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Citizens and Scientists for Environmental Solutions

February 24, 2005

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Regarding: Comments of Union of Concerned Scientists on the Cape Wind Energy Project Draft Environmental Impact Statement
File No. Nae-2004-338-1

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On behalf of the Union of Concerned Scientists, I am writing in response to the request for comments on the Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) for the Cape Wind Associates project proposal. The Union of Concerned Scientists (UCS) is a nonprofit organization of more than 65,000 citizens and scientists working for practical environmental solutions. For more than two decades, UCS has combined rigorous analysis with committed advocacy to reduce the environmental impacts and risks of energy. Our energy program focuses on encouraging the development of clean and renewable energy resources, such as solar, wind, geothermal and biomass energy, and on improving energy efficiency.

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Introduction

It is UCS's position that wind projects should be built if rigorous review and study shows that there will be no significant environmental impacts. We believe that with proper siting, careful design, comprehensive study, monitoring, and mitigation, wind power can and should play a significant role in the region's electricity system. We appreciate the extensive effort that the cooperating agencies have made to ensure that the Draft EIS/EIR has followed a thorough and sound review of the Cape Wind permit application.

We are quite encouraged by the Draft EIS/EIR's findings regarding the project's benefits and potential impacts. The draft's findings include significant positive socioeconomic, public health, and environmental benefits. The draft also concludes that the majority of the other potential impacts examined will be minor, temporary, localized, mitigated in project design or construction, or will not occur.

If the scientific, technical, and economic conclusions of the Draft EIS/EIR are supported in the Final EIS/EIR after the completion of the public input process, UCS believes the Cape Wind project should go forward. UCS strongly encourages the Army Corps of Engineers (ACoE) and other cooperating agencies to expeditiously review the comments received and move quickly to issue a Final EIS/EIR.

Massachusetts and New England will benefit from the Cape Wind Project

If built, the Cape Wind project will contribute significantly to addressing many of the major problems our current electricity system poses. The Draft EIS/EIR's findings on socioeconomic impacts also include $1.5 – 2 billion in economic benefits to the U.S. economy, New England consumer savings on electricity bills of $25 million per year during the first five years of operation ($10 million for Massachusetts consumers), decreased costs associated with adverse health impacts from fossil fuel plants of $53 million per year, and almost 400 full-time new jobs created directly or indirectly due to the project.

Based on the results of the Draft EIS/EIR, Cape Wind will also:

- serve as a physical and economic hedge against the region's vulnerability to over-dependence on natural gas to generate electricity,
- make compliance with renewable energy standards more cost-effective, and
- increase generating capacity in New England when we are predicted to need it.

After discussing the general need for increasing renewable energy in New England, we will discuss these last three points and propose comments for inclusion in the Final EIS/EIR. We conclude with some brief observations regarding the approach to addressing any outstanding questions regarding risks to wildlife.

New England needs the renewable energy from the Cape Wind project

There are many serious problems with New England's energy system. Because of our dependence on imported fossil fuels and nuclear power, the region's residents face significant environmental and health impacts. Burning fossil fuels creates air pollutant emissions, exposing New Englanders to dangerous levels of ozone, mercury, and soot. The damage done to the environment from the reliance on fossil fuels reaches beyond our own backyard, creating widespread degradation of air quality, land, and water. Humans, wildlife, and aesthetically precious landscapes all suffer the direct and indirect consequences of using fossil fuels, particularly due to the emissions of the heat trapping gases that threaten the stability of the earth's climate. The use of nuclear power requires similar degradation to land and water for uranium ore, as well as posing monumental risks to the environment and human health from radioactive wastes.

As a matter of fairness and equity, New England must become more energy-independent. By importing the fuel we need to satisfy our increasing demand for electricity, we are exporting the impacts of our energy use to other communities—cutting off the tops of mountains in West Virginia to get at its coal, dumping residue into creeks and ravines, exploring for oil and gas in the pristine wilds of Alaska, or seeking to increase imports of liquefied natural gas from foreign countries. These costly impacts are immense, risky, and hugely damaging to the environment and the wildlife it supports.

The visual impacts of coal, oil, and gas extracted for our benefit occur somewhere else. We don't have to look at these damaged vistas, but that doesn't mean that we aren't affected. Climate change will significantly alter much of our landscape, especially our coasts. The high levels of smog on the Cape make it much more difficult to appreciate the scenery, especially for those most affected by pollution: children and the elderly.

The carbon emissions coming from electric generators make up a significant share of this region's and the U.S.'s contribution to heat-trapping gasses. These emissions threaten the stability of the earth's climate and, if not addressed, will push eco-systems and economies here and around the world to their limits. Using every tool available to reduce carbon emissions is a top priority of UCS. We strongly believe that in order to avoid the worst outcomes posed by climate change, we must begin implementing a broad array of solutions immediately, including offshore wind power. Delaying action in addressing carbon emissions only increases the eventual severity, expense, and likelihood of irreversible and frightening losses.

By developing our region's renewable resources, we can begin to free ourselves from the risks and damage caused by coal, oil, natural gas, and nuclear power. Renewable energy is the only source of indigenous power available in New England. Offshore wind may offer the greatest potential for renewable energy development in the region. Every kilowatt that we produce from our local resources, including our significant offshore wind resources, keeps money and jobs in our region.

No single technology, or even a single renewable project, can meet our society's future energy needs by itself. The solution instead will come from a family of diverse energy technologies that share a common thread -- they do not deplete our natural resources or destroy our environment. We must look to safe, clean, reliable wind power as a key component of the solution to our energy problems.

As a society, we must accept that there is no energy source available that has zero impact. When weighed against the very real threats of climate change to coastal property and many risks of continuing on the current unsustainable energy path we are on, the benefits of well-sited offshore wind power are starkly apparent. It is essential that we pursue every environmentally responsible opportunity to move our energy system to more sustainable sources - offshore wind power included.

Based on the findings of the Draft EIS/EIR, it is evident that the Cape Wind project could be a significant step in addressing the many negative impacts of our electricity system. For example, adding Cape Wind to the New England electricity system will cut emissions of heat trapping gasses that threaten our beautiful landscapes and precious coastal ecosystems through climate change, and reduce the physical and aesthetic degradation of areas that are producing the fossil fuels for our current fleet of power plants. In the Final EIS/EIR, UCS requests that the document further quantify the many negative impacts and risks of our current electricity generation system as well as quantify more fully the benefits that would result if the Cape Wind project were built within this broader context.

Cape Wind will provide a needed hedge against high and volatile gas prices

In New England, we import all of the fuels used to generate our electricity – coal, oil, natural gas, and nuclear fuel. The current price tag of importing fossil fuels into New England exceeds $2.5 billion each year. Our increasing dependence on natural gas to fuel new power plants is leading to a lack of diversity, resulting in a less reliable, more expensive system. The addition of renewable energy to the system will create much needed diversity, leading to greater system reliability and economic benefits in the form of more stable and lower prices for electricity. Greater use of renewable energy also conserves natural gas supplies and reduces prices, thereby creating savings for natural gas consumers as well.

Domestic natural gas prices have reached historically high levels, more than doubling the prices experienced during the 1990s. Natural gas prices have also experienced periods of extreme volatility in recent years with prices spiking as much as 5 to 10 times historical levels. Much of the recent rise and increased volatility in prices can be attributed to the unprecedented surge in natural gas demand from new power plant construction in recent years. Since 1992, more than 90 percent of the nation’s growth in natural gas demand has been due to its increased use as a fuel for electricity generation.

Price pressures show no signs of abating as energy consumers increasingly rely on natural gas to heat homes, fuel businesses, and generate electricity. As a result, manufacturers, farmers, small businesses, local governments, retailers, and families are

struggling to pay these high natural gas prices. Some manufacturing facilities and industrial users that rely heavily on natural gas have already had to reduce operations or move their factories overseas. For example, U.S. chemical workers have lost approximately 78,000 jobs since natural gas prices began to rise in 2000 (Gold, 2004). Natural gas accounts for about 90 percent of the cost of fertilizer, creating an additional hardship for American farmers.

The increasing lack of diversity in New England's and the country's electric generating portfolio is a significant source of electricity price risk and volatility, as well as reliability risk. Our region's natural gas fired generation is predicted to approach 50 percent by 2010, up from 16 percent in 1997. Natural gas combined cycle plants made up 96 percent of all the generating capacity added between 1999 and 2002. The share of generating capacity fueled by natural gas is projected to double by 2025 (EIA 2003). This will lead to increased competition for dwindling North American supplies, as well as higher, more volatile prices. Both regionally and nationally, there is widespread agreement that this trend is a serious problem and will worsen in the future.

A 2004 report from the Lawrence Berkeley Lab (LBL) focused on the role that renewable energy can play in hedging the risks associated with using natural gas to generate electricity. Natural gas prices are rising and increasingly volatile, but renewable energy resources are immune to fuel price risks because they can be sold under long-term fixed price contracts. Development of renewable energy, as well as increased energy efficiency, put downward pressure on future natural gas prices, providing benefits to all sectors of the economy. The authors conclude that renewable energy has a hedge value, plus the incremental value of lowering gas prices and credit risk and providing long-term price stability (Bolinger, 2004).

In another report from LBL in 2005, the authors show that renewable energy and energy efficiency can displace gas-fired electricity generation, reducing gas demand and putting downward pressure on natural gas prices and bills (Wiser, 2005a). The report finds that existing modeling studies generally show that each 1 percent reduction in natural gas demand nationwide is likely to lead to a long-term wellhead price reduction of 0.8 percent to 2 percent, with some studies showing more significant reductions. This means that renewable energy provides consumer gas savings conservatively estimated to be equivalent to at least $10 to $20 for each megawatt-hour of incremental renewable generation. From the analysis done for the 2005 LBL report, the net present value to New England consumers as a result of the state RPS programs in the region is estimated to be between $34 and $85 million. New England's RPS policies would generate national consumer benefits of between $625 million and $1.56 billion (Wiser, 2005b).

The Final EIS/EIR should quantify the economic benefits of increased fuel diversity, as this is a significant impact of the project. UCS also recommends that the Final EIS/EIR include updated estimates of the consumer benefits associated with reduced natural gas use in New England as part of the Final EIS/EIR. Recent upward trends put gas prices above those used in the LaCapra Need Analysis developed in early 2003. We expect

updated estimates of economic benefits of the project will be greater when based on more recent data.

New England needs additional renewable capacity to meet RPS requirements

As noted in the LaCapra Need Analysis, one of the benefits of the Cape Wind project will be its contribution to meeting the requirements of state renewable energy standards. LaCapra based its analysis on renewable standards in effect at the time: Massachusetts and Connecticut. Since then, both Rhode Island and New York have added renewable standards. By UCS estimates, the targets of the Massachusetts, Connecticut, and Rhode Island renewable standards will require 1,093 megawatts (MW) of new renewable generation in 2010 and 2,593 MW in 2020.[1] In New York, the standard will require 2,183 MW in 2010 and 4,770 MW in 2020.

While methodology used to develop the UCS estimate of new renewable generation needed to meet the New England and New York differs from the one used by LaCapra, we reach the same conclusion: there is insufficient renewable development happening in the northeast to meet the demand created by the renewable standards. We also agree that these four states will effectively draw from the same geographic market for renewable power.

According to a report recently issue by the Massachusetts Department of Energy Resources regarding the renewable standard compliance status of the state's electricity suppliers, the shortage of eligible renewable generation will result in suppliers paying "Alternative Compliance Payments" in 2004 that will total an estimated $15 million. This means that consumers are paying the highest possible price for RPS compliance.

The addition of the generating capacity of Cape Wind would reduce renewable standard compliance costs in the region by increasing the supply. Since the benefits of such a reduction in compliance costs could be significant, the Final EIS/EIR should also include an estimate of these benefits.

New England may need additional generating capacity sooner than 2007

In its July 2002 Tentative decision, the Massachusetts Electricity Facilities Siting Board (EFSB) concluded that "there is a need for the capacity provided by the wind farm beginning in 2007 for reliability purposes." In developing the final EIS/EIR for the Cape Wind project, UCS recommends that the reviewing agencies update the data and analyses used in the EFSB decision. It is our belief that such an update will indicate that the new generating capacity from Cape Wind and other projects is needed sooner to maintain the reliability of the region's electricity system.

On February 4, 2005, Stephen Whitley, Senior Vice President and Chief Operating Office of the Independent System Operator of New England (ISO-NE) gave a presentation to the Participants Committee of the New England Power Pool (NEPOOL). In this

[1] Assuming MA and RI targets continue to increase as specified.

presentation, Mr. Whitley presented ISO-NE's Operable Capacity Analysis for the remainder of calendar 2005. This most recent report from ISO-NE indicates that the electricity system could face such a shortage this year, rather than in 2007 as concluded by the EFSB.

In the "50/50" scenario, considered by the ISO to be the most likely, the New England electricity system faces operable capacity margins during the coming summer of between –0.5 percent (a shortfall) and 2.8 percent, with an average of 1.8 percent. This compares to the range of operable capacity margins of approximately 8 percent to 28 percent during the non-summer months.

In ISO-NE's "90/10" (or "extreme") case, the operable capacity margin during the summer months ranges between –2.8 percent and –6.4 percent. While the extreme case is considered unlikely, both cases indicate that New England faces narrow operating margins under expected conditions, and under high peak conditions, a capacity shortage in 2005.

While we believe that the original analysis leading to the EFSB finding of capacity-need in 2007 is appropriate for the purposes of the EFSB review and decision, it would be useful for the Final EIS/EIR to contain a capacity-need analysis using the most recent data available from ISO-NE.

Conclusion

It is a top priority of UCS that the permitting process continues and that the Final EIS/EIR strikes a balance between the benefits of the project and the risks it may pose. The Final EIS/EIR must fully assess the proposed project's benefits, as well as the potential impacts on the species that live in or travel through Nantucket sound, including birds, fish, marine mammals, and bats. We also encourage the ACoE and Cape Wind Associates to seek solutions to outstanding issues associated with potential risks to wildlife that are based on sound science, utilize practical solutions to addressing such risks, and ensure that the project can be built and operated without causing unacceptable harm to wildlife populations or their environment.

The Draft EIS/EIR contains a significant body of data and promising conclusions, but more needs to be done before permitting the project. UCS encourages the ACoE and other cooperating agencies to direct their attention to the recommendations submitted by the Conservation Law Foundation and the Natural Resources Defense Council on these matters. In considering these comments, UCS encourages the ACoE and Cape Wind Associates to consider performing further analysis of available data and collecting additional data where existing data is insufficient to reasonably assess potential impacts and risks to wildlife. UCS also supports the development of a permit that includes monitoring plans, operational protocols, and reasonable mitigation measures. Finally, UCS supports the formation of a Scientific Advisory Board to oversee the collection and use of monitoring data in project operations and recommend any necessary changes to project operations if biologically significant impacts are identified. While this process is

especially challenging, UCS supports an enhanced approach to assessing the potential impacts of the proposed project on wildlife and adapting to actual experience as proposed by the Conservation Law Foundation and the Natural Resources Defense Council. Taking these steps will enable the Cape Wind project to be designed and implemented in a way that allows the development of an environmentally sound wind project.

Citations

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