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**Energy Planning Advisory Board
SB443, Chapter 164:2, 1, Laws of 2004**

Annual Report

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

June 6, 2006

Board Members

Alice Chamberlin, Special Assistant for Policy, Office of the Governor
Amy Ignatius, Director, Office of Energy and Planning
Senator Bob Odell, Chair, Senate Energy and Economic Development Committee
Representative Larry Ross, Chair, House Science Technology and Energy Committee
Clifton Below, Commissioner, Public Utilities Commission
Tom Frantz, Director, Electric Division, Public Utilities Commission
Gary O'Connell, State Energy Manager, Dept. of Administrative Services
Bob Scott, Director, Air Resources Division, Dept. of Environmental Services
James Marshall, Director, Division of Administration, Department of Transportation
Stuart Arnett, Director, Division of Economic Development, Dept. of Resources
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Anne Ross, New Hampshire Consumer Advocate, Office of Consumer Advocate
Steve Kahl, Director, Center for the Environment, Plymouth State University
Wendell Jesseman, Chairman of the Board, New England Wire Technologies
Alan Karg, Corporate Environmental Manager, Sturm, Ruger and Co.

Introduction

In November of 2002, the Governor's Office of Energy and Community Services (now the Office of Energy and Planning) published the *New Hampshire Energy Plan*, the state's first-ever, comprehensive energy plan. The *Energy Plan* was prepared at the direction of the Legislature (per Chapter 121, Laws of 2001) in order to ensure that policymakers had access to accurate energy information, as well as the tools to make sound energy policy decisions.

Preparation of the plan included public hearings and input from stakeholders ranging from legislators to energy companies, businesses and state agencies. Key among the observations was the need for a permanent process for energy planning at the state level so that the dialogue on energy planning would continue well after publication of the ten year *Energy Plan*.

In May of 2004, the Legislature enacted SB 443, creating an energy planning advisory board. The board's mandate is to "monitor and assist in the implementation of the *New Hampshire Energy Plan*..." Specifically, it must develop strategic planning for the state's energy policies that include, but are not limited to: supply and demand for energy resources; transmission and distribution infrastructure for electricity, natural gas, and other transportable energy; fuel diversity within the state and region; the state Department of Transportation's planning efforts; deliverable fuels; energy efficiency and conservation opportunities; the state's role as a major energy consumer; the environmental effects of energy generation, transmission, and distribution; New Hampshire's role in regional energy issues; and periodic revision and update of the *New Hampshire Energy Plan*.

Board Members

Membership on the Energy Planning Advisory Board is governed by SB 443. The current members are listed on the cover page of this report.

Board activity to date

The Energy Planning Advisory Board convened in March of 2005, and has met monthly since that time. From the outset, the Board has coordinated its efforts with those of state agencies and other stakeholders. For example, Board members and staff serve on the interagency Steering Committee on Energy Efficiency in State Government and helped draft recommendations that were presented to Governor John Lynch in May of 2005. In August of 2005 the Department of Transportation briefed the Board on the New Hampshire Long Range Transportation Business Plan and related energy issues. And in December of 2005, representatives of two environmental organizations briefed the Board on energy concerns, including ways to expand energy efficiency and uses of renewable energy in New Hampshire.

Perhaps the most significant energy-related development in 2005 was the issuance in July of Governor Lynch's Executive Order 2005-4, For State Government to Lead-by-Example in Energy Efficiency. The Order calls for the state government to reduce energy use in state facilities by 10 percent to lower costs for taxpayers and reduce pollution. Governor Lynch also created a new position of State Energy Manager, to implement energy efficiency measures throughout state government. The State Energy Manager, Gary O'Connell, is with the Department of Administrative Services and serves as the department's representative on the Board. As such, he is able to keep the Board apprised of implementation progress and ensure that the Board coordinates its activities with those of the State Energy Manager.

A major focus of the Board has been to evaluate the state's progress in carrying out the recommendations of the *2002 State Energy Plan*. The Board reviewed the status of each of the Plan's recommendations and produced an *Energy Plan Progress Report*, with updated recommendations for implementation of energy policies and programs. The Board's Progress Report is attached hereto. Among the key recommendations:

- Establish a Renewable Portfolio Standard to promote greater use of renewable energy in New Hampshire.
- Review the energy efficiency programs managed by the state's electric utilities to evaluate the effectiveness of the programs and to assess whether the current funding levels are sufficient.
- Perform a baseline study on new residential construction to determine whether homes are being built to energy code specifications, and, if warranted, investigate means to improve compliance with the energy code.
- Study the feasibility of purchasing power generated by renewable resources for use by state agencies.
- Establish a pilot program to use biodiesel fuel in Department of Transportation heavy duty vehicles to reduce the state's reliance on imported fuels and lower harmful vehicle emissions.

The Board is now focused on a new assessment of the energy challenges facing the state, immediately and in the long term. At the suggestion of Representative Larry Ross, chair of the House Science, Technology and Energy Committee and Board member, the Board is organizing a public forum to identify key energy policy issues.¹ The Board will solicit input from a broad range of stakeholders: competitive energy suppliers, transmission and distribution companies, business and industry, public interest organizations, and the general public. Participants will have an opportunity to present testimony in a public session. Written comments will also be encouraged. At the conclusion of this process, the Board

¹ The forum will take place on June 23, 2006 at the Legislative Office Building. For additional details please refer to the News and Events section of the OEP website, www.nh.gov/oep.

will prepare a report detailing its findings and conclusions, for distribution to the Legislative Oversight Committee on Electric Restructuring (RSA 374-F:5), the Gas Utility Restructuring Oversight Committee (RSA 374:60), the Low Income Electric Assistance Program Review Committee (SB 228, 2005) and/or any new oversight committees that may be created.

The Energy Planning Advisory Board is also exploring whether state agencies should join together to purchase or lease sophisticated computer modeling software. The *New Hampshire Energy Plan* made extensive use of two such models, REMI and Energy 2020, to evaluate the energy, environmental and economic impacts of various energy policy choices, such as the impact of a Renewable Portfolio Standard. The Office of Energy and Planning paid a one-time fee to consultants; the Board is now assessing whether it would be more cost-effective to lease or purchase the modeling tools, so that policy options could be evaluated in an ongoing, coordinated fashion.

Conclusion

Beginning in 2001, when New Hampshire enacted HB 443 (Chapter 121), policymakers have recognized the need for energy planning to address important energy, environmental and economic issues. Since that time, there has been an unprecedented and sustained escalation of energy prices; it appears that we have entered a new era in which most sources of energy will continue to be costly.

In this context, the Energy Planning Advisory Board's mission is more important than ever. Policymakers in New Hampshire will need accurate data and analysis as they grapple with the new energy challenges—and opportunities—facing our state. The Board will continue to serve as a resource to legislators in this respect.

As noted above, the Board will soon convene stakeholders to study energy-related issues on the horizon. The Board will disseminate its findings, and will continue to provide assistance to legislative committees and other policymakers as needed. Given the significant impact of these issues on the state and its citizens, it is critical that there be sound coordination among the initiatives of the Governor, the efforts of the legislative oversight committees, and the actions of state agencies. The Energy Planning Advisory Board will continue to play that coordination role.

Respectfully submitted,

Amy L. Ignatius
Director, Office of Energy and Planning

NEW HAMPSHIRE ENERGY PLAN

PROGRESS REPORT

June 5, 2006

INTRODUCTION

The *New Hampshire Energy Plan* was issued by the Governor's Office of Energy and Community Services, now the Office of Energy and State Planning, in November 2002. The report was commissioned by the state Legislature and was intended to provide policymakers with guidance on key energy issues the state would face over the course of the following ten years.

This document provides an update on the status of the recommended action steps found in the *Energy Plan*. The action steps were originally presented in three categories: Recommendations for Short-term Implementation, Recommendations for Near-term Implementation, and Recommendations for Long-term Implementation. The updates below are presented in the same categories and in the same order, and contain new recommended action steps.

I. Recommendations for Short-Term Implementation:

A. Establish an Energy Planning Advisory Board

Status: ✓ This Action Step was achieved in 2004 when the New Hampshire General Court enacted legislation to create an Energy Planning Advisory Board. SB 443, Chapter 164:2,1, Laws of 2004. The purpose of the Board is "to monitor and assist in the implementation of the New Hampshire Energy Plan prepared by the governor's office of energy and community services pursuant to 2001, 121."

There are currently several legislatively created committees addressing energy policy issues. These include the Legislative Oversight Committee on Electric Utility Restructuring and the Low-Income Electric Assistance Program Review Committee. In addition, the Legislature this session created a new study committee to evaluate energy efficiency programs funded by the Systems Benefit

Charge and a commission to study the status of electric restructuring, siting of commercial wind facilities, and renewable portfolio standards.

Recommendation: The Board should coordinate its work with other energy policy committees/commissions in order to avoid a duplication of effort, and in order to provide input and assistance as needed.

B. Encourage Energy Efficiency in State Facilities

Status: ✓ In July 2005, Governor John Lynch issued Executive Order 2005-4, requiring state government to lead-by-example in energy efficiency. The main elements of the Order include: reducing energy use in state buildings by 10%, implementing an energy tracking system, an Energy Star purchasing policy, requiring new construction to exceed energy code standards by 20%, and a Clean Fleets policy. A Steering Committee on Energy Efficiency in State Government (hereinafter the "Interagency Steering Committee"), comprised of representatives from the departments of Transportation, Safety, Environmental Services, Administrative Services, and the Office of Energy and Planning, helped launch this program and will continue to meet during its implementation.

The state is now tracking, for the first time, energy usage and costs for all state-owned or leased facilities. The newly created Enterprise Energy Management System database is managed by the State Energy Manager and is available at <http://nheis.admin.state.nh.us/GuestUser/buildings/viewBuildings.asp>.

On a separate front, the interagency Council on Resources and Development has reviewed the FY '06 and '07 capital budget requests and recommended to Governor Lynch that proposed capital budget projects meet the energy efficiency standards of RSA 21-I:19-a. This statute provides, in relevant part, that "It shall be the policy of the state of New Hampshire to maximize the use of economical energy efficient measures in the construction, renovation and maintenance of buildings owned or leased by the state." RSA 21-I:19-a (I).

Recommendation: The Board recommends that state budgeting include funding for energy upgrades in state buildings. In addition, energy tracking and goals for reduction should be permanently incorporated into each Agency's yearly goals. Progress toward meeting these goals should be reported annually to the Governor and the Legislature.

C. Support Cost-Effective Statewide Energy Efficiency Programs

Status: ✓ The state continues to fund energy efficiency programs through the Systems Benefit Charge (SBC) on electric bills, and these programs continue to deliver substantial energy savings and environmental benefits. The energy

efficiency programs are funded at a rate of 1.8 mills (1.8 tenths of a cent) per kilowatt-hour. This translates to \$20 million per year for energy efficiency programs. The SBC programs are administered by the state's electric utilities and, just recently, the monitoring and evaluation role of the Public Utilities Commission has been expanded.

In 2005, the NH CORE Energy Efficiency programs delivered services to more than 81,000 customers for a total energy savings of 1,021,831,203 lifetime kWhs, an economic benefit to NH of \$126 million. Each kilowatt-hour saved cost just 1.9 cents, as compared to the average NH retail price of 12.3 cents. Power plant emissions have been reduced by an estimated 603,000 tons, the equivalent of taking 127,000 cars off the road for a year.

The Systems Benefit Charge also funds the state's Electric Assistance Program (EAP), which provides low-income households with a discount on electricity bills. In a Special Session in November 2005, the New Hampshire Legislature enacted SB 228, a measure designed in part to provide supplemental funding to EAP during the first six months of 2006, using monies borrowed from the SBC efficiency programs. Because need continues to be high, Governor Lynch has called on the Public Utilities Commission to undertake an evaluation of the program to find the best way to meet the needs of low income customers in a time of high energy costs.

Recommendation: The Board recommends that the state conduct a review of the energy efficiency programs to ascertain the effectiveness of the programs and to assess whether funding levels are sufficient. SB 389 established a study committee relative to the energy efficiency programs. The Board will continue to track the efficiency programs and provide input to the legislature and/or Public Utilities Commission as needed.

D. Purchase Energy Star Equipment for State Offices

Status: ✓ Governor Lynch's Executive Order 2005-4 requires all state agencies and the University System to purchase Energy Star® equipment, including but not limited to air conditioners, computers, appliances, and office equipment. The Department of Administrative Services now requires as such in its Request for Bids. Education and assistance is being provided to state agencies to ensure purchases that are not handled by the Department of Administrative Services (DAS) also comply with the Energy Star requirement. The State's Energy Star Procurement Policy is available at <http://www.sunspot.admin.state.nh.us/EnergySystem/Energy%20Star%20Procurement%20Policy.pdf>.

Recommendation: The Board recommends that the legislature and the Administrative office of the Courts similarly adopt Energy Star purchasing

requirements for equipment procured for the State House, the Legislative Office Building, and state judicial facilities.

E. Convert to LED Traffic Lights

Status: ✓ The state Department of Transportation has an aggressive program in place to convert traffic lights from incandescent bulbs to Light Emitting Diodes (LEDs). DOT has been able to reduce the costs of roughly 50% of these conversions by accessing rebate funds made available by the state's electric utilities. DOT reports that it has replaced traffic signals as well as pedestrian lights at 340 intersections, which equates to roughly 93% of all intersections for which the state is responsible. In addition to reducing energy consumption, the conversions eliminate the need to replace the signals as often – incandescent bulbs must be replaced three times per year; LEDs have a lifespan of 5 to 7 years. DOT estimates the conversions yield a combined energy and labor savings of approximately \$1,000 per intersection annually.

Recommendation: The Board recommends that the State Energy Manager, with the assistance of the Department of Transportation, be directed to conduct outreach and assistance to municipalities in converting to LED traffic lights.

II. Recommendations for Near-Term Implementation

A. Establish a Renewable Portfolio Standard

Status: A Renewable Portfolio Standard, or RPS, is a regulatory requirement that any supplier of electricity must derive a portion of that electricity from renewable resources. RPS laws are currently in place in 22 states, including Maine, Rhode Island, Massachusetts, Connecticut and New York. The New Hampshire Legislature rejected an RPS in 2006, instead creating a study commission to evaluate RPS standards and impacts.

Recommendation: The Board endorses the establishment of an RPS in New Hampshire. The Board will work with the study commission and support sound RPS legislation.

B. Monitor and Develop Infrastructure for Natural Gas

Status: ✓ The Public Utilities Commission continues to monitor the demand for natural gas, and evaluate the adequacy of the existing infrastructure used to deliver natural gas. The development of new supply lines is largely market driven. With the exception of Keyspan's upgrade of supply lines to the Laconia

area, there has been no significant expansion of supply infrastructure in New Hampshire in recent years.

Recommendation: The Board recommends continued monitoring of regional natural gas infrastructure as well as supply and demand issues.

C. Enhance the Process for Siting Energy Facilities

Status: There have been no changes to the energy facility siting process since publication of the Energy Plan. However, there is currently heightened interest in reviewing the energy facility siting statute, RSA 162:H, to determine whether new energy facilities smaller than 30 Megawatts should fall within the jurisdiction of the Energy Facility Siting Evaluation Committee (EFSEC). As distributed generation technologies continue to evolve, the state is likely to experience an increase in the number of proposed small-scale power facilities. Similarly, because wind power has become increasingly competitive with conventional power plants, there are now proposals to site industrial wind farms in New Hampshire, as well as one active project in Berlin. The adoption of a renewable portfolio standard in New Hampshire would also likely create demand for new small-scale renewable power facilities.

While project developers and local communities can “opt in” to the energy facility siting review process under certain conditions, there are some who believe that the authority of EFSEC should be expanded to respond to the growing demand for small-scale generating installations. On the other hand, project developers appreciate the streamlined, one-stop shopping process already in place and may oppose efforts that could lengthen timelines for new projects. The Legislature, in 2006, created a study commission to evaluate issues raised by siting and construction of commercial wind energy facilities.

Recommendation: The state should continue to explore this issue, engaging stakeholders in a dialogue to determine whether modifications to RSA 162:H are needed.

D. Strengthen State Energy Codes and Assist with Compliance

Status: ✓ The New Hampshire Energy Plan recommended that the state upgrade the commercial and industrial energy code to a more stringent standard known as ASHRAE 90.1 – 1999. In January 2003 the State Building Codes Review Board amended the state’s energy code by adopting this standard. This change was subsequently approved by the Legislature.

Studies have shown that compliance with the energy code is lacking in many towns and cities. To address this issue, the state has continued to offer training

sessions on the energy code. Through a partnership of the Public Utilities Commission and the U.S. Department of Energy, training sessions on both the residential and commercial/industrial code have been offered throughout the state in 2003, 2004, 2005 and 2006. The PUC and DOE will continue to offer such training sessions as funds are available.

In a separate program funded by DOE, the PUC retains energy codes consultants to work with local code officials throughout the state to promote increased understanding of the state's energy codes.

Recommendation: In addition to these efforts, the state should perform a baseline study on new residential construction to determine the real level of efficiency with which housing is currently being built and investigate changes to the administrative structure of the energy code to yield more constant enforcement of the code statewide.

E. Purchase "Green Cars" for the State Fleet

Status: ✓ Governor Lynch's Executive Order 2005-4 includes a Clean Fleets policy that requires that all new passenger and light duty vehicles have a highway fuel economy rating of at least 27.5 miles per gallon and that all new light duty trucks have a highway fuel economy rating of at least 20 miles per gallon. The Department of Administrative Services is further requiring agencies to purchase only 4-cylinder engine sedans. The State's Clean Fleets policy is posted at <http://www.sunspot.admin.state.nh.us/EnergySystem/Clean%20Fleets%20Policy.pdf>. Any deviation from this policy requires the approval of a written waiver request. The Interagency Steering Committee is further evaluating the actual miles per gallon rating of the state fleet to consider additional recommendations.

Recommendation: The Board will review the Interagency Steering Committee's analysis of the state fleet and develop further recommendations as appropriate.

F. Partner with Colleges and Universities for Energy Efficiency

Status: ✓ Efforts between the Office of Energy and Planning (OEP) and the state's universities and colleges are underway. For example, in 2002 OEP provided Keene State College with grant funds to implement a biodiesel pilot project involving both vehicles and residential oil boilers. In 2006, the UNH campus in Durham was designated as a site for a biodiesel pilot project, to serve some state vehicles, UNH vehicles and possibly local communities. UNH as a "Climate Protection Campus" has undertaken numerous initiatives on its own to reduce energy use and its associated air emissions including an education initiative with students and faculty, construction of a co-generation energy plant, and construction of energy efficient buildings. UNH recently received an award

from the U.S. Environmental Protection Agency for achieving an Energy Star rating for three dormitories at the Durham campus, the first such buildings in the nation to attain this designation. In addition, UNH pledged as part of the New England Governors/Eastern Canadian Premiers University Initiative to reduce greenhouse gas emissions associated with energy use.

For a number of years, Plymouth State University has had a co-generation plant that provides steam heat and most of the electricity for the campus. In addition, construction is underway on two new dormitories whose energy efficiency and environmental attributes will earn the prestigious LEED (Leadership in Energy and Environmental Design) certification.

Recommendation: The Board endorses the commitment by educational institutions to address energy use and its impacts and will support those efforts as it is able.

III. Recommendations for Long-term Implementation

A. Purchase Renewable Power for Use by the State of New Hampshire

Status: The Department of Administrative Services has begun to explore options for purchasing renewable power for state government. While in the past “green” power was thought to be available only at a premium it now appears that this situation may be changing.

Recommendation: In view of the fiscal challenges facing state government due to the sharp escalation in energy costs, the Board recommends that the state pursue obtaining renewable power at competitive rates, as well as other mechanisms: i.e., offer long term contracts to renewable energy suppliers to meet the state’s load as well as low interest loans to spur in-state renewable generation.

B. Use Biodiesel in the State Fleet

Status: Biodiesel is now more readily available, and is being used more extensively in municipal, federal and private fleets throughout the state. New Hampshire currently has ten retail outlets for blended biodiesel for on-road use as well as several distributors for heating oil blends. With the slightly increased cost of biodiesel, it has been difficult to incorporate its use in state fleets due to extremely tight budgets over the past two years. A new federal tax incentive passed in 2005 will help bring the cost in line with conventional diesel. During the 2005 legislative session, HB 152 established a biodiesel study committee, which recommended that the Department of Transportation undertake a pilot program in which a portion of the Department’s diesel fleet use a biodiesel blend

and report out on its findings to the House Science, Technology, and Energy Committee and the Senate Transportation and Interstate Cooperation Committee. The Department of Transportation recently announced plans to try biodiesel on a limited basis at its refueling facility in Durham. In addition to use of the fuel by DOT, the University of New Hampshire has stated its intent to use the B20 blend in all their diesel transit vehicles manufactured after 1992, resulting in an estimated use of at least 40,000 gallons of B20 annually by UNH. The Oyster River School District and the town of Durham, both of which fuel heavy duty diesel vehicles at this facility, have also expressed strong interest in participating in this pilot project.

Recommendation: The Board commends the Department of Transportation for undertaking this pilot project. The results should be closely studied to determine whether biodiesel can be utilized in significant quantities by the State and by towns and school districts that use the State refueling sites.

C. Use School Building Aid to Encourage Energy Efficiency

Status: ✓ The state Department of Education has partnered with PSNH and non-profit stakeholders to provide seminars on building high performance schools. High performance characteristics have been incorporated into a number of new schools throughout the state. In the 2005 legislative session, HB 129 authorized the School Building Aid Office at the NH Department of Education to set aside up to \$100,000 each year to reward NH school districts which design, build, and operate high performance school facilities. The reward can be up to 3% of total project costs, to be paid over the life of the school bond.

Recommendation: As the state implements HB 129, the Board recommends that the Governor recognize and highlight any school district that makes a commitment to building high performance schools.