the general reception to the project by municipal government is positive.
  - ***Moderate***: Local regulations do not address such projects specifically or require a variance, waiver, special use permit or other process, the project is in harmony with some but not all local land use and development goals, the project may have mixed or neutral tax impacts, the project will have a negligible effect upon energy cost or availability, and/or the reception of municipal government and citizens is difficult to anticipate.
  - ***High***: Local regulations restrict or prohibit such projects, the project will conflict with several local land use and development goals, the project will have a more negative than positive tax impact, the project will not lower energy costs or increase availability to the municipality, and/or the reception of municipal government and public is likely to be negative.

ATTACHMENT D
Previous Annual Reports from State Energy Policy Commission

Attached for purposes of completeness are the Interim Reports from 2006 and 2007 of the State Energy Policy Commission.

STATE OF NEW HAMPSHIRE
GENERAL COURT

State Energy Policy Commission

HB1146, Chapter 257:1, Laws of 2006

Interim Report

Prepared for:
Governor John H. Lynch
Senate President Theodore L. Gatsas
Speaker of the House W. Douglas Scamman
Senate Clerk
House Clerk
State Librarian

December 1, 2006

Commission Members

Legislative Appointments:
Senator Peter Bragdon
Senator Martha Fuller Clark
Representative Jacqueline Cali-Pitts
Representative James Garrity
Representative Ryan Hansen
Representative Lawrence Ross

Gubernatorial Appointments:
Thomas Kelly, PhD.
Harold T. Judd, Esq.

Amy Ignatius, Director, Office of Energy and Planning
Thomas B. Getz, Chairman, Public Utilities Commission
Meredith Hatfield, Consumer Advocate, Office of Consumer Advocate
Robert Scott, Air Resources Director, Department of Environmental Services

Respectfully submitted,

Rep. James M. Garrity
Chairman

Organization

The 2006 Laws of New Hampshire, Chapter 257, approved May 25, 2006, established the State Energy Policy Commission and charged it with the duty to study: the adequacy of electricity supplies to meet demand including, but not limited to consideration of the following issues: a) diversity of fuel supplies and availability, b) reliability of service, c) price to end-use customers, d) divestiture of PSNH generation assets, e) structure, effectiveness, and competitiveness of wholesale and retail markets, f) renewable portfolio standards, g) Federal Energy Regulatory Commission (FERC) and Independent System Operator (ISO) initiatives to promote increased capacity within the region, such as the forward capacity market initiative. h) protection of public health and the environment; energy efficiency opportunities and programs, in all forms of energy uses; promoting renewable energy, both for electrical production and as a heat and transportation fuel source; the adequacy of natural gas supplies and fuel diversity within the state and region; and the regulatory process for siting commercial wind energy facilities in the state and the economic, environmental, visual and ratepayer effects associated with such facilities. The Commission was directed to report its findings and any recommendations for legislation in the form of an interim report by December 1, 2006, and a final report by December 1, 2007.

The members of the Commission are: Senators Peter Bragdon and Martha Fuller Clark; Representatives Jacqueline Cali-Pitts, James Garrity, Ryan Hansen and Lawrence Ross; gubernatorial appointments Thomas Kelly, PhD. and Harold T. Judd, Esq.; for the Office of Energy and Planning, Amy Ignatius, Director; for the Public Utilities Commission, Thomas B. Getz, Chairman; for the Office of Consumer Advocate, Meredith Hatfield, Consumer Advocate; and for the Department of Environmental Services, Robert Scott, Air Resources Director. The Committee elected Representative Garrity to serve as Chairperson at the organizational meeting held on July 27, 2006.

Proceedings to Date

On September 14, 2006, the Commission met jointly with the Energy Planning Advisory Board (EPAB) to review the EPAB report on its June 2006 stakeholder forum. The EPAB report and attachments are available on the Public Utilities Commission website.

At subsequent meetings of the Energy Policy Commission, the Commission concentrated on two substantive topics. At the September 28 meeting, the Commission heard presentations regarding the statewide “Core” residential and commercial energy efficiency programs, which are funded by the System Benefits Charge, a charge paid by all customers of regulated electric utilities. The presentation summarizing the results of the Core programs to date is contained in Attachment A. The Commission also heard from the state’s two natural gas utilities about their energy efficiency programs.

At the October 12 meeting, Mr. Bob Garside of the NH Oil Heat Council shared energy conservation measures currently in practice among the Council’s member dealers. Asked if the Oil Heat industry would consider a program similar to the Systems Benefits Charge, Mr. Garside commented that it would be difficult to implement such a program since oil heat is

delivered by many independent dealers. The Commission then heard presentations focusing on net energy metering for small-scale renewable energy installations, and distributed generation and co-generation options being utilized by some commercial and municipal users. The Commission understands that if changes are needed to the current statutes or rules on net energy metering, review and consideration of those issues will be undertaken in the PUC's docket investigating how the state will comply with provisions of the Energy Policy Act of 2005 related to renewable energy production or a separate rulemaking proceeding, if appropriate. That review will take place in 2007, and the Commission will monitor that progress and take action as needed.

In addition, on November 9, the Commission reviewed the three minority reports issued by the SB 389 System Benefits Charge Study Committee, which had been charged with examining the energy efficiency programs. The Commission discussed the various recommendations made by the Study Committee and also acknowledged that the Core programs that have been approved by the PUC are currently under review for the 2007 program year. The testimony presented thus far indicates that the Core programs are cost effective and provide many benefits to customers. The Commission voted to establish a subcommittee on energy efficiency to review the potential for new programs and policies on energy efficiency and demand response, including such issues as how demand reduction resources will be included in the new Forward Capacity Market at ISO-New England.

Subcommittees

On October 26, 2006, the Commission formed three subcommittees.

•Interim Report Drafting
- Rep. Garrity (Chair)
- Mr. Getz
- Ms. Hatfield
- Ms. Ignatius

•Renewable Portfolio Standard (RPS)
- Rep. Ross (Chair)
- Sen. Fuller Clark
- Mr. Ruderman (designee of Ms. Ignatius)
- Mr. Scott
- Ms. Hatfield
- Dr. Kelly

•Commercial Wind Siting
- Mr. Scott (Chair)
- Rep. Cali-Pitts
- Ms. Ignatius
- Rep. Garrity

•Energy Efficiency (subcommittee will be organized after December 6)

EPAB members will be invited to participate in the subcommittees to share their experience but will not be voting members. The subcommittees will hold public sessions to discuss, debate and refine specific resolves that will be brought before the Commission for further debate, with the intention of providing the framework for proposed legislation in the Commission's final report. The Commercial Wind Siting Subcommittee held its initial meeting on November 17, 2006.

The formation of subcommittees to examine commercial wind siting, energy efficiency, and renewable portfolio standards can assist the Legislature during the 2007 session by sharing key learnings, analysis, and opinions with the standing legislative policy committees as such information becomes available. These topics are currently the subject of LSRs for the 2007 session and the ongoing efforts of the subcommittees should not preclude consideration of commercial wind siting, energy efficiency, and renewable portfolio standards in the 2007 legislative session.

The Commission also decided that a committee of the whole should address the various issues related to the current state of restructuring, the divestiture of PSNH's generation assets, and electric competition generally.

Finally, the Commission determined that the PUC should provide background material for inclusion in this Interim Report. It is found at Attachment A.

Guiding Energy Policy Pillars

The Commission concluded that a set of overarching guiding principles, or Policy Pillars, would be useful for evaluating current energy policy initiatives and designing the State's short-term and long-term strategic energy policy. The Commission reached consensus on the following Energy Policy Pillars and recommends that the Governor and Legislature use these Energy Policy Pillars to evaluate any new energy policy initiatives:

- Peak Energy Demand
  - *Goal is to meet peak demand (both electricity & transportation)*
- Fuel Diversity/Buffer Against Global Instability
  - *Reduce fossil fuel component of energy mix, promote use of renewables.*
- Environmental and Public Health Benefits
  - *Reduce undesirable emissions*
- System Reliability
  - *Energy transmission infrastructure must be dependable and reliable to encourage businesses to locate, remain, and expand in New Hampshire.*
- Consumer Price Stability
  - *Goal is to minimize spikes in energy prices.*
- Economic Benefits and Certainty
  - *Benefits to New Hampshire economy and long-term economic predictability.*

ATTACHMENT A
BACKGROUND MATERIALS

The Energy Policy Commission was tasked with the duty to study a number of issues and to report its findings and any recommendations. As described in the body of the Interim Report, several issues are currently the subject of examination by the Commission or by subcommittees. The Commission also determined that it would be useful to include in its Interim Report certain background materials, drawn from a variety of sources, in order to provide a general picture of specified study areas. This Attachment provides some current information regarding the adequacy of electric supply, diversity of fuel supply for electric generation, reliability of electric service, price of electricity to end-use customers, energy efficiency programs for electric customers, and adequacy of natural gas supply. Following is an abstract of the materials for each topic.

Adequacy of Electric Supply New England peak electric demand continues to grow and reached a record of 28,021 MW on August 2, 2006. The New England Independent System Operator reports that additional capacity is needed for the New England region by 2009. The ISO also reports that potential capacity additions are entering the generation queue following the FERC's approval of the Forward Capacity Market, which will provide as well for demand response as a resource.

Diversity of Fuel Supply New England continues to rely heavily on fossil fuels for electric generation while natural gas has been replacing oil over time as the largest source of electric generation. New Hampshire has a very diverse fuel mix, although, consistent with the rest of the region, the most recent large-scale additions have been fueled by natural gas.

Reliability of Service Congress and the FERC, in the aftermath of the August 2003 Northeast Outage (which affected only the Southwestern Connecticut portion of New England), continue to implement mandatory national reliability standards. New Hampshire addresses distribution reliability through use of the System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), and Customer Average Interruption Duration Index (CAIDI).

Price to End-Use Customers For years New Hampshire had the highest electric prices in New England and, at times, the highest prices in the nation by some measures. New Hampshire now has some of the lower electric prices in New England and the Northeast.

Energy Efficiency Programs The energy efficiency programs funded by the System Benefits Charge have served over 192,000 electric customers, saved 3.3 billion lifetime kWh, saved $376 million (more than six times the cost of the programs), and reduced emissions by 2.2 million tons for the period June 2002 through December 2005.

Adequacy of Natural Gas Supply Currently the amount of natural gas in storage is at record levels and the supply outlook for the upcoming winter is very positive. For the long term, however, it is critical to diversify sources of supply and invest in efficiency programs.

STATE OF NEW HAMPSHIRE
GENERAL COURT

State Energy Policy Commission

HB1146, Chapter 257, Laws of 2006
SB140, Chapter 364, Laws of 2007

2007 Interim Report

Prepared for:
Governor John H. Lynch
Senate President Sylvia Larsen
Speaker of the House Terie Norelli
Senate Clerk
House Clerk
State Librarian

December 1, 2007

Commission Members

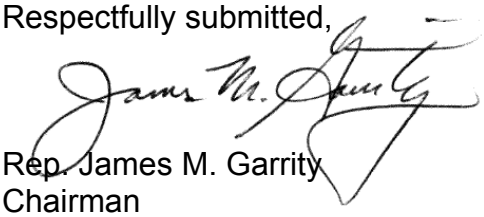
Legislative Appointments:

Senator Peter Bragdon
Senator Martha Fuller Clark
Representative Gene Anderson
Representative Richard Barry
Representative Roger Berube
Representative David Borden
Representative Jacqueline Cali-Pitts
Representative James Garrity
Representative Naida Kaen
Representative Leigh Webb

Gubernatorial Appointments:
Thomas Kelly, PhD.
Harold T. Judd, Esq.

Amy Ignatius, Director, Office of Energy and Planning
Thomas B. Getz, Chairman, Public Utilities Commission
Meredith Hatfield, Consumer Advocate, Office of Consumer Advocate
Robert Scott, Air Resources Director, Department of Environmental Services

Respectfully submitted,



Rep. James M. Garrity
Chairman

Organization

The 2006 Laws of New Hampshire, Chapter 257, approved May 25, 2006, and the 2007 Laws of New Hampshire, Chapter 364, approved July 17, 2007 established and expanded the State Energy Policy Commission and charged it with the duty to study: the adequacy of electricity supplies to meet demand including, but not limited to consideration of the following issues: a) diversity of fuel supplies and availability, b) reliability of service, c) price to end-use customers, d) divestiture of PSNH generation assets, e) structure, effectiveness, and competitiveness of wholesale and retail markets, f) renewable portfolio standards, g) Federal Energy Regulatory Commission (FERC) and Independent System Operator (ISO) initiatives to promote increased capacity within the region, such as the forward capacity market initiative. h) protection of public health and the environment; energy efficiency opportunities and programs, in all forms of energy uses; promoting renewable energy, both for electrical production and as a heat and transportation fuel source; the adequacy of natural gas supplies and fuel diversity within the state and region; and the regulatory process for siting commercial wind energy facilities in the state and the economic, environmental, visual and ratepayer effects associated with such facilities; Whether the state should allow electric distribution companies to invest in small scale generation resources as part of a strategy for balancing load and distribution, reducing transmission line losses, minimizing transmission and distribution costs, improving energy conservation, and enhancing renewable energy; Demand management and response mechanisms and programs. The Commission was directed to report its findings and any recommendations for legislation in the form of an interim report by December 1, 2006, December 1, 2007 and a final report by December 1, 2008.

The members of the Commission are: Senators Peter Bragdon and Martha Fuller Clark; Representatives Gene Anderson, Richard Barry, Roger Berube, David Borden, Jacqueline Cali-Pitts, James Garrity, Naida Kaen and Leigh Webb ; gubernatorial appointments Thomas Kelly, PhD. and Harold T. Judd, Esq.; for the Office of Energy and Planning, Amy Ignatius, Director; for the Public Utilities Commission, Thomas B. Getz, Chairman; for the Office of Consumer Advocate, Meredith Hatfield, Consumer Advocate; and for the Department of Environmental Services, Robert Scott, Air Resources Director. The Commission elected Representative Garrity to serve as Chairperson at the re-organizational meeting held on August 7, 2007.

Proceedings to Date

On August 7, 2007, the Commission met to welcome its new members, review the Commission's findings from 2006, get updates from sub-committees, examine its expanded charter and prioritize which policy areas it wished to address, and in what order. The Commission agreed that short term study should include the concept of "distributed generation", possibly before the beginning of the 2008 legislative session.

On August 29, 2007, the Commission met jointly with the Energy Planning Advisory Board (EPAB), and the House and Senate energy policy committees for a day-long briefing by the ISO New England and NH Public Utilities Commission entitled *A Workshop on ISO New*

England Electricity Scenario Analysis & Transmission Planning for the Integration of Renewables. This workshop addressed electricity issues and challenges facing the state and region, including how the region might meet its future electric needs, how the current transmission planning process works, and what may need to change to better integrate new renewable electric generation facilities, such as those proposed for northern New Hampshire. There were both detailed presentations and a lively, interactive discussion of the issues. Copies of the presentations from the workshop are available on the website of the NH Public Utilities Commission; see the following web link. http://www.puc.state.nh.us/Electric/Policy/Scenario_Analysis_and_Transmission.htm

On October 24, 2007, the Commission met to discuss the policy concept of Distributed Energy Generation, especially the possible deployment of small scale renewable energy resources to supplement the electricity grid. Unitil Corp., represented by Mr. Robert Schoenberger, President and CEO, and Mr. George Gantz, Senior Vice President, shared a presentation entitled *The Energy Challenge of the 21st Century: Distributed Energy Resources*. The presentation detailed such topics as: What Are Distributed Energy Resources (DER)?, What Are The benefits Of DER?, Barriers To DER, Overall Economics of DER. Unitil also shared its experiences with several pilot Distributed Energy projects it has been running, including a small scale wind turbine, ice storage, and small scale solar. The session included a healthy exchange of ideas among participants both during and after the presentation. The Commission concurred that this topic should continue to be explored.

At the November 15 meeting, with the Commission received the final report of its Wind Siting Sub-committee, from its Chairperson, Mr. Robert Scott. Mr. Scott reported that the sub-committee had voted to recommend a draft document to the full Commission for its consideration. The document, *Proposed Windpower Siting Guidelines*, had been developed by an ad-hoc working group of wind siting stakeholders, which had met many times since October 2006. After discussion, the Commission voted to: accept the document from the sub-committee for further consideration, host a public session in early 2008 to hear wider feedback from the public, post the draft document (in draft form) on the internet to give it the widest possible exposure before the public session and officially thank and commend the ad-hoc working group for its hard work in writing.

The Commission will next meet again early in January 2008 and will continue to address its individual study areas in more detail until December 2008.

Sub-committees

•Renewable Portfolio Standard (RPS) sub-committee was established in October 2006 to monitor and lend support to the RPS process in the legislature. Several Energy Policy Commission members (Sen. Fuller-Clark, Sen. Bragdon, Rep. Garrity and Rep. Borden) were sponsors of HB-873 of 2007, the RPS bill. It passed and was signed into law by the Governor on May 11, 2007.

•Commercial Wind Siting: Mr. Scott (Chair) – this sub-committee was established in October 2006. Several meetings were held from 2006 and through 2007. At the suggestion

of Mr. Scott, the sub-committee asked a group of stakeholders with interest in wind energy if they would be willing to meet and see if they could reach consensus on general guidelines for the siting of commercial wind energy facilities. This ad-hoc group was not an official part of the sub-committee, nor was it directed by the sub-committee. But the sub-committee felt that if this ad-hoc working group (composed of a broad range of individuals and interests, including wind developers, environmental and conservation groups, renewable energy advocates, and others) could reach some consensus on general principles, this could, in the long run, shorten the approval process should some of these principles become part of public policy.

During 2007, New Hampshire saw its first proposed commercial wind project come before the Site Evaluation Committee (SEC). The Lempster Wind Project proposal was an active case before the New Hampshire's Site Evaluation Committee. The Wind Siting Sub-committee monitored the progress of the docket, but was not able to discuss it in detail, because several of the sub-committee members also serve as members of the SEC. The Lempster project did receive SEC approval in June 2007. A copy of the final SEC decision is available on the website of the NH Public Utilities Commission; see the following web link to the document.
http://www.puc.state.nh.us/Home/SEC%20Lempster%20Final%20Decision%206-28-07.pdf

On September 26, 2007, the Wind Siting Sub-committee met with the major parties (including several members of the SEC) from the Lempster Wind Project docket to elicit their feedback on the recently completed Site Evaluation Committee process. Some thought the SEC process was efficient and liked its flexibility; others felt that tighter rules of procedure need to be introduced in the future. It was a very valuable session.

On November 15, 2007, the Wind Siting Sub-committee held its final meeting. At the meeting, it discussed and voted to forward a draft document to the full Commission for its consideration. The document, *Proposed Windpower Siting Guidelines*, had been developed by the above mentioned ad-hoc working group of wind siting stakeholders, which had met many times since October 2006.

•Energy Efficiency: a sub-committee was originally planned, but the Commission decided that energy efficiency is a topic that the entire Commission should study in earnest in 2008.

The Commission also decided that a committee of the whole should address the various issues related to the current state of restructuring, the divestiture of PSNH's generation assets, and electric competition generally.

Many of these topics are currently the subject of LSRs for the 2008 session and the ongoing efforts of the Commission or its sub-committees should not preclude consideration of commercial wind siting, energy efficiency, distributed generation, renewable power transmission or other related policy initiatives in the 2008 legislative session.

Finally, the Commission determined that the PUC should provide background material for inclusion in this Interim Report. It is found at Attachment A.

Guiding Energy Policy Pillars

The Commission reaffirmed a set of overarching guiding principles, or Policy Pillars, it had developed in 2006, and agreed they would be useful for evaluating current energy policy initiatives and designing the State's short-term and long-term strategic energy policy. The Commission reaffirmed the following Energy Policy Pillars and recommends that the Governor and Legislature use these Energy Policy Pillars to evaluate any new energy policy initiatives:

- Peak Energy Demand
  - *Goal is to meet peak demand (both electricity & transportation)*
- Fuel Diversity/Buffer Against Global Instability
  - *Reduce fossil fuel component of energy mix, promote use of renewables.*
- Environmental and Public Health Benefits
  - *Reduce undesirable emissions and climate change*
- System Reliability
  - *Energy transmission infrastructure must be dependable and reliable to encourage businesses to locate, remain, and expand in New Hampshire.*
- Consumer Price Stability
  - *Goal is to minimize spikes in energy prices.*
- Economic Benefits and Certainty
  - *Benefits to New Hampshire economy and long-term economic predictability.*

Looking Ahead to 2008: Major Policy Challenges

There are at least 25 energy-related pieces of proposed legislation filed for the 2008 legislative session (see Attachment B for a list). The Commission looks forward to continuing its work in 2008, and assisting the legislature in discussing, debating and reaching consensus on energy policy questions, including those highlighted below:

Distributed Energy Generation: should the state allow electric distribution utilities to invest in and develop distributed energy resources?

Transmission and Distribution Upgrades for renewable energy generation projects: Who should pay for the needed upgrades to the electric transmission and distribution system necessary for remotely-located renewable energy projects to come on line? Should the renewable developers pay? Should the rate-payers of New Hampshire or New England pay? Should the state pay? Should the transmission companies pay?

Energy Efficiency: What tools are available for the state to educate consumers and encourage investments in energy efficiency to lower our energy usage, reduce our peak demand, and realize the economic and environmental benefits of cost effective energy efficiency and other demand side management programs?

ATTACHMENT A
BACKGROUND MATERIALS

The Energy Policy Commission was tasked with the duty to study a number of issues and to report its findings and any recommendations. As described in the body of the Interim Report, several issues are currently the subject of examination by the Commission or by other agencies, committees or commissions. The Commission also determined that it would be useful to include in its Interim Report certain background materials, drawn from a variety of sources, in order to provide a general picture of specified study areas. This Attachment provides some current information regarding the adequacy of electric supply, diversity of fuel supply for electric generation, reliability of electric service, price of electricity to end-use customers, energy efficiency programs for electric customers, and adequacy of natural gas supply. Following is an abstract of the materials for each topic.

Adequacy of Electric Supply In its 2007 Regional System Plan, the New England Independent System Operator (ISO) reports that New England has adequate installed capacity to meet regional capacity needs through 2009. Further, the ISO is "optimistic that adequate demand and supply resources will be purchased and installed in time to meet the projected capacity needs and the resource adequacy requirements for 2010 and beyond."

Diversity of Fuel Supply New England continues to rely heavily on fossil fuels for electric generation while natural gas has been replacing oil over time as the largest source of electric generation. New Hampshire has a very diverse fuel mix, although, consistent with the rest of the region, the most recent large-scale additions have been fueled by natural gas.

Reliability of Service Congress and the FERC, in the aftermath of the August 2003 Northeast Outage (which affected only the Southwestern Connecticut portion of New England), continue to implement mandatory national reliability standards. New Hampshire addresses distribution reliability through use of the System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), and Customer Average Interruption Duration Index (CAIDI).

Price to End-Use Customers For years New Hampshire had the highest electric prices in New England and, at times, the highest prices in the nation by some measures. New Hampshire now has some of the lower electric prices in New England and the Northeast.

Energy Efficiency Programs The CORE energy efficiency programs funded by ratepayers through the System Benefits Charge serve all customers of PSNH, Unitil, National Grid and the NH Electric Cooperative. For the period June 2002 through December 2006, the programs have saved 4.3 billion lifetime kWh, which is equivalent to saving $608 million. This represents a return for customers of more than $7 for every $1 invested in the programs. The programs have also reduced CO2, SO2, and NOX emissions by 2.7 million tons.

Adequacy of Natural Gas Supply The natural gas distribution companies serving the Northeast report they have adequate natural gas supplies to meet customer needs. Natural gas supply and storage for the upcoming winter is currently higher than normal. As of late October, the national storage levels of natural gas were 8% above the 5-year average. For the long term, however, it is critical to diversify sources of supply and invest in efficiency programs.

Public Utilities Commission (PUC) and Site Evaluation Committee (SEC) Docket Monitoring

Arguably, every electric and natural gas proceeding before the Public Utilities Commission and the Site Evaluation Committee is relevant to some aspect of the Energy Policy Commission's duties. However, for the purposes of this interim report, only those proceedings related to energy efficiency and renewables are highlighted.

1. DE 06-061, Investigation of the Implementation Standards of the Energy Policy Act of 2005. The first phase of this proceeding has focused largely on "smart metering" and the appropriateness of implementing time-based rates for all customer classes. In response to various motions for rehearing filed in response to the Commission's June 22, 2007 order, a hearing was held in this docket on October 10, 2007.
2. DE 07-064, Energy Efficiency Rate Mechanisms. The Commission opened this proceeding in furtherance of the National Action Plan on Energy Efficiency to investigate the merits of instituting rate mechanisms, such as decoupling, that would have the effect of removing obstacles to, and encouraging investment in, energy efficiency and the scope has been expanded to include both electric and natural gas utilities. The docket has been proceeding informally and has included baseline presentations by the utilities on July 31 and presentations by a panel of subject matter experts on November 7, 2007.
3. DE 07-106, Core Energy Efficiency Programs. This docket concerns the annual filing by National Grid, the New Hampshire Electric Cooperative, Public Service Company of New Hampshire and Unitil seeking approval, for calendar year 2008, of the core programs funded by the system benefits charge authorized pursuant to RSA 374-F:3. The hearing in this proceeding is scheduled for December 17, 2007.
4. DRM 07-089, Renewable Portfolio Standards Rulemaking, Puc Chapter 2500. At its public meeting on November 21, 2007, the Commission adopted interim rules for implementing RSA Chapter 362-F, concerning the electric renewable portfolio standard. It also announced that it would be issuing an order of notice in January, 2008 to begin the process for adopting permanent rules.
5. The Site Evaluation Committee, pursuant to Senate Bill 140, has scheduled a public meeting for December 13, 2007, to vote whether to adopt initial proposed organizational and procedural rules.

ATTACHMENT B
ENERGY-RELATED LEGISLATIVE SERVICE REQUESTS FILED FOR 2008

Below is a list of proposed energy-related legislation filed for consideration by the New Hampshire legislature during the 2008 session. Some LSRs already have been assigned bill numbers. This list is current as of November 30, 2007. To view a complete list of 2008 LSRs, go to the following web link on the New Hampshire General Court web page:
http://www.gencourt.state.nh.us/ie/lsrsearch/default.asp

2008 Legislative Service Requests (LSR)

2008-H-2005-R
HB1355 exempting alternative and renewable fuels from the road toll.

2008-H-2008-R
HB1405 regulating outdoor wood-fired boilers.

2008-H-2029-R relative to the right to use of clotheslines.

2008-H-2066-R
HB1391 prohibiting the investment of state funds in the energy sectors of countries that have been identified by the United States Department of State as state sponsors of terrorism.

2008-H-2075-R
HB1417 relative to banning the sale of low-efficiency light bulbs.

2008-H-2134-R replacing the electricity consumption tax with an electricity generation tax.

2008-H-2165-R
HB1186 reducing the membership of 2 legislative oversight committees.

2008-H-2166-R relative to the regional greenhouse gas initiative and authorizing cap-and-trade programs for controlling carbon dioxide emissions.

2008-H-2229-R relative to the development of effective energy efficiency measures.

2008-H-2230-R relative to procedures of the site evaluation committee.

2008-H-2309-R
HB1220 establishing a commission to study the taxation of alternative fuel and electric-powered motor vehicles for the purpose of funding improvements to the state's highways and bridges.

2008-S-2313-R adding an energy section to zoning and planning master plans.

2008-H-2335-R requiring the public utilities commission provide cost recovery for construction of generation assets by Public Service Company of New Hampshire.

2008-H-2402-R
HB1249 relative to gasoline and diesel fuel prices.

2008-H-2457-R
HB1268 establishing a commission to study creating incentives for electricity conservation and efficiency by consumers.

2008-H-2481-R establishing an energy conservation and efficiency board.

2008-S-2664-R relative to gasoline and diesel fuel prices.

2008-S-2670-R establishing a commission to develop a plan for the expansion of transmission capacity in the north country.

2008-S-2712-R relative to the establishment of a statewide transportation policy.

2008-S-2847-R authorizing rate recovery for electric public utilities investments in distributed energy resources.

2008-H-2879-R relative to renewable energy generation incentive programs.

2008-H-2882-R relative to the adoption of national standards for biodiesel.

2008-H-2883-R relative to the state purchase of bioheat fuels.

2008-H-2884-R relative to licensing requirements for small quantity biodiesel producers and distributors.

2008-H-2885-R relative to the state purchase of biodiesel fuel.

2008-H-2886-R relative to continuing the study commission for production and distribution of biodiesel in New Hampshire.
