

2917

**Adams, Karen K NAE**

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**From:** ericangeletti1092@hotmail.com  
**Sent:** Monday, January 24, 2005 9:38 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Eric Angeletti

291B

**Adams, Karen K NAE**

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**From:** vmccauley@austin.rr.com  
**Sent:** Monday, January 24, 2005 10:20 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

vicki mccauley  
8312 fathom circle #810  
austin, Texas 78750

**Adams, Karen K NAE**

2919

**From:** wolffirst@hotmail.com  
**Sent:** Monday, January 24, 2005 11:07 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Fumiko Sakoda  
P.O. Box 104  
Rosston, Oklahoma 73855

2920

KENT A. HEALY Sc.D. PE  
Civil Engineering  
1 Farms End Road  
P.O. Box 128  
West Tisbury, MA 02575  
(508 693 6736)

January 22, 2005

Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

Dear Ms Adams:

The proposed Cape Wind Project would be an important contribution to Societies' upcoming transition from petroleum fuel. The adverse effect of the towers and turbines on Nantucket Sound would be no greater than the present adverse effect of marine traffic and fishing, in fact the project might benefit "The Sound" by ensuring an area free of marine traffic.

Very truly yours,

Kent A. Healy  
PE Mass. #28498

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**Adams, Karen K NAE**

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**From:** J Delman [jdelman@dandy.net]  
**Sent:** Saturday, January 22, 2005 10:16 AM  
**To:** Energy, Wind NAE  
**Subject:** Wind turbines in Nantucket Sound

Colonel Thomas Koning  
U.S. Army Corps of Engineers,  
696 Virginia Rd.,  
Concord, MA 01742-2751

Dear Colonel Koning,

The Army Corps of Engineers should deny Cape Wind's application to construct 130 turbines in Nantucket Sound. There is no federal authorization to use our public trust resources for this purpose. Nor does the developer have any property rights to exploit these public lands.

Without federal authorization, any means for protecting coastal resources, or any process for compensating the public, this project cannot be in the public interest. That question must be answered by our representatives after national debate, not by one office of a federal agency improperly arrogating the authority of Congress.

In addition, the draft environmental impact statement that has been prepared is inadequate. More studies are needed before the Army Corps can assess the potential impacts of the Cape Wind project.

While we need to develop alternative, clean energy technologies, giving away precious public resources to a small group of developers for their private profit, without adequate federal legislation or compensation, is a violation of the federal government's trust responsibilities to all its citizens.

Sincerely,

2922

**Adams, Karen K NAE**

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**From:** jamesverry@netscape.net  
**Sent:** Saturday, January 22, 2005 1:18 PM  
**To:** Energy, Wind NAE  
**Subject:** jamesverry@netscape.net

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

James Verry  
1580 North Cheshire Drive  
Pueblo West, Colorado 81007 3425

2923

**Adams, Karen K NAE**

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**From:** Ted McIntyre [emcintyre1@comcast.net]  
**Sent:** Saturday, January 22, 2005 3:34 PM  
**To:** Energy, Wind NAE  
**Subject:** Please Approve Cape Wind Project ASAP!

Dear Karen Kirk Adams,

Your work to evaluate the proposed Cape Wind project has been thorough, fair, balanced and insightful. It sets a valuable precedent for the other wind projects which will surely follow. I urge you to issue the appropriate permits as soon as possible.

The final report should focus more attention on the positive public benefits of the proposed project, in particular: The benefits of the increased use of renewable energy are large, and should be clearly considered.

- 1) Improved air quality which will reduce costs associated with illnesses such as asthma.
- 2) Improved fuel diversity for the local generation of electricity.
- 3) More predictable and stable electricity costs in the region.
- 4) Support of the Massachusetts climate change policy of reducing greenhouse gases from the use of fossil fuel for electricity generation.
- 5) Reduction of risk of oil spills to other ecologically sensitive areas such as Buzzards Bay.

This final point is useful to explore, since the concerns of citizens who live near and earn their living from Buzzard's Bay are currently discounted in favor of those surrounding Cape Cod.

Buzzard's Bay experienced a devastating oil spill in 2003, of fuel intended to power Cape Cod. As one of the citizens with property on Buzzard's Bay, the smell of oil, the damage to salt marshes, the simple nuisance of globs of oil on feet, bathing suits and children is personal experience. The destruction of life on the sea-floor life is hidden by the waves, but real as well. The aesthetic damage to Buzzard's Bay is

real and present as compared to any potential threat to Nantucket Shoals viewshed. The benefits of reducing the risk of such spills should be clearly weighed in considering the Cape Wind project.

Please continue your conscientious effort to provide a landmark document, but I urge you to act as soon as possible to approve the project.

Thank you,

Edward K. McIntyre Ph.D.  
34 Jefferson Rd.  
Franklin MA 02038  
508-528-7765  
[emcintyre1@comcast.net](mailto:emcintyre1@comcast.net)

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**Adams, Karen K NAE**

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**From:** Diznee1982@comcast.net  
**Sent:** Saturday, January 22, 2005 4:41 PM  
**To:** Energy, Wind NAE  
**Subject:** Save Our Sound

Dear Ms. Karen Kirk-Adams,

If you've ever been to Nantucket and seen it's beauty, you would not be proposing to build these wind farms. Imagine if you lived on the island or considered it a vacation destination and then suddenly, instead of having a phenomenal view of beautiful Nantucket Sound, you see countless iron wind farms. I don't imagine that if you were a resident that that would appeal to you. Although you may consider that to be a selfish point of view, so I urge you instead to consider the wildlife. With this country being under a constant state of construction, where farm land, wild life, and natural beauty are slowly becoming a thing of the past, why would you want to endanger the countless number of birds and other animals that consider Nantucket Sound their home? I urge you to rethink your course of action.

Heidi  
Delaware

**Adams, Karen K NAE**

2925

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**From:** Ejjaros@aol.com  
**Sent:** Saturday, January 22, 2005 4:46 PM  
**To:** Energy, Wind NAE  
**Subject:** Response to the DEIS

Karen Kirk-Adams,

I want to respond to the DEIS and write in support of the Cape Wind Project. I think the DEIS process was thorough and well done.

I am currently working on a forestry carbon offset project in Honduras which will reforest two million trees if successful and sequester approximately a million tons of carbon dioxide over a thirty year period. The Cape Wind farm would sequester a similar amount in one year while providing three quarters of the Cape's electricity in a renewable way without importing a gallon of oil which is increasing in price and potentially running out.

Because of my work, I am very conscious of climate change threats. I am very concerned about the Gulf Stream current slowing down and dramatically cooling the Northeast's winters as a result of melting ice decreasing salt content in the North Atlantic ocean waters, thus slowing down the Gulf Stream "pump". I am also concerned about increasingly erratic weather events like hurricanes and rising sea levels which can erode and flood the Cape's shoreline that as a visitor to the Cape over many summers I have witnessed first hand. I think these concerns vastly outway objections about the views on Nantucket Sound.

Having observed power plants, I also welcome the health benefits of the project which do not include air pollutants like mercury. The project will have economic benefits to the Cape and will hopefully open the way to other cost effective renewable wind projects. I very much hope that the project will be allowed to move forward. Thanks.

Ed Jaros  
16 Morses Pond Road  
Wellesley, MA 02482

1/25/2005

**Adams, Karen K NAE**

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**From:** Ken Rupp [karupp@alaska.net]  
**Sent:** Saturday, January 22, 2005 9:01 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind DEIS Comments

I'm writing this as an observer of our energy supply situation from one of the last regions in the US that can help meet our future energy needs. We have an excellent record of responsibly developing oil and gas fields here in Alaska; however, this record has been distorted by those opposed to opening our lands, including ANWR, for oil exploration. Now, one would think that those who are opposed to oil development in ANWR would support wind energy, but wait! They're against it too! It seems ludicrous to me that the US' largest wind farm project is now opposed by the same folks who oppose exploring for oil in an environmentally acceptable manner here in Alaska. I can only say if not oil, if not wind, how do we meet our energy demands? We need a responsible mix of all economically and environmentally sound energy supplies to keep our economy and way of life strong and comfortable.

I support alternative energy and environmentally sound oil and gas exploration as means to meet our energy demands. Please don't listen to the vocal minority who oppose reasonable development of a wind farm offshore in Nantucket Sound.

Ken Rupp

3127 South Circle

Anchorage, AK 99507

(907) 344-0862

**Adams, Karen K NAE**

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**From:** thomas mayhew [tmayhew@vineyard.net]  
**Sent:** Wednesday, January 02, 1980 1:42 AM  
**To:** Energy, Wind NAE  
**Subject:** cape wind alternative

2927

Thomas Mayhew  
59 Hollytree Lane  
Vineyard Haven, MA 02568-0545

Hello,

Thank you, in advance, for consideration of my opinion on the Cape Wind project. I am a lifelong resident, 15th generation, of Martha's Vineyard. I work as an energy specialist for Rise Engineering and I do energy audits on Martha's Vineyard for the Cape Light Compact. I am an advocate for alternative energy and energy conservation. My opinion in no way represents that of Rise Engineering or the Cape Light Compact although many of my coworkers agree with my position and concerns. After much deliberation, I am, for several reasons, against the Cape Wind project as it is presently submitted.

My major concern is the choice of location. Not only that it will be visually intrusive with all the flashing lights at night and so forth but more important to me is the assembly and maintenance difficulties and dangers that I feel would be simplified by a land based project. I understand that the claim is that sustained winds are better over the water but I feel that this is exaggerated and that the land based assembly and maintenance savings are underestimated. I feel that the various dangers are also underestimated including transformer and lubricant leaks and hampered navigation patterns.

I am in favor of private, for-profit companies taking the lead in alternative energy industries. I am inclined to allow that the government and the citizenry subsidize in some way the viability of these companies. However I am in favor of more government oversight in the choice of location and particulars of use of public land. I feel that US Senators and Representatives and State officials need to be brought into the policy/decision making and in attending the local hearing here on Martha's Vineyard it appears that they have not been. They are elected to represent the interests of the people and need to have that voice in this situation.

Where the Cape Wind stands to profit from the use of public lands I feel that they should strictly bear all responsibilities and that there needs to be assurance that they will assume all liabilities for environmental damages or pollution and also for the costs of removal should the project fail. I also feel that there should be more local benefit whether the electricity produced should go towards making the Cape and Islands self-sufficient or at least to reduce cost of electricity locally.

Another alternative, if not at Otis AFB, would be decentralized land-based wind generation perhaps by Cape Wind or by municipalities, state or county. I imagine smaller projects spread out over the southeast coast of Massachusetts paid for by taxpayers and used to offset cost of powering municipal buildings and schools etc. And not necessarily all wind based technologies. I feel that a healthier approach would include other technologies such as solar thermal and solar photovoltaic systems which have technological advantages in some ways over wind generation (less maintenance/less moving parts etc) and is comparable (at worst) in cost. An associate has designed a solar pv system which would produce a comparable amount of electricity while taking up 5/8 of a square mile rather than 25 square miles and these systems could more easily be land-based and decentralized. Considering less maintenance costs, simpler assembly and less space requirement (could be built into roofs of buildings or over parking lots, down the median strip of highways etc....) this would be a more economical way to go if you had to choose one over the other. I feel that an all encompassing hollistic approach would allow for and advocate use of several technologies. There is no sense in putting so many eggs in one basket especially when considering the risks associated with this project (and the

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very mixed feelings for it)

Please explore other alternatives or at least alternative sites for this project or reject it.

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Thank you again,

Thomas Mayhew

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Adams, Karen K NAE

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**From:** Doug Mink [doug@harrismink.com]  
**Sent:** Monday, January 24, 2005 10:06 PM  
**To:** Energy, Wind NAE  
**Subject:** Re: Cape Wind Draft Environmental Impact Statement

To minimize both air pollution and the possibilities of combustion by-product-induced global climate change, it is imperative that the New England Region turn to cleaner methods of generating electricity. The proposed Cape Wind project will generate clean electricity close to the population centers of Cape Cod where it is needed, with minimal impact on the local natural environment and a positive impact on the local economic environment. It will be cheaper and safer than ocean-transported fossil fuels as well. Please approve Cape Wind's application for the installation of a 454-megawatt wind-powered electrical generating project on Horseshoe Shoal.

-Douglas J. Mink  
90 Wellsmere Road  
Roslindale, MA 02131

Emily S. Liggett  
2509 North Racine  
Apartment 1  
Chicago, IL 60614  
773.296.9254

2929

January 20, 2005

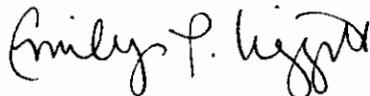
Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742

Dear Ms. Kirk-Adams:

I am writing to voice my strong opposition to the proposed Cape Wind Project. Why should Cape Wind not be built? Many reasons, including the impact on historical sights. With 17 historical sights on the Cape and the Islands, the wind plant would have a detrimental effect on them. Imagine if the transformer substation, holding 40,000 gallons of oil, spilled into Nantucket Sound. Imagine the fishermen who work Horseshoe Shoal for their livelihood. Do we really need to sacrifice these for 1% of New England's power needs? Why can't the project be further offshore?

These are just a few of my *many* objections. Please note that I am not from the New England area, but do visit every year. If this were to be proposed at another precious part of the country, I would be equally as vocal. Thank you for your time.

Sincerely,



Emily S. Liggett

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JAN 24 2005  
U.S. ARMY CORPS OF ENGINEERS

2930

January 19, 2005

Ms Karen Adams  
Army Corp of Engineers  
696 Virginia Road  
Concord, MA 01742

Dear Ms Adams:

I am a resident of the Town of Barnstable. I moved to this area of the Cape several years ago because I appreciated first and foremost what a beautiful part of the world it is. The south side beaches offer spectacular views of the waters of Nantucket and Vineyard Sounds. Craigville Beach, Long Beach, and Veterans Beach are but a few of the wonderful local beaches on the Sound. The area is a boaters and fisherman's paradise that offers easy access to Nantucket, Martha's Vineyard and the Elizabeth Islands including Cuttyhunk. Thousands and thousands of experienced boaters and new boaters frequent these waters day and night. Whether it is a day trip to Nantucket, dinner in Edgartown, commercial fishing out to Georges Bank, blue fishing on Horseshoe Shoal, or a trip out to the Atlantic Canyons, boats are constantly moving through these waters. What a great place to visit and even a better place to live!

When I first learned about the proposed wind farm on Horseshoe Shoal I assured myself that it was such a completely far fetched idea and it was so preposterous there was nothing to be concerned about. There was no way that the local, state and federal officials would permit a private business to destroy such a beautiful part of the world. I own a small piece of land with an old bog on it where I can't even cut a tree down within 100' feet of it because of conservation restrictions. To build 130 windmills well within site of the beaches and the beautiful properties in Osterville, Centerville, Hyannis, New Seabury and the Vineyard? You would be able to see a windmill tower 400 feet tall from Nantucket not to mention Craigville Beach. That's crazy, that couldn't happen. It would have such an adverse impact on boater safety, tourism, and the Cape's economy, there is no way it could happen, or so I thought.

I grew up boating on Cape Cod and have spent more than 30 years learning to navigate around on our local waters. I frequently run boats and guide people across the Sound to go fishing or to the islands, sometimes in some pretty challenging weather and visibility. I don't know how people can be expected to navigate through a maze of 130 giant windmills during periods of reduced visibility. One data tower in the middle of the Sound is dangerous enough NOW. We can't expect that people will be able to navigate safely through a maze of giant windmills.

Is this the only suitable place that windmills can be built or is it the only place suitable to the developer? I am not opposed to the benefits of wind power. I am convinced however that the proposed location for this wind farm is unsuitable for this use due to its potential detrimental effects on the lives of people and the local environment.

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JAN 27 2005

CONCORD MA

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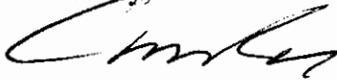
Would the Army Corp of Engineers permit windmills to be built in the middle of the channel in Buzzards Bay? Certainly not! It would be too dangerous to people, and the environment. We are reminded of the damage that can occur to the local economy when a barge ran outside of the channel and struck a submerged object leaking thousands of gallons of oil into Buzzards Bay in 2003.

Why is the area of Nantucket Sound and Horseshoe Shoal any different? Fuel barges routinely pass through this area enroute to the islands. Couldn't they stray off course and collide with a base of a giant windmill tower? I believe they could. I see numerous commercial fishing boats pass right through this area on a daily basis, year round, on their way to and from the fishing grounds to the East. What about the thousands and thousands of recreational boats that pass through this area every year, day and night. Would it be right to contribute unnecessarily to the dangers of making the passage across Nantucket Sound for so many?

Are we convinced that federal and state boundary disputes are resolved, that the impact on the Cape economy is known, that there is even a need for additional power in the Northeast Grid, or that there are no other suitable locations for such a monstrous windfarm?

Well, here I am talking about a proposed wind farm that I thought was so preposterous that it would never get this far. I ask you to please act on behalf of the millions of visitors who come to the Cape and Islands each year and the boating public who are relying on you to keep them safe. Please act on behalf of those of us who treasure this place and call the Cape home. Please don't let this happen. Please don't allow a developer to destroy this beautiful place and adversely affect so many.

Sincerely,



Aaron Goodale  
1061 Old Falmouth Rd  
Marstons Mills, Ma 02648



# TOWN OF MARBLEHEAD

## Board of Health

2931

Carl D. Goodman, Esq., Chairman  
David B. Becker, D.M.D., M.P.H.  
Helaine R. Hazlett

(781) 631-0212

7 Widger Road

Marblehead, MA 01945

Wayne O. Attridge, Director

January 20, 2005

U.S. Army Corps of Engineers  
Karen Adams, Project Mgr., Regulatory Division  
696 Virginia Road  
Concord, MA 01742

Dear Ms. Adams,

The Marblehead Board of Health recognizes the urgency for a commitment to alternative energy sources. The oil price crisis, global warming, and health issues emanating from the burning of fossil fuels reinforce the importance of finding as many alternate options as possible. It is incumbent upon us to ensure health and high quality of life for future generations.

The U.S. Army Corps of Engineers issued its Draft Environmental Impact Statement which found significant benefits to the Nantucket Sound wind farm plan. It also found no serious flaws in the plan.

The Corps states that no serious navigation hazards were found and that marine life should not be significantly affected by the wind farm. The Marblehead Board of Health therefore feels that the use of wind farm technology should be seriously pursued. This technology would be a means to improve air quality since this renewable energy source should present a viable alternative to energy sources which produce chemical air emissions.

The Marblehead Board of Health urges the continued efforts on behalf of research and development of efficient alternative sources of energy such as wind farm turbines.

For The Board of Health

*David B. Becker, DMD, MPH*

Dr. David B. Becker  
Secretary

RECEIVED  
JAN 24 2005

January 19, 2005

Ira Leighton  
Deputy Regional Administrator  
EPA, New England, Region 1  
1 Congress Street, Suite 1100  
Boston, MA 02114-2023

**Re: January 7 Meeting between EPA and the Alliance to Protect Nantucket Sound**

Dear Mr. Leighton:

We much appreciated your courtesy, and the courtesy of EPA staff, in meeting with us on January 7 to discuss the analysis of air quality issues contained in the Draft Environmental Impact Statement (DEIS) for the proposed Cape Wind project. We found it to be a very useful meeting, and the Alliance is anxious to build on this good start. The purpose of this letter is to summarize where the Alliance believes the air quality issues stand and what should happen next.

The Alliance believes there are three key issues:

- The air quality analysis in the DEIS is fundamentally inadequate, and greatly overstates the emission reduction benefits of Cape Wind;
- The mechanisms EPA has suggested whereby Cape Wind might produce emission reduction benefits cannot be evaluated without detailed empirical work and analysis. Moreover, until such work might show otherwise, any rough judgment based on available information would have to conclude that these benefits would be small; and
- Any legally adequate evaluation of these points would require a repropoed analysis and a new comment period.

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Our discussion of each issue follows.

**1. The Air Quality Analysis In The DEIS Is Fundamentally Inadequate**

The DEIS argues that Cape Wind would significantly reduce emissions of health-damaging air pollutants in the New England area, leading to major health benefits. Indeed, the monetized value of these benefits is the largest single benefit claimed for Cape Wind, other than the value of the power itself, which also is greatly overstated.

The DEIS computes these benefits by assuming (1) that fossil plants emit a set amount of power for each megawatt produced and (2) that Cape Wind power will simply replace an equal amount of power from fossil plants. According to the DEIS, Cape Wind would therefore produce emission reductions equal to the emissions from the fossil power that it “backed out.”

This approach, in our view, ignores the effect of the “caps” imposed on SO<sub>2</sub> emissions by the 1990 Clean Air Act and on NO<sub>x</sub> emissions by the NO<sub>x</sub> SIP Call. Both these caps are likely to become tighter in the future as a result of the likely promulgation of the CAIR rule or equivalent legislative changes. Under a capped emissions system, neither Cape Wind nor any other new generating source will reduce emissions below the cap in the long run.

The failure of the DEIS to address the caps is a basic analytical flaw in the review of this proposal. The Alliance believes this flaw is so fundamental that the public and other agencies cannot know how the DEIS air quality analysis would look if the proper regulatory context for air quality control were taken into account. Consequently, until that analysis is supplied and subjected to public scrutiny and comment, the review of the proposal is legally insufficient.

**2. The Analytical Refinements EPA Staff Suggested Are Complex and Require Empirical Support to be Considered**

EPA staff suggested several reasons why Cape Wind might produce at least some air quality benefits, even considering the caps. The Alliance agrees that these points could have some effect and should be carefully evaluated. Their real-world

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significance is unclear and could only be determined by empirical analysis. We believe there are threshold reasons to believe these benefits would be small to nonexistent. In addition, the burden of proof should fall on the project applicant and the Corps of Engineers to establish the empirical significance of these points. To explain the Alliance's position, some of the points raised by EPA staff are listed below, followed by our tentative responses.

Not All Emissions of Concern are Capped. EPA staff pointed out that the caps do not apply to mercury and directly emitted particles (together with the toxics associated with these particles), and that the federal rules currently only require NO<sub>x</sub> caps for part of the year.

In the analyses we have seen (notably including the DEIS), the impact of the pollutants that are capped dominates the health analysis. The other air pollution benefits are relatively minor. Moreover, in some cases controls to meet the caps will reduce emissions of these uncapped pollutants as well. Before the possibility of reductions in emissions of uncapped pollutants is taken into account, the Corps, as the decision-maker, should obtain the necessary data and analyses of the quantitative health and welfare importance of these uncapped pollutants, and how Cape Wind might reduce their emissions.

The DEIS would also need to evaluate the impact of future rules on those emissions. In this fast-changing regulatory area, that impact could be significant and further minimize the purported benefits of the proposed project. It is especially important to consider potential future rules because of the need to consider emissions benefits over the life of the project. For example, EPA's upcoming mercury control rules may well cap mercury emissions.

Some EGUs Are Not Capped. EPA staff also pointed out that smaller fossil fuel generating units are not subject to the caps. If Cape Wind "backed out" emissions from these units, that would not free up any allowances for use somewhere else.

This could happen in theory, but that does not mean it would happen in fact. If it did, it is likely that the quantitative importance of this result would be small.

To estimate the quantitative significance of this possible effect, the DEIS would need to consider the effect of Cape Wind on the dispatch of these non-capped units. It seems unlikely that the dispatch of these units would be affected by Cape Wind, both because the "market share" of these units must be very small

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Page 4

and because there does not seem to be any particular reason they would be "backed out" by the presence of Cape Wind. Thus, the empirical significance of this issue seem at this time entirely hypothetical.

There Might be a Shift to More Locally Beneficial Reductions. EPA staff suggested that even if the caps held total emissions constant, constructing Cape Wind might shift the location of those emissions in a manner that would have more overall air quality benefits. Again, there is no information to show that this would actually happen and, indeed, the effect could be just the opposite (i.e., Cape Wind could result in reallocation of emissions that resulted in *fewer* air quality benefits). If decision makers are to rely on the possibility of shifts to greater benefits, the case would need to be empirically supported.

There Might be a Shift to Earlier Reductions. EPA staff similarly suggested that even if the caps held overall emissions constant over time, Cape Wind might cause a shift toward earlier emissions reductions, which would then be banked for future use. The environment would benefit if the time between the banking of reductions and their actual use were to increase over the "no Cape Wind" case.

As with the other theoretical considerations, the burden of proof rests with those who argue for the empirical significance of this possibility. No argument was provided to explain why Cape Wind would lead to greater numbers of banked emissions, let alone that such an effect would be empirically significant.

In all these cases, the decision maker should not rely upon merely hypothetical scenarios as a basis for concluding there are positive, public interest benefits to the proposal. The negative effects that this project will have on Nantucket Sound are clear and obvious (despite the failure of the applicant-driven DEIS to evaluate them properly or fully). Those serious and real adverse consequences cannot be compared to mere hypothetical and presumed air quality benefits as the basis for a public interest evaluation and permitting decision other than to deny the application for an absence of adequate information.

### **3. The Need For New Analysis Requires A New Proposal**

Under fundamental legal principles arising under the Administrative Procedure Act, the National Environmental Policy Act, the Corps' procedures, and EPA's time-tested way of doing business, the public is entitled to comment on the

substance of agency decisions. As the courts have recognized, this requires agencies to inform the public of both the issues under consideration and the information available related to these issues with sufficient accuracy and enough detail to allow for meaningful comment.

The DEIS, by ignoring the caps and their implications for the lack of air quality benefits, sets forth a fundamental overestimate of Cape Wind's air quality benefits that can only be corrected by fundamentally redoing the analysis. EPA's suggestions show exactly how empirically-based and subject to other perspectives such a "redone analysis" would have to be. The only procedure for fixing this defect fully consistent with governing legal principles would require a new and more adequate DEIS analysis of these issues, followed by a new round of public comment. Such a DEIS discussion would need to avoid the defects that undermine the current document. In particular, it would have to be freed from the heavy and improper influence of the applicant and invested with strong and independent outside review. This is especially true for subject matter as complex as air quality, which falls well outside the expertise of the Corps.

The Alliance believes it is self-evident that the defects outlined above cannot be corrected consistent with any hope of meaningful public involvement without a supplemental DEIS. At the very least, however, on the air quality issues alone, a far more detailed analysis, conducted in a publicly transparent manner, is needed. As will be discussed in the Alliance's forthcoming comments on the remainder of the DEIS, serious deficiencies pervade the entire document. We hope that EPA will agree with us, and will support the Alliance in its request for a new EIS that provides this serious and complex proposal with the comprehensive and objective analysis it requires.

The Alliance would be more than pleased to discuss any of the topics raised in this letter with you at your convenience. By copy of this letter, the Alliance requests that it be included in the record of the Cape Wind permit application,

Sincerely,



Susan L. Nickerson  
Executive Director

January 19, 2005  
Page 6

2932

cc: Congressman William Delahunt  
Secretary Ellen Roy Herzfelder  
Senator Edward M. Kennedy  
Senator John F. Kerry  
Colonel Thomas Koning  
Attorney General Thomas Reilly  
Governor Mitt Romney

2933

Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: Herbert Driscoll

Address: PO Box 191, St Albans, MO 63073

Cape Address: 16 Scudder Bay Cir, Centerville, MA 02632

Phone Number (Please include area code): 636-458-2092

Email Address: hbdriscoll@charter.net

Please state your questions/comments in the space below:

I strongly oppose this "project" — my reasons fall primarily into two categories:  
- Concern for our beautiful, pristine Nantucket Sound  
- Recognition of the "Project" as one of the greatest private sector land grabs ever proposed

My concern with the EIS is it is so blunderingly flawed!

Wittingly or unwittingly the COE has become complicit with the developers. I am left to ask myself why?

Why have the very people we rely on to provide unbiased — studies, abandoned us on this issue — One only need to examine the incestuous mingling of the developers, advocacy groups with the prep of the DEIS to conclude something smells "fishy" — and it is the the Sound.

Please fold this questionnaire in half, affix two stickers or pieces of tape, and mail it to the address listed on the other side.

2934

Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: Nancy B. Whipple

Address: POB 904  
82 No. Summer St.  
Edgartown, MA 02539

Phone Number (Please include area code): 508.627.5623

Email Address: whiplen@adelphia.net

Please state your questions/comments in the space below:

Dear Sirs,

While I am not opposed to  
alternative energy resources, I am  
very much opposed to the location  
chosen in this instance.

The cost of this "invasion" is  
staggering, and the return minimal.

Please do not proceed with the  
offshore wind project in Nantucket Sound.

Nancy B. Whipple (CWR)

Please fold this questionnaire in half, affix two stickers or pieces of tape,  
and mail it to the address listed on the other side.

2935

Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: JANE DRISCOLL

Address: 118 PROSPECT ST  
BENJAMIN Pt 02478

Phone Number (Please include area code): 617-484-3432

Email Address: J14YPORT@AOL

Please state your questions/comments in the space below:

IT IS LAND GRAB THERE ARE UNRESERVED  
BOUNDARIES DEVELOPERS' PAY NOTHING FOR  
OCEAN SANCTUARY + TRANSFORM IT INTO  
AN INDUSTRIAL SITE WITH BLENDED  
LIGHTS + NOISE. THERE IS POTENTIAL FOR  
OIL SPILL, BOATING DANGERS, AVIATION  
DANGERS, NEGATIVE IMPACT FISHING COMMUNITY  
+ PROBABLY TO SAY NOTHING OF PROGS  
TO BIRDS (NATIVE + MIGRATING)  
PROJECT WOULD NOW CONTINUED  
SUBSIDIES, WHICH IS IN FIRST PLACE  
REPRESENTABLE, PAYING SOMEONE TO  
MAKE A PERSONAL FORTUNE!  
PROJECT IN DEMAND FOLLOWING - WHO  
WILL DO WHAT IF THAT POSSIBILITY  
BECOMES A REALITY ON CAPS CO?  
WE HAVE EXCESS ENERGY - 25-30% - WE  
DON'T NEED IT NEED MORE TIME  
TO HEAR GOOD IDEAS!

Please fold this questionnaire in half, affix two stickers or pieces of tape,  
and mail it to the address listed on the other side.

2936

Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

Name: MARCIA T. Knowles

Address: 1175 Main Street  
Vineyard Haven  
MA 02568

Phone Number (Please include area code): 508-693-0148  
513 891-8397

Email Address: micromet101@webtv.com

Please state your questions/comments in the space below:

The ocean floor belongs to all of us and should not be donated to a private company - inexperienced, and perhaps giving only a few cents a month in benefits to the citizens of the Cape Cod area.

A restriction on gas guzzling SUV's + Trucks would provide a benefit to everyone, every where!

Bird life will be destroyed, the migratory flocks in large groups will be in great jeopardy.

I read in the newspapers that a much vaunted "wind farm" in Denmark is no longer working as the windmills were faulty!

Why should our Sound + Ocean be disfigured for the questionable Benefits??

Sincerely  
Marcia Knowles

Please fold this questionnaire in half, affix two stickers or pieces of tape, and mail it to the address listed on the other side.

January 19, 2005



2937

Ms. Karen Kirk Adams, EIS Project Manager  
Cape Wind Energy Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742-2721

Reference File #NAE 2004-338-1

Dear Ms. Adams:

The Cape Cod Chamber of Commerce opposes the construction of a wind power plant proposed by Cape Wind Associates (CWA) on 24 square miles of an important public resource situated in an environmental sanctuary known as Nantucket Sound and bounded by Cape Cod, Nantucket and Martha's Vineyard.

We object to the lack of clear legal jurisdiction over this confiscation of a public resource which is demonstrably important to the Cape and Islands economy and way of life. Furthermore, we are dismayed that the review process for this mammoth industrial project has been undertaken by the U. S. Army Corps of Engineers (USACE) under the Rivers & Harbors Act, Section 10, which pointedly deals with navigation issues and structures that potentially impact water borne transit.

Additionally, the review issue is further weakened by the influence of the developer compensating the technical consultants ostensibly objectively chosen by the USACE.

The result is a Draft Environmental Impact Statement (DEIS) that reads like it rolled off the printing presses of the applicant's public relations firm. Is it not significant that in a proposed \$800 million complex project impacting fishing, flying, boating, birds, macroeconomics, aesthetics, culture, history, property values, property rights and national energy policy, that there is not a scintilla of skepticism displayed on any of these issues in the DEIS?

Worried about the economy - no problem, the Europeans say wind turbines attract tourists. Fishing, no worries, structures like this attract fish. Boating and flying, not a problem, the towers will have lights and fog horns. Aesthetics, the USACE doesn't care about property values, they will not be affected. The developer and the Europeans attest to this fact.

Driving all this is a developer and his public relations firm that have consistently stayed on message. Much like a political campaign, CWA maintains that the project will help wean us off Middle East oil, clean our air and save us money as consumers of electricity.

What should have been a basic cost benefit analysis of a sporadic, non-dispatchable energy source integrated into a six-state electricity grid set up for millions of consumers has become a public relations exercise. The result is a report that inflates the benefits of the project as the solution for a national energy policy that is non-existent but yearned for by thousands of Cape and Islanders not fully cognizant of the complexity of a deregulated electric industry.

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Page 2

The DEIS utterly fails to address the general operational conditions of the New England electric power grid. Some of the issues that are not addressed are:

- In a region that already exports power, is this really the ideal place for a new power plant?
- What good will additional power do if we cannot wheel it to the Boston area which is presently constrained because of transmission line deficiencies?
- Where is the transmission line study promised by the Independent System Operator (ISO)?
- Who will pay for transmission line upgrades, the rate payer?
- How will this intermittent source of power be integrated into the system?
- Which plants will be cycled down in Southeastern Mass when the wind blows and power is delivered?
- What happens in the bid stack pricing process when the power promised is not delivered?
- With 60 per cent of generation in New England in bankruptcy, will Federal courts allow for undue financial strain caused by this non-dispatchable source?
- The developer forecasts 40% efficiency on new 3.6 mw turbines that have never been used in an offshore setting in this large an array, is this prudent?
- Is there any agreement or negotiation at present with any carbon fuel plant to shut down or curtail their output should the array of wind turbines be built?
- The ISO has been generally silent about this project, would it not be prudent to publicly interrogate this operational entity?
- Why has the USACE not, at least, acknowledged the fact that both the State and Federal Ocean Commissions have indicated no confidence in this process?
- Why is it not important for the USACE to acknowledge that there are no plans for oil fired generators anywhere in the country and that the use of oil is basically a diminishing fuel source for electricity generation?
- Why is there no discussion of long-term performance / engineering history on these prototype turbines and what is their useful life, given the experience in Europe?

These are operational issues of extreme importance that are left out of the DEIS and lead the observer to believe that the developer has drawn a pass on these vital questions.

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Page 3

(Please refer to Section 1.0 of the Executive Summary)

### Section 1.3

We believe that the case has not been made for a utility-scale renewable energy facility that will reduce dependency on non local non-renewable energy sources.

At 30% efficiency 136 mw would be delivered sporadically, possibly during non-peak demand hours when power already in oversupply would be superfluous and excessive. Redundant fossil fuel plants already cycling down may balk at this operationally fictitious exercise.

### Section 1.4 Summary of Alternative Analysis

The key question not answered by this shallow analysis is why a power plant should be located in an area that already exports power presently and in the foreseeable future only uses 50 per cent of the power generated.

This fact, plus transmission constraints and wheeling the power within Route 128 make the whole exercise curious and perplexing. A casual observer could conclude that the Horseshoe Shoal area would be the easiest most profitable place for the developer to build, therefore, this area would be the best place for the 130 turbines. The land is free and there is no local legal jurisdiction.

### Section 1.5 Summary of Proposed Alternatives

#### 1.5.5 Project Overviews

Our problem with this section is the reference that continues the myth that the power will be distributed to users on Cape Cod and the Islands. N-Star, on their latest December 2004 bills to Cape and Island consumers, twice makes the point that ***“Electricity customers in New England are served by an integrated power grid, not particular generating units.”***

Further, the DEIS section continues to state that the turbine array will easily allow traditional water sheet uses such as fishing and boating, flying and sailing.

This is potentially absurd and numerous experts from these local communities have testified frequently about the difficulty that this wind turbine complex would present to their endeavors.

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Section 1.6 Summary of Environmental Effects

Geology (Section 5.1)

Physical Oceanography (Section 5.2)

No effort is made to evaluate the potential benefits to Cape Cod and Island communities of the sand and gravel existing in the Nantucket Shoals area.

The future beneficial use of this valuable resource to coastal communities would be lost forever to this land grab by CWA. No compensation and no lease fees are even contemplated in this astonishing march towards significant financial gain for the developer.

Benthic and Shellfish Resources (Section 5.3)

Finfish and Commercial / Recreational fishing (Section 5.4)

The DEIS again glorifies anecdotal evidence rendered by proponents from Europe and elsewhere while ignoring the hands-on experience of the Cape Commercial Fishermen Association, the Massachusetts Fishing Partnership, the Cape Hook Fishermen's Association and various recreational fishing groups with real experience. They are adamant that this project threatens their livelihood.

The fishing industry is a significant part of Cape Cod's visitor industry. Our research proves that people come here for a variety of reasons and significantly whether the visitor is a fisherman or not, just the image of the Cape's fishing villages, like Chatham, Harwich and Barnstable are extremely important. The fishing industry is under siege already and it does not need this further threat.

Protected Marine Species (Section 5.5)

Terrestrial Ecology and Wildlife and Protected Species (Section 5.6)

Again, the DEIS does not seriously question the developer's claims. Our answer is that the USACE should listen very carefully to a local respected technical resource – The Center for Coastal Studies (now known as the Provincetown Center for Coastal Studies.)

In their first report, research indicates a rich, varied, marine ecosystem that is vital to a wider and wider circle of marine life nourishment extending beyond even Nantucket Sound.

Their second report, which is about to be released, coordinates these findings and finds more direct connections to a wider circle of marine life in the Gulf of Maine. We strongly believe that the USACE should listen carefully to local scientific expertise, not influenced by the developer's narrow purpose.

Avian Resources (Section 5.7)

We agree with the Audubon Society and other bird experts that insufficient data has been collected on avian species including endangered bird families like the Roseate Tern and the Piping Plover.

A minimum of three years of data should be collected by independent analysts. On the Cape, we close huge swaths of beaches each spring to protect Piping Plovers. No less care should be taken by the USACE in assessing this large industrial development

Cultural and Recreational Resources / Visual (Section 5.10)

At least in this section there is an acknowledgement that certain historic properties on both Cape Cod and Nantucket would be affected by this complex.

The review, however, is limited and does not acknowledge the adverse impact of these huge structures on public beaches on the Cape's south shore. The impact on our visitor industry is reasoned away again by anecdotal evidence gathered from proponents from Denmark and elsewhere. The Chamber's research, which will be referenced in later comments, refutes this notion.

Transportation and Navigation (Section 5.12)

No mention is made in this section of the opposition to the project from ferry boat operators concerned because of their first hand experiences of navigating Nantucket Sound in poor weather conditions. Both The Steamship Authority and the Hy-Line Cruises are opposed to this construction on a very large piece of Nantucket Sound regularly traversed by these companies.

Additionally, the DEIS fails to acknowledge the opposition of the FAA controllers responsible for the safe operation of both commercial and recreational flights in the area. Most of their concerns arise from recreational flights in and out of local airports, considering the 450' height of the structures and the well-known experience of private planes flying at or near these heights in poor weather, especially fog.

This is a serious issue that has been swept under the rug and dismissed by the USACE. The three local airport managers (Hyannis, Martha's Vineyard and Nantucket) however have not overlooked this dangerously potential aeronautic safety problem.

Air and Climate (Section 5.15)

To assume that the project would seriously impact air quality in the region is an assertion without factual foundation.

To begin with, most of our air quality problems come to us on prevailing winds carrying pollutants from the Midwest and the South.

2937

Page 6

Secondly, and more importantly, there is strong evidence that the intermittent nature of this proposed power source would cause the constant cycling of older fossil fuel plants in Southeastern New England in order to blend this non-dispatchable source of power. This cycling of plants could potentially increase the emissions from plants such as Canal and Brayton Point.

Credible authorities believe that this may happen but the DEIS does not contemplate this probability; again, asserting the developer's claims without rigorous objective investigation.

#### Socioeconomics (Section 5.16)

"All big failures are based on false assumptions". The financial analysis which concludes that ratepayers in New England would save \$25 M annually is an exercise which pictures the operation of this complex industry under perfect conditions. There is no consideration given to conditions as they exist and transitional experience that will change over time.

The facts are that 60 percent of generation in New England is in Chapter 11. Federal bankruptcy courts have uncommon power over financial decisions made by generating units. Because of artificial price CAPS and conditions that have led to the dire financial condition of these generators, it is highly unlikely that a system where a bid is placed by power not deliverable would be allowed to take place. Even if the remedy proposed is that the developer would be financially penalized in these situations, these rules are not in place.

Further, the concept of locational pricing is still under discussion. With strong opposition coming from the Attorney General's office it is not apparent that this proposal will prevail.

In all likelihood, because redundancy is required for this form of energy, the method of selling, in order to satisfy the R.E.P., would be in the form of green credits. This new concept favors the developer and tends to paper over the efficiency of an unstable, unforecastable source of power.

All of these facts, plus the expense of undiscussed transmission upgrades ultimately will lead to higher prices for the consumer.

Finally, this section of the DEIS contains a flagrant attempt at spinning a positive set of economic facts for Cape Cod that defies probability. It is astounding and beyond reason that the USACE parrots economic statistics propounded by the developer without rigorous analysis.

This project will basically be a taxpayer supported endeavor that the developer himself acknowledges could not be built without Federal production tax credits, the renewable energy portfolio standards and accelerated depreciation tax mechanisms.

2937

Page 7

Furthermore, somehow the original 50 permanent jobs that CWA described is now 154 jobs and the economic changes induced locally are \$40 million; while the astonishing sum of \$2.0 billion would be generated nationally.

The economic story is completely without foundation and when a thorough objective assessment is made, the following facts are quite evident.

- Manufacturing of the turbines will be at GE facilities not located in New England.
- Assembly will be done in Rhode Island.
- Construction labor will come from Unions (Seafarers and Carpenters) not indigenous to Cape Cod.
- The 50 jobs that are permanent will be skilled maintenance workers, possibly trained at GE facilities and ferried to the units from ports not necessarily on Cape Cod.
- Evidence of a burgeoning wind energy economy that will evolve on Cape Cod has no factual basis. It is unlikely that Research & Development activity would take place here since we do not have the engineering talent or the scientific educational institutions to carry out such activity locally.

In summary, however, we remain unconvinced that it can be proved this would not hurt our base economy.

Over the last ten years, the Chamber has led the region in economic development analysis. We have watched our labor force grow to about 125,000 and we have carefully monitored the changes and trends in how our labor force earns a living.

There is no question that tourism, second home owners, retirees, arts, culture and basic services drive our economy. We have tried to attract clean light industry to our area and we remain open to the inclusion of these jobs in our development objectives. We have found, however, that even these high paying jobs usually have some direct connection to our base industries.

The Chamber, with the help of our legislative delegation, has spent thousands of dollars on fundamental research; including the use of survey and focus groups, on what drives our local economy.

Our conclusions are well documented and all signs point to a complex amalgamation of sea, beaches, fishing, villages, vistas, food, cranberry bogs, marshes, arts, artisans, history, culture and independent expression driving our economy.

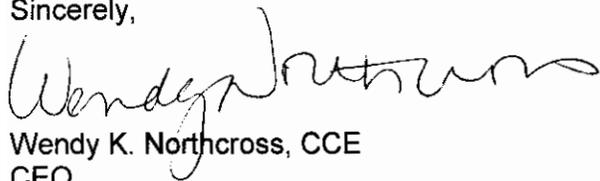
2937

Page 8

As President Kennedy said on many occasions, "I come to walk the beaches on Cape Cod to think".

There is absolutely no evidence whatsoever that a mammoth industrial complex on a significant source of our way of life would have any beneficial effect on our local economy. This is a fiction promulgated by the developer and surprisingly echoed in the flawed DEIS.

Sincerely,



Wendy K. Northcross, CCE  
CEO  
Cape Cod Chamber of Commerce

2938

KENT A. HEALY Sc.D. PE  
Civil Engineering  
1 Farms End Road  
P.O. Box 128  
West Tisbury, MA 02575  
(508 693 6736)

January 20, 2005

Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Corps of Engineers,  
New England District  
696 Virginia Road, Concord, MA.  
01742-2751

Dear Ms. Adams:

The proposed Cape Wind Project would be an important contribution to Societies upcoming transition from petroleum fuel. The adverse affect of the towers and turbines on Nantucket Sound would be no greater than the present adverse affect of marine traffic and fishing, in fact the project might benefit The Sound by ensuring an area free of marine traffic.



Kent A. Healy  
PE Mass. #28498

RECEIVED

JAN 24 2005

U.S. ARMY CORPS OF ENGINEERS

1/24/05

HELLO:

I AM AGAINST THE CAPE <sup>2939</sup>  
WIND ASSOCIATES PLAN TO  
INSTALL 130 WIND TURBINE  
GENERATORS ON HORSESHOE  
SHOAL IN NANTUCKET SOUND

*James D. Berry*

JIM BERRY  
P.O. Box 307  
West Harwich, MA 02671-0307

Mrs. Robert W. Small  
3 Ocean St.  
New Bedford MA 02740

1/26/05

3940  
2940

Army Corps of Engineers  
696 Virginia Rd  
Concord - MA 01742

Dear Mrs Adams,

I'm writing to let the Corps know that I'm very much in favor of the Wind-farm to be placed off Massachusetts and Martha's Vineyard. It will do much for the energy needed in this area as well as cut down the use of Oil and Coal and also protect the environment.

People against it are so selfish and are not thinking of our children in the years to come.

I wish I could turn into hundreds of people to write them.

Hopefully the project will proceed. I'm enclosing an article my son sent to me from Westbury, N.Y.

Yours  
Mrs. Small

~~3940~~ 2940

BUS

## Tennessee wind farm expansion

■ With the addition of 15 larger turbines, the farm can now generate 29 megawatts - enough for 3,000 homes.

OLIVER SPRINGS, Tenn. (AP) - With a "whoosh, whoosh, whoosh," the graceful blades of 18 windmills on the South's first commercial wind farm are now producing enough clean power to be seen as more than just an experiment.

When the farm opened with three turbines in 2001, it generated a mere 2 megawatts of electricity, enough for just 360 homes. But the December addition of 15 larger turbines - each as tall as a 26-story building - boosted the capacity to 29 megawatts, enough for 3,000 homes.

"Magnificent," said Rick

Carson, the Tennessee Valley Authority's renewable operations manager, as he gazed out on the windmills dotting a two-mile forested ridge atop Buffalo Mountain.

Still small in comparison to big wind farms in the Great Plains and Pacific Northwest, TVA's expanded operation is huge for the Southeast, where there is less reliable wind.

TVA is the nation's largest public utility, serving about 8.5 million people in Tennessee and parts of Kentucky, Virginia, North Carolina, Georgia, Alabama and Mississippi.

The new turbines rise

262 feet, 49 feet taller than the three originals. Their seven-ton, 135-foot-long white blades can be seen for miles.

Despite their size, the spinning rotors can barely be heard over the mountain breeze or the coal mining that continues farther down the mountain.

Privately financed by Invenergy LLC of Chicago, the \$30 million expansion is expected to help erase a supply deficit in TVA's Green Power Switch renewable energy program, leaving a surplus that could be sold to other utilities.

Fears that a wind farm would be a blight on mountain vistas have caused problems elsewhere for TVA.

Chattanooga homeowners blocked TVA's first proposed site on Lookou

iness

## nds to generate more power

1 Mountain five years ago so  
2 TVA came to Buffalo  
3 Mountain, about 30 miles  
4 west of Knoxville.

5 North Carolina Attorney  
6 General Roy Cooper, now  
7 threatening to sue TVA  
8 over its coal plant pollu-  
9 tion, raised similar con-  
0 cerns in 2003 when TVA  
1 suggested a second clean-  
2 energy wind farm near the  
3 North Carolina border in  
4 Mountain City, Tenn.

5 With few other sites  
6 offering enough available  
7 wind - the turbines need a  
8 14 mph breeze to generate  
9 power - TVA returned to  
0 Buffalo Mountain with an  
1 expansion plan and a 20-  
2 year, \$60 million power  
3 purchase offer to lure pri-  
4 vate investor Invenergy.

5 "I can't say I've had the  
6 first complaint," said

Anderson County Mayor  
Rex Lynch, other than tiny  
Oliver Springs' demand to  
be paid for roads damaged  
in hauling the heavy tur-  
bines through town. TVA  
and its contractors wrote  
the town a \$35,000 check.

The expanded wind farm  
can now be seen some 10  
miles away in downtown  
Oak Ridge, home to a large  
Department of Energy  
nuclear weapons and ener-  
gy research complex.

"I think Oak Ridgers are  
proud of it and like to show  
it off when they have visi-  
tors in town," Oak Ridge  
Mayor David Bradshaw  
said.

Environmentalists have  
championed TVA's Green  
Power Switch program,  
which has 7,156 residen-

tial and 339 business cus-  
tomers paying premium  
prices for renewable ener-  
gy.

"Nobody from Kentucky  
south or Louisiana east  
has done this much," said  
Stephen Smith, director of  
the Southern Alliance for  
Clean Energy.

Unlike some utilities,  
such as Florida Power &  
Light, that are selling cus-  
tomers green power made  
outside the region, TVA's is  
homegrown.

"Now there is a lot of  
rumbling going on," Smith  
said, "because TVA has  
demonstrated that it can  
be done and these turbines  
are performing well."

---  
On the Net  
TVA: <http://www.tva.gov>

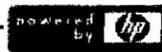
**Joe D's Masonry & Westerly Community Credit Union...**

2941 394T

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**Date:** Mon, 24 Jan 2005 17:32:29 -0800 (PST)

**From:** "Connie Martin" <csniurb@sbcglobal.net> Add to Address Book

**Subject:** Cape Wind Energy Project

**To:** windcomment@essgroup.com

cc: by mail  
 Secretary Ellen Roy Herzfelder  
 Executive Office of Environmental Affairs  
 Attn: MEPA Office  
 Anne Canady EOE No: 12643  
 100 Cambridge St.  
 Suite 900  
 Boston, MA 02114

Colonel Thomas L. Koning  
 District Engineer, US Army Corps of Engineers,  
 696 Virginia Road  
 Concord MA 01742

Dear Sirs and Mesdames:

I own property at 14 Jaybird Lane, West Yarmouth, MA 02673.

I have concerns that wind turbines could adversely affect bird, marine mammal and benthic populations.

However, I feel that it is extremely important for us to develop renewable energy resources, not only for the environmental benefits, but also for national security purposes.

I believe that this development ought to proceed.

I also believe it should do so in a manner that protects our wildlife and natural resources.

As with everything in life, balance.

3941  
2941

With best regards and support,

Cornelius S. Martin  
2584 E. Fairway Village Dr.  
Greenfield, IN 46140

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397E 294Z

236 DEDHAM ST.

DOVER, MA. 01930

JAN. 26 '05

KAREN KIRK ADAMS, CAPE WIND ENERGY PROJECT EIS PROJECT MANAGER  
CORPS OF ENGINEERS, NEW ENGLAND DISTRICT  
696 VIRGINIA ROAD

CONCORD, MA. 01742-2751

REFERENCE FILE NO. NAE-2004-338-1

RECEIVED

JAN 27 2005

PROJECT DIVISION

GENTLEMEN:

NOTES AND LETTERS OF THIS SORT SHOULD BE SHORT AND TO THE POINT. MY NOTE IS TO EXPRESS SUPPORT FOR THE CAPE WINDS NANTUCKET SOUND PROJECT, BUT THE TOPIC IS EXTREMELY COMPLEX AND I FIND IT IMPOSSIBLE TO BE BRIEF.

ENERGY IS TRULY A NATIONAL ISSUE. WITHOUT AN ABUNDANT SUPPLY OF QUALITY ENERGY OUR ECONOMY, SOCIAL STRUCTURE, SECURITY ARE ENDANGERED. FROM MY PERSPECTIVE OUR NATION HAS BLISSFULLY IGNORED THIS CRITICAL ISSUE. CONGRESS HAS NOT EVEN BEEN ABLE TO PRODUCE AN ENERGY BILL. THE CONCEPT OF THE NEED FOR A NEW AND IMPROVED ENERGY INFRASTRUCTURE HAS NOT BEEN RECOGNIZED IN SPITE OF THE NEED TO DO SO. AS A NATION WE ARE FAR TOO RELIANT ON FOREIGN SOURCES FOR OUR ENERGY SUPPLY. THE NEWER PROSPECTIVE ENERGY FIELDS SEEM LOCATED IN MORE AND MORE REMOTE GEOGRAPHICAL SITES. JUST A LITTLE THOUGHT BRINGS RECOGNITION THAT OUR NATION MUST CHANGE WITH REGARD TO ENERGY, AND THE SOONER WE START THE

(2)

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LESS DISRUPTIVE TO DAILY LIVES WILL THIS CHANGE BE. THE CAPE WINDS PROJECT IS PRECEDENT SETTING AND WE CANNOT AFFORD TO PUT OFF AN INITIAL EFFORT IN THE START OF WHAT NEEDS TO BE A HUGE CHANGE IN INFRASTRUCTURE.

IT IS EXTREMELY DISAPPOINTING TO RECOGNIZE THAT THE ARMY CORPS HAS NOT TRAVELED TO EUROPE WHERE THERE ARE NOW MANY OFFSHORE WIND FARMS IN OPERATION AND AVAILABLE FOR YOUR REVIEW. THOSE SYSTEMS NOW IN ACTION CAN ANSWER MANY OF THE QUESTIONS BROUGHT UP.

LIKE MANY OTHERS, I ALSO CAME TO LOVE THE CAPE AND ISLANDS FROM SOME TIME BACK. IT WOULD SUIT ME JUST FINE WERE THIS GEOGRAPHY TO CONSIST OF SHANTY SHACKS ON THE BEACH WITH KEROSENE LAMPS, HAND PUMPED WATER, SINGLE BURNER PROPANE STOVE, AN A 'ONE-HOLER' OUT BACK SOMEWHERE. THIS GEOGRAPHY HAS GROWN EXTENSIVELY BEYOND THAT VISION AND WITH ITS GROWTH HAS COME A DEMAND FOR MORE ENERGY, ANY FUTURE GROWTH WILL REQUIRE MORE ENERGY. THE CURRENT FOSSIL FUEL PLANTS HAVE NOT ONLY DAMAGED OUR AIR BUT ALSO THE BELOVED OCEAN AND ITS LIFE. THE NEARBY NUCLEAR PLANT AT PLYMOUTH HAS ASKED THAT ITS CURRENT OPERATING LIFE BE EXTENDED FOR ANOTHER 20 YEARS. DO YOU WISH TO BE LIVING NEXT DOOR AT YEAR 39? THE COMPANIES OPERATING THE FOSSIL FUEL GENERATING PLANTS ARE BANKRUPT AND

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TO WORK TO SOMEWHAT CLEAN THEM UP WILL SURELY BRING A RISE IN CONSUMER COSTS AND STILL PRODUCE GREENHOUSE EFFECTS AT BEST. THE EXPERIENCE WITH NUCLEAR GENERATING PLANTS HAS INVOLVED:

- ① UNIVERALLY HUGE CONSTRUCTION COSTS OVER-RUNS
- ② NO UNIVERALLY ACCEPTED EVACUATION PLANS
- ③ STILL NO PLACE TO SAFELY STORE SPENT RADIOACTIVE WASTE FOR THE NEXT 10,000 YEARS
- ④ NO SAFETY FROM TERROR ATTACK

REVIEWING THE ARMY CORPS ENVIRONMENTAL IMPACT REPORT SUGGESTS THAT ONE OF THE MAJOR OBJECTIONS TO CAPE WINDS INVOLVES THE VISUAL AESTHETIC IMPACT OF THE PROJECT. I AM REMINDED THAT THERE WERE MAJOR SQUAWKS AS THE EIFFEL TOWER WENT UP; IT IS NOW A MAJOR POSITIVE SYMBOL AND ATTRACTION. CLEARLY THINGS ARE VERY MUCH EVALUATED IN THE EYES OF THE BEHOLDER. I NEVER THOUGHT THE MONA LISA HAD A SMILE AT ALL, MUCH LESS AN ATTRACTIVE ONE. TRAVELING TO ALMOST ANYONE OF THE SMALL "PICTURESQUE" NORTHEAST HARBORS ONE NEEDS TO RECOGNIZE WHAT ONE SEES WHEN GAZING FROM HARBOR SHORE OUT TO SEA. THIS VISION CONSISTS OF A VERY TIGHTLY CONGESTED NEST OF VERTICAL STICKS IN THE AIR ABOVE WATER LEVEL. THESE ARE OF COURSE MOUNTED ON THE SAILING VESSELS WHICH ONLY A FEW OF US ARE WEALTHY ENOUGH TO ENJOY; BUT THE IMAGE IS GENERALLY CONSIDERED A PLEASUREABLE ONE, YET NOT

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SO DIFFERENT FROM WIND TURBINES SPACED IN THE AIR AND PROVIDING POWER WHICH IS AVAILABLE TO MOST OF US TO ENJOY, THE WIND FILLING THE SAILS OF OLD IRONSIDES AS IT ROUNDS BOSTON HARBOR IS NOT ONLY A MAJESTIC SIGHT BUT CARRIES A PATRIOTIC MESSAGE. TO CERTAIN BEHOLDERS THE TURNING OF WIND TURBINE BLADES WITHIN ONE'S VISUAL FIELD ACTUALLY ENHANCES THE VISION AND CONNOTES A POSITIVE SALUTORY EFFECT. OFFSHORE AND LAND BASED WIND FARMS IN EUROPE HAVE BECOME TOURIST ATTRACTIONS AND HAVE NOT BEEN VISIONS OF DIRTY OLD FACTORIES. TRAVEL THROUGH THE SAILBOAT MAST LADEN HARBOR OF MASSACHUSETTS MANCHESTER BY THE SEA ; JUST BARELY EXIT THE HARBOR AND LOOK SOUTH TO THE SALEM MA, COAL UTILITY PLANT AND JUDGE THE VISUAL EFFECT DIFFERENCE. DISCUSS WITH THE PEOPLE IN HULL MA, JUST HOW MANY COME TO VIEW THE TURBINE, JUST WHAT ITS IMPACT IS ON ITS HULL HIGH SCHOOL GROUNDS, JUST WHY THEY NOW HAVE PLANS TO INSTALL A SECOND EVEN LARGER TURBINE, JUST WHY THEY HAVE BEEN THE RECIPIENT OF ENVIRONMENTAL AWARDS.

NO MATTER HOW YOU LOOK AT IT, WORLD OIL SUPPLIES WILL DIMINISH IN TIME AND THIRD WORLD DEMAND FOR OIL WILL DRAMATICALLY INCREASE. IN OUR NEW ENGLAND AREA NATURAL GAS HAS BECOME SHORT IN SUPPLY AND NOTABLY MORE EXPENSIVE. WHILE COAL WOULD SEEM TO BE MORE PLENTIFUL, IT IS DANGEROUS TO

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MINE DEEP IN THE GROUND AND HAS BEEN ENVIRONMENTALLY DEVASTATING WITH MOUNTAIN TOP STRIPPING — THESE SITES ARE NOT AS WIDELY KNOWN AND RECOGNIZED BUT ARE JUST AS MEANINGFUL TO LOCALS AS NANTUCKET SOUND IS TO US. TO BURN COAL CLEANLY WILL BECOME MUCH MORE EXPENSIVE AND WE WILL STILL BE LEFT WITH ATMOSPHERIC CO<sub>2</sub>. IN NEW ENGLAND WE HAVE NO OIL, NO COAL, NO NATURAL GAS, AND VERY LITTLE FOREST TO SUPPLY OUR ENERGY NEEDS, WE DO HAVE SOME HYDRO (STILL, IN THE MINDS OF SOME, A PROBLEM), SOME TIDAL FLOW, SOME WIND AND SOLAR ACCESS. AT THIS POINT WE ARE LARGELY AT THE MERCY OF NON-LOCAL ENERGY SUPPLIERS; AS NON-LOCAL SUPPLIES DIMINISH AND BECOME MORE EXPENSIVE WE WILL BE IN GRAVE DIFFICULTY. NUCLEAR PLANTS CARRY THE BURDENS AND DANGERS LISTED ABOVE. PLEASE NOTE THAT YANKEE ROWE, NOW DECOMMISSIONED, STILL HAS ITS SPENT RADIOACTIVE FUEL ON SITE AND YANKEE MAINE HAS CONSIDERED BURYING ITS SPENT NUCLEAR FUEL ON SITE. HOW SHOULD WE DEAL WITH THIS WHEN OUR TWO MOST RECENT PRESIDENTIAL CANDIDATES AGREE IN DEBATE THAT THE MISUSE OF NUCLEAR MATERIAL CONSTITUTES ONE OF OUR NATION'S BIGGEST THREATS?

IN PARTICULAR IN VIEW OF THE MOST RECENT UNITED NATIONS CLIMATE MEETING IN SOUTH AMERICA, THERE IS NO LONGER ANY EXCUSE TO DENY THE EXISTENCE OF GLOBAL WARMING AND ITS RELATION TO THE USE OF FOSSIL FUELS. IN TIME WITH GLOBAL WARMING THE

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NANTUCKET SOUND SEA SCAPE WILL DRAMATICALLY CHANGE AND I AM NOT SURE WE WILL LOVE AND RESPECT THAT CHANGE. WE WILL CLEARLY HAVE LOSS OF HABITAT AND LOSS OF SPECIES. THOSE WHO ARE NOW WORRIED ABOUT FISH AND BIRDS SHOULD LOOK TO WHAT THE FUTURE OF GLOBAL WARMING HOLDS. IT SEEMS AGREED THAT WE WILL FACE NEW DISEASES AND DISEASE PATTERNS AS CLIMATE CHANGES. AGAIN THE SOONER WE CHANGE OUR ENERGY INFRASTRUCTURE, THE BETTER OFF WE WILL FIND OURSELVES.

HUMAN HEALTH AND WELL BEING ARE CLEARLY RELATED TO AIR AND WATER QUALITY. AIR AND WATER QUALITY WILL HAVE BEARING ON OUR FOOD SUPPLY. WE NOW HAVE DETECTABLE PARTICULATE AIR CONTAMINATION IN CALIFORNIA WHICH STEMS FROM ASIA, NEVER MIND WHAT WE GENERATE ON OUR OWN. WE HAVE NEED TO LEAD IN CHANGE NOT ONLY IN OUR OWN LANDS BUT ALSO IN THE THIRD WORLD. HAVING IODINE PREPARATIONS AVAILABLE TO THE PUBLIC WHICH SURROUNDS NUCLEAR PLANTS WILL BE OF NO IMMEDIATE HELP IN THE EVENT OF A NUCLEAR PLANT INCIDENT. REMEMBER WHAT CHERNOBYL MEANT TO WHAT WAS CONSIDERED A DISTANT EUROPE.

WITH REGARD TO WIND TURBINES, NOISE, LIGHT POLLUTION, SEIZURES FROM STROBE EFFECT, NAVIGATION HAZARDS, BIRD LOSS, BAT LOSS, LOSS OF FERTILITY, LOSS OF REAL ESTATE VALUE, ETC. ARE ISSUES WHICH HAVE NOW BEEN STUDIED AND HAVE BEEN SHOWN TO BE MUCH THE LESSER OF EVILS.

⑦

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THE USE OF FEDERAL PROPERTY FOR "INDUSTRY" USE HAS BEEN DEMONSTRATED IN WESTERN USA. WE HAVE GRAZING RULES AND NOW NEW FORESTRY, MINING RULES FOR PUBLIC LAND. CAPE WINDS HAS AGREED THAT SHOULD RENTAL FEES BE IMPOSED THEY WOULD NOT BE AVERSE. THE FACT THAT CONGRESS DOES NOT SEEM TO BE ABLE TO CREATE ANY ENERGY POLICY WHATSOEVER SHOULD NOT STOP A NECESSARY AND A PRECEDENT, TREND SETTING POLICY WHICH CLEARLY IS FOR THE PUBLIC GOOD EVEN IF OPERATED ON A FOR-PROFIT BASIS — WE DO NEED THIS.

AS I VIEW THE SITUATION WE HAVE NO CHOICE BUT TO CHANGE OUR ENERGY INFRASTRUCTURE, LET IT NOT HAPPEN THAT THIS COUNTRY GO TO WAR TO GRAB AND ANNEX OUR ENERGY SUPPLIES BECAUSE WE HAVE BEEN UNWILLING TO CHANGE. WE WILL PROBABLY NOT BE ABLE TO DO AWAY IN THE NEXT TIME GAPS WITH ENERGY SOURCES WHICH HARM US, BUT NEED TO AND SHOULD DIMINISH OUR USE OF SUCH RADICALLY.

THERE ARE THOSE WHO COMPLAIN THAT A WIND FARM IN NANTUCKET SOUND IS SIMILAR TO LOCATING SUCH AT THE GRAND CANYON, YET TOURIST HELICOPTER FLIGHTS SEEM ROUTINE HERE AND WITHOUT OBJECTION. IN THE DAKOTAS THE MOUNT RUSHMORE MONUMENT CERTAINLY CREATES A MAN MADE CHISEL INTO THE NATURAL LANDSCAPE — HERE AGAIN IT HAS BECOME AN ATTRACTION. THE HOOVER DAM IS ANOTHER EXAMPLE OF RADICAL CHANGE TO THE

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LANDSCAPE / VIEWSCAPE WHICH IS NOW GENERALLY VIEWED AS EXTREMELY FAVORABLE.

WHILE IT IS A DELICATE AND TOUCHY SUBJECT, I SEE NO SENSE IN IGNORING THE VIEWS OF OUR LOCAL POLITICIANS. GOV. MITT ROMNEY OBJECTS TO THE CAPE WINDS PROJECT WHILE HE HAS MADE A GREAT PUBLIC FUSS OVER THE LOCAL "DIRTY FIVE" POWER PLANTS YET NOTHING EFFECTIVE HAS TRANSPIRED TO SOLVE THE SITUATION AND UNTIL VERY RECENTLY (AFTER A LONG LAPSE) THERE HAVE BEEN NO EQUIVALENT ALTERNATE ENERGY PROPOSALS ON THE TABLE. OUR ATTORNEY GENERAL REILLY OBJECTS TO CAPE WINDS YET HE IS PARTNER TO A MULTISTATE EFFORT TO CLEAN UP THE ENVIRONMENT, ASSURE AIR QUALITY, ETC.; HERE AGAIN THERE ARE NO SUBSTITUTE PROPOSALS FOR RENEWABLE ENERGY SYSTEMS. REPRESENTATIVE DELAHUNT OBJECTS YET HE SEEMS OBLIVIOUS TO THE ADDITIONAL POSITIVE IMPACT OF A DISCUSSED WIND TURBINE, TOWER, OUT-TO-SEA BARGE MANUFACTURING COMPLEX AT THE FORE RIVER SHIP YARD IN HIS DISTRICT OF QUINCY MA.; HERE ARE JOBS IN ADDITION TO ENVIRONMENTAL BENEFITS AND HERE, IN COMPETITION WE HAVE THE RHODE ISLAND GOVERNOR PROPOSING A RHODE ISLAND LOCATION FOR SUCH MANUFACTURE. THE KENNEDY CLAN, STRONG ENVIRONMENTALISTS OR NOT, JUST SEEM TO BE NIMBY GROUP MEMBERS. WHAT PLANS DO THEY HAVE FORTHCOMING FOR RENEWABLE ENERGY PRODUCTION? IT SEEMS WE HAVE A COLLECTION OF NEVILLE CHAMBERLAIN'S OVER THE ENERGY ISSUE.

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IF WE CAN CONCLUDE, AS MOST WOULD, THAT THE FUTURE ECONOMIC GROWTH IN THIS NATION WILL REQUIRE THE GENERATION OF MORE ELECTRIC POWER AND ITS TRANSMISSION TO LOCATION OF USE, THAN WITH A CURRENT HIGH VOLTAGE TRANSMISSION SYSTEM IN NEED OF SIGNIFICANT UPGRADING, WE NEED TO RECOGNIZE THE NIGHTMARE UPHEAVALS THAT THE CONSTRUCTION OF NEW HIGH VOLTAGE TRANSMISSION LINES WILL AWAKEN. THE RESPONSE TO THIS SITUATION LOOKS TO A DISTRIBUTED GENERATION SYSTEM WHEREIN POWER IS GENERATED CLOSE TO ITS SITE OF USE. ALTHOUGH THE CAPE WINDS PROJECT IS SIZABLE IT WILL NOT REQUIRE MUCH IN THE WAY OF NEWLY CONSTRUCTED LAND BASED HIGH VOLTAGE TRANSMISSION. THIS STATUS WOULD SEEM TO HOLD FOR MOST OFF SHORE WIND FARM POWER PRODUCTION.

SINCERELY,

Robert A. Loebelez (LOEBELEZ)

~~3942~~  
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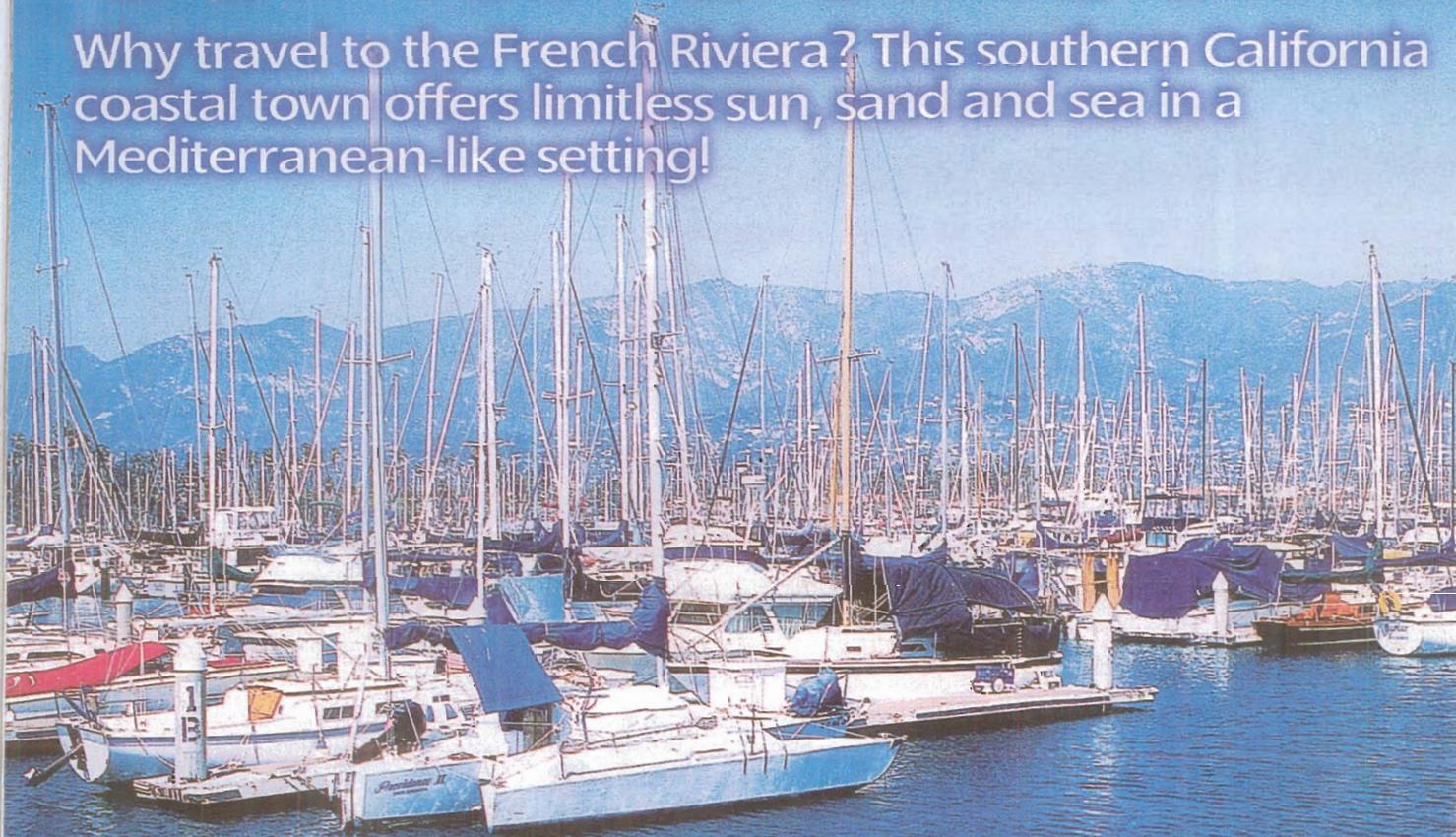
PLEASE NOTE WHAT THE VIEW BECOMES WHEN LOOKING  
FROM SHORE, DOCK, OR BOAT DECK

BEAUTIFUL

# Santa Barbara

~~2942~~  
2942

Why travel to the French Riviera? This southern California coastal town offers limitless sun, sand and sea in a Mediterranean-like setting!



**B**ackdropped by the massive Santa Ynez Mountains and fronted by the Pacific Ocean, Santa Barbara—with its red tile roofs, swaying palms and golden sand beaches—has the look of a lush, sun-splashed Mediterranean coastal town. The American Riviera, as it's come to be called, was originally settled in the 1700s by Spanish soldiers and priests. Take the self-guided Red Tile Walking Tour of downtown—as you gaze on the beautiful Moorish-inspired buildings that evoke Santa Barbara's Spanish Colonial past, you'll understand why the city takes such pride in its heritage. But despite the Old-World atmosphere, Santa Barbara is also a thriving modern city, home to a vibrant arts scene, world-class restaurants and an unending list of things to see and do. If you're visiting soon, you can snap your castanets and click your heels at the Old Spanish Days Fiesta (August 4-8). A celebration of Santa Barbara's Spanish heritage, it offers up parades, a rodeo, lots of great food and a Mariachi

## Celebs you may see there



Brad Pitt and Jennifer Aniston



Mike Myers



Charles Theron

**S**ome of Hollywood's biggest stars hang out around Santa Barbara—so do you walk into a restaurant and see Rob Lowe, Kathy Ireland, Mike Myers and Jennifer Aniston or John Travolta? Also spotted around town recently: James Van Der Beek, Kevin Costner (who's pa

①

Jan. 21, 2005

Dear Army Corps of Engineers  
New England District:

2943

Karen Kirk Adams,

Concerning the wind power factory proposed for Horseshoe Shoals in Nantucket Sound. There is an enormous danger to personal property and more importantly to people, if this project goes through. Storms, winds + rough seas pulling boaters into the turbine field will trap them there. The Stranded people won't be able to call for help. Cell phones, won't work because of the loud noises of the turbines, G.P.S.'s won't work because of air waves interference. Ship to Shore Radios won't work, for the same reasons, either. The wind turbine field will be a death trap. Locating it in Nantucket Sound is right between Cape Cod + Two heavily populated islands: Nantucket and Martha's Vineyard. The Safety of people who live on Cape Cod + Nantucket and Martha's Vineyard + frequently travel back + forth across the Sound all year round, as well as vacationers who choose this area of the country for rest + relaxation will be compromised. Not only will they

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not be able to enjoy any peace and quiet, because of the noise + blinking lights of the wind towers, they will be in danger of being killed or maimed if they become trapped in the turbine field. Who then, becomes responsible for the damage to life and property?

If they (the turbines) have to be built, why not far away from land + people so they don't pose such a threat. With regards to this, why not locate them far out in the ocean where they are less of a danger, to people, wildlife, marine life and property.

This project is going to be extremely expensive, to build + maintain. We do not need more electricity. Why can't we, instead of building dangerous, expensive, polluting new technology, improve on existing technology + improving conservation.

In light of the recent earthquakes and tsunamis around the world, should we even entertain the idea of building wind towers that would be turned into deadly havoc reeking projectiles, hurling through the air carving a path of destruction + devastation double to Mother Nature's, just by their presence?

There is a great deal more at stake here than the loss of views, devastation to marine + wild life, + the

loss of jobs, businesses, tourism, <sup>③</sup> + fishing + boating.  
 This is very dangerous, + deserves a great deal more  
 thought + consideration. Nantucket Sound is unpredictable.  
 Sometimes it's windy, many times it's not. It's subject  
 to dangerous hurricanes, which we are overdue to have  
 [The reason so many insurance Companies have pulled  
 out of the area] add to that the destruction the wind  
 farm would cause during such a storm the damage  
 would be catastrophic.

Wind turbines are not the benign, non polluting, cheaper  
 energy producing alternative to fuel, they are touted to be  
 by the media. They are dangerous. They will be built by  
 the cheapest method possible to produce the largest  
 profit for the developer. They will have many problems.  
 (i.e. The Big Digs) They will destroy a beautiful, functional,  
 recreational natural resource. Be a constant danger  
 to man and animals, present navigation + communication  
 hazards that were previously not present in the Sound  
 not produce enough energy to benefit the area, they will  
 ultimately destroy. They still require the very fuel  
 they are suppose to replace in order to run. So

What is the point? The <sup>4</sup> point is profit. This is a business endeavor under the guise of clean renewable energy for the public good. Once the president has been established, Water based businesses will be cropping up + down the entire East coast. These businesses may come up with some scheme to avoid paying taxes or worse shift that burden to tax payers already paying plenty of taxes.

We had better give this project far more attention and analysis than we have so far. It seems to be slipping through the regulating process with far too much ease for the consequences it will create. Will the A.C.O.E. be able to guarantee the public + the Environment, safety, no accidents, no oil spills, no loss of life, no danger to Cape Cod, Nantucket, + Martha's Vineyard residents + visitors? You would have to before giving it your stamp of approval, wouldn't you.

Thank you for reading this letter + considering these concerns, voiced by many more people than just myself.

Yours Truly.

Abigail C. O'Brien  
P.O. Box 416, 53 Bridge St.  
Osterville,  
MA 02655

2944

Karen Kirk Adams  
Cape Wind Energy Project  
EIS Project Manager  
Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

24 January, 2005

Dear Ms Adams,

Below please find the testimony I had prepared to give at the public hearing on the Cape Wind energy project at MIT on Thursday, December 16<sup>th</sup>, 2004. I was unable to give my testimony because of the volume of comments. Please include my comments in the full record. Thank you very much.

Sincerely,



Dr. Eric Olson, Ph.D.  
858 Watertown St.  
Newton, MA 02465 617-558-6866

#### TESTIMONY

"Good evening Colonel Koenig and Ms. Adams, thank you for your attention tonight. My name is Eric Olson, and I speak tonight as a resident of Newton and a part-time resident of Wellfleet, and as a member of the board of the Green Decade Coalition/Newton, the principle grassroots environmental organization in the City of Newton. I am a professional ecologist and energy activist, and given this combination of interests the Green Decade Coalition board recently asked that I summarize the findings of the Draft Environmental Impact Statement for this project and make a recommendation pro or con. After I provided the board with my brief summary of the DEIS the Board voted 14 to 2 in favor of Cape Wind. So the Green Decade Coalition/Newton does endorse this project.

I was among the majority on that vote, and could list the reasons why I feel so strongly that this project is worthy of your approval. Instead I would like to reflect on the reasons many people give for opposing the project. Many are upset for reasons that are not readily quantified and therefore given short shrift in the formal DEIS process, which is based primarily in science and engineering. Their objections are aesthetic in nature, coupled with a kind of sister emotion I think, of nostalgia for a time when our coastal horizons were presumably uncluttered by man-made objects. As someone who loves a good view too, I certainly feel at times a nostalgia for the days when the world had more open places. I think most thoughtful people will sympathize with these sentiments, and I think we all should reflect on them.

3944

I am fortunate to have a great place to do such reflecting, for I am often able to walk the Great Beach of Wellfleet, a place protected for forty-something years now by the Park Service as a National Seashore. This is the same stretch of beach that Thoreau walked, and wrote about. And so I ask myself, what would Thoreau do? Well, what would Thoreau have seen, as he gazed seaward? A flat, unobstructed line? No, the truth is he and many now long-gone residents of the Cape and of the Islands would have usually seen wind machines. Yes that's right, wind machines, scores of them at times! In his articles about Cape Cod, turned into a book after his death, Thoreau mentions seeing "numerous vessels at this great distance in the horizon on every side." Today we call some of these vessels the Tall Ships, and when a modern-day replica or restoration of a Tall Ship appears on the horizon it makes me and many others catch our breath in awe. The great masts of the Tall Ships, hewn from New England's white pine giants, were once part of the view off of Cape Cod, and Nantucket, and Providence, and New Haven, and Long Island, and Denmark too, every day, from the predawn light until full dusk. Like the Tall Ships of old, wind turbines make the wind visible. Like those mighty Tall Ships, wind turbines can bring a valuable good to our shores, and do so silently, and without pollution. The truth, is our nearby seas have long been highways of commerce, and sea-going humans have harnessed the wind for not just hundreds but for thousands of years. Viewed in this way, distant off-shore wind turbines can link the past and future of our great coastline in a most extraordinary way. May these new great sails be unfurled! Thank you." (Signed Eric J. Olson, Ph.D.)

cc: Secretary Ellen Roy Herzfelder, Commonwealth of Massachusetts' Executive Office of Environmental Affairs

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January 12, 2005

Dear Corps of Army Engineers,

I have been a shellfish farmer for 18 years in the town of Orleans Mass. Prior to that I was a commercial fisherman for 8 years in the town of Chatham Mass. I have fished in Nantucket Sound for sea clams, mussels, horseshoe crabs, and flounder. In the waters adjacent to the Sound I have fished for scallops, quahogs, soft shelled clams, ground fish, flat fish, lobsters, sea scallops, and tuna fish. I am presently a shellfish farmer in the adjacent waters and I have been doing so for 18 years. My feelings are that the Wind Farm will have no impact commercial fishing in the Sound. I feel that additional electricity will be beneficial to the residents of Cape Cod. These residents are dependant on fossil fuels which lead to global warming and global inflation. With the war in Iraqi the need for alternative energies are more obvious then ever. The main benefit of the wind farm is that it will force the utility companies to realize there are alternatives to fossil fuel

Sincerely,  
Peter Orcutt

Signature



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JAN 27 2005

U.S. ARMY CORPS OF ENGINEERS

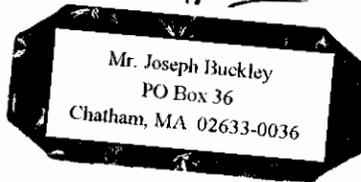
Karen Adams  
U S Army Corp of Engineers  
Reg DIV.  
696 Virginia Rd  
Concord, Ma. 01943

1/24/05

3946  
2946

Dear Karen - Re: "Wind Farm"

- 1) I think that any decision regarding the Go Ahead of the Wind Farm should be POSTPONED UNTIL Congress has a chance to ACT on a Plan for any other WIND FARMS - in the Oceans.
- 2) Sooner or later the Generators will have to be replaced or will become obsolete. What are your plans for this long term event? Who will pay. What Guarantee?



*JB*

P.S. I am ~~opposed~~ opposed the Wind Farms.

Hildegarde Hannum  
P. O. Box 190  
Old Lyme, CT 06371

3947  
2947

January 24, 2005

Karen Kirk-Adams  
U.S. Army Corp of Engineers  
New England District  
Cape Wind Energy EIS Project  
696 Virginia Road  
Concord, MA 01742

re: Nantucket Sound wind farm

Dear Ms. Adams:

Wind energy is what we urgently need in order to reduce reliance on fossil fuels.

As for wind energy in Nantucket Sound, I think the draft EIS is comprehensive and reasonable. Although the wind farm will have certain drawbacks, they will be minor, and the advantages are great.

It will be a pace setter. It will provide what we need: clean, renewable, and efficient energy; energy that protects public health instead of threatening it; energy that protects the environment instead of polluting it, reducing greenhouse gas emission.

I would like to point out to those who complain that it will be unaesthetic: cell-phone towers are more unattractive, and I don't hear a public outcry about them.

Sincerely,

*Hildegarde Hannum*

2948

**Williamstown Cities for  
Climate Protection Committee**

*Municipal Building  
31 North Street  
Williamstown, MA 01267*

Jane B. Allen, Chairman  
PHONE 413-458-3500  
FAX 413-458-4839  
E-Mail  
jallen@williamstown.net

January 25, 2005

Karen Kirk Adams  
Cape Wind Energy Project  
EIS Project Manager  
Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

Dear Ms. Adams,

At its January 4 meeting, the Williamstown Climate Action Committee voted unanimously to endorse the Cape Wind energy project. We recognize the need for investment in renewable energy and concur with the Army Corps of Engineers' findings that the environmental, public health, and economic benefits of the Cape Wind project greatly outweigh the small environmental costs. Please add our support to the support of others for the project.

Sincerely,



Jane B. Allen  
Chairman

Sincerely,

Jane B. Allen  
Chairman

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JAN 27 2005

THE TOWN ENGINEER

2949

P.O. Box 3407  
Waquoit, MA 02536

January 15, 2005

Karen K. Adams  
U.S. Army Corps of Engineers  
New England District, Regulatory Division  
696 Virginia Road  
Concord, MA 01742-2751

Re: NAE-2004-338-1

Ms. Adams:

We are writing in support of the application of Cape Wind for the installation of 130 wind turbines on Horseshoe Shoal in Nantucket Sound.

We feel the positive aspects of this proposed project far outweigh the negative. Although a national policy on wind energy should be developed, its promulgation and adoption will take far too long to accomplish as the United States lags behind more farsighted nations which use wind to offset polluting fossil fuels, thereby reducing global warming. Meanwhile the pollution from oil and coal-fired power plants will continue to endanger the health of far too many people, a much more serious consequence of power generation than the "visual pollution" of a wind turbines cited by the opponents of the wind farm. Regarding the charge of "using public property for private gain", we are confident that Cape Wind will lease the Shoal area from the federal government if that is requested.

Being in our seventies, we are admittedly impatient about the slow pace of the approval process, and we support the acceptance of clean energy as soon as possible for the benefit of the children and grandchildren of all Cape Codders.

Sincerely,



T.W. Osler Abbott  
Jayne B. Abbott

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JAN 07 2005

U.S. Army Corps of Engineers

2950

Comment Sheet  
On Draft Environmental Impact Statement (EIS)  
For the proposal for an Offshore Wind Project  
In Nantucket Sound

RECEIVED  
JUN 17 2005

Name: Steven Cressy

Address: 12 Evergreen Dr  
Sandwich MA 02563

Phone Number (Please include area code): 508-428-8792

Email Address: \_\_\_\_\_

Please state your questions/comments in the space below:

Nantucket Sound belongs to the people of  
the US. I should not be used as a  
factory for private enterprise.

If this area is taken for the "good" of  
the public then it needs to stand on  
its own merit. It cannot be subsidized  
by the Federal Government.

I am totally against this project for  
environmental reasons but mostly for practical  
reasons. Years back there was a  
wind generator in Cuddytown. Where is that  
today? Why is no one talking about it  
Technology has improved, but has it  
improved to the level you can put a  
large quantity of these generators out to sea?

I would consider changing my opinion if "1" unit  
could be built and operated for 2 years, using  
private funds. This is the only way to stop

Please fold this questionnaire in half, affix two stickers or pieces of tape,  
and mail it to the address listed on the other side.

Speculation on both sides of the issue

Thank you, Steve Cressy

2951

**Adams, Karen K NAE**

---

**From:** sjdunnejr@yahoo.com  
**Sent:** Tuesday, January 25, 2005 2:46 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Stephen Dunne  
7 Marsh Ave  
Worcester, Massachusetts 01605

2952

**Adams, Karen K NAE**

---

**From:** trippysgirl609@hotmail.com  
**Sent:** Tuesday, January 25, 2005 5:56 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Michelle Ginther  
PO Box 4032  
221 Clinton St  
Delaware City, Delaware 19706

2953

**Adams, Karen K NAE**

---

**From:** Steve1a5@aol.com  
**Sent:** Tuesday, January 25, 2005 9:40 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Stephen Hill Jr

2954

**Adams, Karen K NAE**

---

**From:** aldedios@yahoo.com  
**Sent:** Wednesday, January 26, 2005 12:29 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Alicia De Dios  
1331 Highland Ave Apt 212  
Duarte, California 91010-3812

2955

**Adams, Karen K NAE**

---

**From:** btmao@planet-save.com  
**Sent:** Wednesday, January 26, 2005 12:43 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Boon Yeong Goh  
Singapore  
Singapore, 730507  
Singapore

2956

**Adams, Karen K NAE**

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**From:** beave222@care2.com  
**Sent:** Wednesday, January 26, 2005 4:56 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Carol Straub  
5900 Alexander Lane  
Victoria, Armed Forces Americas V8W 3M6  
Canada

2957

**Adams, Karen K NAE**

---

**From:** dawnvegetarian@aol.com  
**Sent:** Wednesday, January 26, 2005 6:41 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Dawn Stanzione  
55 Greene Ave.  
Barrington, Rhode Island 02806-1352

2958

**Adams, Karen K NAE**

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**From:** amoressa9@hotmail.com  
**Sent:** Wednesday, January 26, 2005 8:36 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Susan Hansen  
4678 Ammon Dr  
Holt, Michigan 48842

2959

**Adams, Karen K NAE**

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**From:** wolfdove@peoplepc.com  
**Sent:** Wednesday, January 26, 2005 10:32 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Sandy Garcia  
4102 Ambler Way  
San Jose, California 95111

2960

**Adams, Karen K NAE**

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**From:** courtneymshaw@yahoo.com  
**Sent:** Thursday, January 27, 2005 2:52 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Courtney Shaw  
1031 N, Manchester St.  
Arlington, Virginia 22205

2961

**Adams, Karen K NAE**

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**From:** bearfoots\_1@msn.com  
**Sent:** Thursday, January 27, 2005 4:15 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Constance Anderson  
2180 Newt Huff lane  
Sevierville, Tennessee 37862

2962

**Adams, Karen K NAE**

---

**From:** slrickel@cox.net  
**Sent:** Thursday, January 27, 2005 6:12 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

SHELLY Rickel  
4023 vitsa grande dr.  
san diego, California 92115

2963

**Adams, Karen K NAE**

---

**From:** johnny26@planet-save.com  
**Sent:** Thursday, January 27, 2005 6:38 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Sotirios-George Kazantsos  
18 George Bakatselou Street  
Thessaloniki, Macedonia, 54631  
Greece

2964

**Adams, Karen K NAE**

---

**From:** pulsar\_star55@yahoo.com  
**Sent:** Thursday, January 27, 2005 7:27 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

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U.S. Army Corps of Engineers  
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Sincerely,

Lillian Henderson  
2305 Valhalla Court  
Willow Spring, North Carolina 27592

2965

**Adams, Karen K NAE**

---

**From:** fairydancer@loveable.com  
**Sent:** Thursday, January 27, 2005 9:15 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

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U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Jennifer Langer  
12309 Tanager Lane NW, 106  
Silverdale, Washington 98383

2966

**Adams, Karen K NAE**

---

**From:** pbrant@marclife.com  
**Sent:** Friday, January 28, 2005 8:41 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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Sincerely,

Pat Brant  
2535 Ivey Oaks Rd.  
Cumming, Georgia 30041

2967

**Adams, Karen K NAE**

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**From:** srogers [srogers@rogersfamilyfoundation.com]  
**Sent:** Tuesday, January 25, 2005 3:33 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind Farm

Dear Sir/Madam:

I write to respectfully voice my opposition to the proposed wind farm in Nantucket Sound.

I am a native Massachusetts resident, and care deeply about this state. Nantucket Sound is one of our most treasured natural resources and, I might add, one of the most beautiful pieces of water in North America. To see that beauty marred by giant windmills and turbines would be so sad - another example of man desecrating nature's beauty. There must be another location, less pristine and less visible, that is more appropriate for this wind farm. More research into alternative sites must be performed.

More importantly, I have piloted many boats throughout Nantucket and Vineyard Sounds for many, many years, and I have absolutely no doubt that these windmills will be an extreme hazard to navigation. The fog can roll in on these waters in an instant, putting even experienced navigators in peril. Given the huge amount of inexperienced boaters we see in the area during the summer, I cannot begin to think of the serious accidents that will occur in and around these towers when the atmospheric conditions deteriorate. No person familiar with these waters can argue this point - many inexperienced boaters will hurt themselves and their passengers due to collisions with the towers in the fog. That is a guarantee.

I also fear for the safety of the many pilots who fly airplanes over these waters. They are constantly flying overhead during the summer, to and from Nantucket, Hyannis and the Vineyard. Again, the fog will wreak havoc with the pilots' ability to operate aircraft in this area.

Because of the issues I have outlined above, I urge you to recommend that this wind farm NOT be constructed in Nantucket Sound. The dangers, and the degradation of the natural beauty of this area, vastly outweigh the modest monetary savings. Thank you for your thoughtful consideration of my letter.

Stephen H. Rogers  
President  
The Rogers Family Foundation  
29 Water Street  
Suite 214B  
Newburyport, MA 01950  
(978) 465-6100  
www.rogersfamilyfoundation.com  
srogers@rogersfamilyfoundation.com

296B

**Adams, Karen K NAE**

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**From:** Lester Luborsky [luborsky@mail.med.upenn.edu]  
**Sent:** Tuesday, January 25, 2005 4:03 PM  
**To:** Energy, Wind NAE  
**Subject:** SAVE OUR SOUND (alliance to protect nantucket sound)

Dear Army Corps of Engineers,

I'm sending this letter to request an extension of the comment period from 60 days to 180 days in order for the Alliance to have adequate time to review the Draft Environmental Impact Statement (DEIS).

Sincerely,  
Lester Luborsky

---

Lester Luborsky, Ph.D.  
Professor of Psychology in Psychiatry  
Center for Psychotherapy Research  
Department of Psychiatry  
3535 Market Street 6th floor  
Philadelphia, PA 19104  
Tel (215) 662-2822  
Fax (215) 349-3171

2969

**Adams, Karen K NAE**

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**From:** two abbott [twoa@cape.com]  
**Sent:** Tuesday, January 25, 2005 7:45 PM  
**To:** Energy, Wind NAE  
**Subject:** NAE-2004-338-1

P.O. Box 3407  
Waquoit, MA 02536

January 15, 2005

Karen K. Adams  
U.S. Army Corps of Engineers  
New England District, Regulatory Division  
696 Virginia Road  
Concord, MA 01742-2751

Ms. Adams:

We are writing in support of the application of Cape Wind for the installation of 130 wind turbines on Horseshoe Shoal in Nantucket Sound.

We feel the positive aspects of this proposed project far outweigh the negative. Although a national policy on wind energy should be developed, its promulgation and adoption will take far too long to accomplish as the United States lags behind more farsighted nations which use wind to offset polluting fossil fuels, thereby reducing global warming. Meanwhile the pollution from oil and coal-fired power plants will continue to endanger the health of far too many people, a much more serious consequence of power generation than the "visual pollution" of a wind turbines cited by the opponents of the wind farm. Regarding the charge of "using public property for private gain", we are confident that Cape Wind will lease the Shoal area from the federal government if that is requested.

Being in our seventies, we are admittedly impatient about the slow pace of the approval process, and we support the acceptance of clean energy as soon as possible for the benefit of the children and grandchildren of all Cape Codders.

Sincerely,

T.W. Osler Abbott  
Jayne B. Abbott

2970

**Adams, Karen K NAE**

---

**From:** juan arney [liquidhills@yahoo.com]  
**Sent:** Tuesday, January 25, 2005 8:45 PM  
**To:** Energy, Wind NAE  
**Subject:** nantucket sound wind farm proposal

Dear Army Corps of Engineers,

I was a resident on Nantucket for several years encapsulating this proposal and it's public response on the island. While I am now a resident of Vermont, I still feel I could contribute a balanced point-of-view on this issue. I was initially a major proponent of the wind farm, because of the pressing need for sustainable forms of energy. Then I fairly well recoiled when the size and scope of the project came to light. I feel these two dramatic forces at play in my decision, as I am sure you will as well. The sentiment of (most) Nantucket locals and most voters on the cape, I presume, is that they could do without the omnipresent loom of 400 foot towers vaulting from the sea in to the stars.

My conclusion is that I am more willing to deal with an aesthetic negative than a practical negative. Renewable resources are not a choice but an unimpugnable inevitability. People felt the car was an abomination rattling beside the horses and were wrong. Oil it seems has become a dangerous commodity, but that's irrelevant, because it will not last forever. So I am given to vote for the future, but I think that there is a danger.

The danger is creating a bombing project that sets back renewable energy. A few scenarios give me particular worry. One would include an environmental disaster at the stilted station to accompany the turbines. Another would be the collapsing of the cape and island tourist industry from the drastic change to the area. My last concern being the failure to successfully complete such a staggeringly large project by the private investors. That would be a national graveyard dedicated to renewable energy.

I think the safest course in this specific instance would be a compromise between the interests at the table. So my proposals are these:

--Perhaps a more compact array of towers to minimize the potential environmental damages and/or a smaller platform at sea?

-- Perhaps shorter towers?

--Perhaps a change in location to further off shore--maybe putting a few hundred of those feet beneath the water?

I am out of suggestions, I've put in my two cents. I wish you the best of luck in the highwire act you are about to do for the future. But know this, The Army Corps Of Engineers does what it pleases, and you have the last say. So you really can't lose.

John Randolph Arney III  
East Dummerston, Vermont

1/28/2005

2970

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2971

**Adams, Karen K NAE**

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**From:** Douglas C. Mitarotonda [dcm14@cornell.edu]  
**Sent:** Tuesday, January 25, 2005 10:29 PM  
**To:** Energy, Wind NAE  
**Subject:** Attn: Karen Kirk-Adams

Dear Ms. Kirk-Adams,  
I am writing to you asking for you to consider a piece I have recently written for my college newspaper, the Cornell Daily Sun. My column, titled "Pura Vida," is about the Cape Wind project and was published Tuesday 25 January 2005. It can be found online at the following web address:  
[http://www.cornellsun.com/vnews/display.v/ART/2005/01/25/41f5c7d360558?in\\_archive=1](http://www.cornellsun.com/vnews/display.v/ART/2005/01/25/41f5c7d360558?in_archive=1)  
Additionally, I have included the text below.

I appreciate your time.

In full support of Cape Wind,  
Doug Mitarotonda

-----  
Pura Vida  
742 Evergreen Terrace  
January 25, 2005  
Doug Mitarotonda

Literally translated, "pura vida" means "pure life" and is printed on 99.9 percent of the T-shirts available for purchase in the touristy areas of Costa Rica. I know this because I had the pleasure of personally visiting a few of the said gift shops during my way-too-short-of-a vacation over winter break.

The expression, which can be used as a greeting, seems to have become something of a national motto and refers to general happiness, peace, and tranquility. I am not sure if every Tico (the nickname used to refer to Costa Ricans) limits their interpretation of pura vida to a general "life is good," but after only a short time there, I can see how it could also refer to their environmental appreciation.

While agriculture serves as the basis of their economy (it is hard to travel anywhere in the country without seeing a coffee or banana plantation), tourism has earned more than any single export crop during the past few years. In most cases around the world, a large amount of tourism means a large amount of environmental degradation. While to a certain extent, this was the case in the early days of Costa Rica's development, more recently there has been a movement to preserve. Since the 1970s, over 25 percent of the country has been declared a national park. Moreover, according to a 2004 report by the United Nations' Economic Commission for Latin America and the Caribbean, Costa Rica produces an astonishing 98 percent of its electricity from renewable sources.

On my way to Arenal Volcano, a large tourist draw, I had the opportunity to gaze appreciatively at a small portion of their renewable energy generation, the Tierras Morenas Wind Farm, which consists of 32 turbines that combine to generate 24 megawatts of electricity. The thing that impressed me the most about it was that it

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was there, right near one of the most popular tourist destinations in the country in plain sight for many tourists to see. Some travel agencies even include a trip to the wind farm as a highlight of the tour package! The Ticos' appreciation of renewable energy, and this wind farm in particular, painfully reminded me of a wind energy project in America that has faced furious resistance, Cape Wind.

Cape Wind Associates wishes to build America's first offshore wind farm by erecting 130 wind turbines in the Nantucket Sound off Cape Cod. The turbines would have a total maximum output of 420 megawatts, enough energy to power three-quarters of the Cape and the surrounding islands. The project is estimated to create between 600 and 1,000 new jobs, plenty of tax revenue, reduce local air pollution, lower electricity costs, and replace approximately 113 million gallons of oil per year.

This is all well and good, but it is also important to consider the environmental impact this project might have. To address these concerns, last November the Army Corps of Engineers released a 3,800-page Draft Environmental Impact Statement (DEIS) that was the culmination of three years of research. The report concluded that Cape Wind would cause no major negative impact to the ecology of Nantucket Sound, no significant disruption to commercial fishing, and that the estimated number of birds killed by the wind turbines is unlikely to cause bird population declines. Additionally, the DEIS stated that the wind farm would not be any sort of hazard to air or sea navigation and there will be no major negative impacts on local tourism and surrounding property values.

So why, then, is Cape Wind meeting resistance? Formed in 2001, the Alliance to Save Nantucket Sound has been fighting tooth and nail against the Cape Wind project, primarily with environmental, safety, and economic reasons in mind. Now that the DEIS has put all of these concerns to rest, the Alliance's most credible complaint is something that no report will ever be able to quell, the aesthetics. Either you like what wind turbines look like or you don't. While the aesthetic aspect of this project is an understandable concern, considering the vigor with which the Alliance has fought, you would assume that beachgoers would have to cautiously avoid these giant structures while swimming in the sound. Quite the contrary though, the wind farm will be built five miles offshore and, as seen from Cape Cod, the turbines will appear only as a half-inch-tall mast on the horizon! But, they will still be seen, and that is enough for some people to resist.

It is still not clear who is going to win this battle, but I personally hope *pura vida* reigns supreme, especially now that the Army Corps of Engineers has shown that Cape Wind provides benefits far outweighing costs.

If you are unsure how you feel about the aesthetics of a wind farm, I encourage you to make a 90-minute drive up to Fenner, N.Y. There, the Fenner Wind Farm consists of 20 1.5 megawatt turbines and can give you an idea of what the Cape Wind project would look like. Furthermore, if you would like your voice to be heard on this matter, the Army Corps of Engineers is accepting letters from the public regarding the DEIS until Feb. 24th. See [www.capewind.org](http://www.capewind.org) for more details.

Oh, and for full disclosure, I was not paid \$240,000 by the Costa Rica Tourist Board or Cape Wind Associates to write in their support.

Doug Mitarotonda is a graduate student in economics. He can be contacted at [dcm14@cornell.edu](mailto:dcm14@cornell.edu). 742 Evergreen Terrace appears alternate Tuesdays.

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**Adams, Karen K NAE**

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**From:** Robert C. Cole, Jr. [rccolejr@verizon.net]  
**Sent:** Wednesday, January 26, 2005 5:03 PM  
**To:** Energy, Wind NAE  
**Subject:** Wind Farm

I support the building of the proposed wind farm on Nantucket Sound. While I am a sailor who frequently sails in that area, the need for alternative energy sources far outweighs any concerns of visual impact in the Sound.

Robert Cole  
27 Ayer Lane  
Harwich Port, MA 02646

2973

**Adams, Karen K NAE**

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**From:** DUKASMIMI@aol.com  
**Sent:** Thursday, January 27, 2005 9:17 AM  
**To:** Energy, Wind NAE  
**Cc:** Uzpurvis@aol.com  
**Subject:** Save Our Sound

After reading comments on both sides of the controversy, my one vote is against the Cape wind project. The rewards are few and the risks are very high. Protect the last warm water refuge. Don't allow building the wind mills.

Jonas Kova  
324 Lakeside Dr.  
Marstins mills, MA.  
CAPE COD

2974

Reference File no. NAE-2004-338-1

Karen Kirk Adams  
Cape Wind Energy Project EIS Project Manager  
Corps of Engineers, New England District  
[wind.energy@usace.army.mil](mailto:wind.energy@usace.army.mil)

from Carolyn and Walter Bishop  
7 Orchard Street  
Belmont, MA 02478  
[cbishopma@earthlink.net](mailto:cbishopma@earthlink.net)

For inclusion in the record of public comment, I would like to expand on my verbal comments at the public hearing held at MIT on December 16, 2004 about the EIS for the Cape Wind Proposal.

We are very concerned about the “giveaway” of public resources for private profit that this project represents. We feel legislation is needed to set up some kind of payment system when federal resources are being developed for private gain such as grazing fees, mineral rights and so forth, even though these examples also rely on public subsidy. In our opinion the entire system needs overhauling, but to allow this project to take place without some kind of compensation sets a dangerous precedent.

We support alternative energy sources to break this nation’s unhealthy dependence on fossil fuels. Air pollution and the damage from drilling and mining must be mitigated and the development of solar/photovoltaic, wind, and wave action encouraged through tax incentives. The Limpet project for harnessing ocean wave power is particularly promising because the compression of air by wave action does not have a negative impact on sea life. Conservation is a major component in dealing with this demand on energy. We are NOT against wind power and do not think the aesthetic concerns should be major issues.

However, according to what we know of the EIS, there has NOT been adequate study of the environmental impact of this project. Merely stating that a project is environmentally benign does not make it so. There does not appear to have been appropriate analysis of the impact on migratory species when examining the location of this project. To dismiss the possible annual mortality of a bird a day ignores the fact that there is no information as to what species those birds might be. Endangered roseate terns and piping plovers are not birds that we can dismiss as minor potential victims, for example.

Under Regulations Section and Section 5.6.1 there is no mention of the Migratory Bird Treaty Act of 1918. A thorough study of migratory routes, heights of flight patterns and bird behavior is required, and the DEIS admits (Preliminary Avian Risk Assessment section 5.7-A) that the avian studies are inadequate. Therefore the estimate of bird kill is invalid and at best a guess. This is far too important to ignore and better to deal with now than to build and find the creation of an avian catastrophe! Data from European offshore wind farms could be studied in relation to tracking migratory and resident species flight patterns in the area.

Considering how little is known about the altitude of flight patterns in this area and the extreme height of the towers, it is dangerous to assume that the birds will be flying above or below the towers. In addition, imagine the challenge of navigating through this forest of towers on a foggy night during migration season.

Collision Risk Evaluation: Section 5.7.3.2.1 states that “night migrating songbirds do not tend to collide in large numbers with even brightly lit structures such as lighthouses etc...” This statement conflicts with statements made elsewhere in the report. There are many incidents of birds colliding with buildings, even those well lighted and even in daylight. The three story school where I taught in Brookline took its toll on migrating song birds every year and it was not tall or in the main migratory path. Red blinking lights have been shown to attract birds and impact their night navigation. There may be some significance in the rate of pulse as well, therefore there needs to be more research on the impact of lighting; color, rate of pulse and quality of light.

5.5.6.1.2 Potential Indirect Impacts: states that “... marine organisms such as fish and whales have the ability to swim away from a spill...” This is so absurd as to be laughable were it not so serious. Obviously marine organisms do not recognize toxic spills, otherwise disastrous oil spills would not be so damaging to wildlife. The vast and immediate spread of even a small quantity of oil on the surface of water and the very small quantity necessary to poison or to damage the insulating ability of feathers make even a small spill a serious concern.

Bats: there is at least one species of bat known to migrate in the area and the impact of land-based towers on bats in West Virginia has been a serious one. Their natural sonar does not seem to save them from the moving rotors. Since no risk assessment was done on this species it is inappropriate to declare no risk.

5.5.6.1.1 Potential Direct Impacts: Sea Turtles use magnetic fields to navigate and the magnetic fields from the cables could very likely disrupt their navigation. These animals are found in this area and are seriously threatened. Population data based on strandings north of the Cape are not valid to extrapolate population densities in Nantucket Sound. Strandings happen in the Bay because of the geography and thermal currents, but this does not mean that sea turtles are not found in Nantucket Sound. Surveys for birds incidentally found numerous turtles using the area.

Sea floor disruption: The acre per tower of sea floor disruption means a minimum of 130 acres of damaged sea floor; the destruction of shellfish beds, aquatic larvae, fishing grounds and dependent species. That figure doesn't even include the ditching and burying of the cables that will add miles more of damaged seabed. Even if shellfish finally do establish themselves on the anti-scour mats and around the tower bases, the ecology of the seabed will have been changed and there may be some important component of this natural ecology that has not been recognized yet. The increase in eider populations reported near the Denmark offshore wind farm might be offset by the decrease of other species. Which ones, and what is the impact of that on the ecology of the area? Each time we tamper with one part of nature we find unexpected and sometimes negative results in another!

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Therefore, while we support wind power in theory, we urge a more detailed study of the environmental impacts of this project and the establishment of a payment policy for use of Federal off shore waters before a permit is granted.

Thank you for considering our comments and concerns.

Carolyn and Walter Bishop

2975

**Adams, Karen K NAE**

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**From:** Miss Staci Stark (Harris) [vinceneilsgirl@yahoo.com]  
**Sent:** Thursday, January 27, 2005 3:22 PM  
**To:** Energy, Wind NAE  
**Subject:** Nantucket Sound

Dear Colonel Koning,

The Army Corps of Engineers should deny Cape Wind's application to construct 130 turbines in Nantucket Sound. There is no federal authorization to use our public trust resources for this purpose. Nor does the developer have any property rights to exploit these public lands. Without federal authorization, any means for protecting coastal resources, or any process for compensating the public, this project cannot be in the public interest. That question must be answered by our representatives after national debate, not by one office of a federal agency improperly arrogating the authority of Congress.

In addition, the draft environmental impact statement that has been prepared is inadequate. More studies are needed before the Army Corps can assess the potential impacts of the Cape Wind project. Indeed, those studies are the very studies that Congress would require to shape a national policy on offshore wind energy. Without this critical information, there is simply no way to determine whether the Cape Wind project is in the best interests of both the public and wildlife.

Finally, the Bush Administration needs to develop responsible clean energy and ocean conservation programs. The continued failure to do so is sacrificing our environment to private developers.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is seriously flawed, because it ignores relevant information and draws conclusions based on inadequate research.

For the animals,  
Staci Harris, PETA and EII member  
103 Saint Johns St Apt A  
Titusville FL 32780

Check out an interview with Fran of FATA at <<http://www.peta2.com/ot/o-fata.html>>

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Yahoo! Search presents - Jib Jab's 'Second Term'

2976

**Adams, Karen K NAE**

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**From:** hotceramics@msn.com  
**Sent:** Friday, January 28, 2005 1:03 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

**Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.**

Specifically, the environmental review of this project should **include:**

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

**These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.**

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

**Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.**

Sincerely,

Ronda Greaves, RN  
114 Hillcrest Dr.  
Denville, New Jersey 07834

2977

**Adams, Karen K NAE**

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**From:** Shannon Hayden [shannonhayden@rcn.com]  
**Sent:** Saturday, January 29, 2005 11:32 AM  
**To:** Energy, Wind NAE  
**Subject:** Wind Farm Not Right For Nantucket Sound

To The Army Corps of Engineers:

I'm an environmentalist and opposed to Cape Wind's proposal to site a Wind Farm in Nantucket Sound. Actually, all I want is a process that removes Cape Wind's profiteering motives from the site selection. Let's form a public utility that views sites on a basis of what will do the least harm and get the most benefit to everyone, not the most profits for a developer. You are engineers, and this is a job for policy makers.

Delay this decision until our elected federal and state officials can get their act together (I know that is a tall order, but there are our elected officials) and come up with a plan for developing the continental shelf that causes the least impact to the environment we are trying to save.

Andrew Hayden  
11 Vineyard Road  
Newton, MA 02459

297B

**Adams, Karen K NAE**

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**From:** oceansplash77@yahoo.com  
**Sent:** Saturday, January 29, 2005 3:58 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Jennifer Phillips  
400 Cresswell Rd  
Baltimore, Maryland 21225

Adams, Karen K NAE

2979

**From:** shlby69m@hotmail.com  
**Sent:** Saturday, January 29, 2005 6:04 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Michelle Miller  
44691

2980

**Adams, Karen K NAE**

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**From:** FredFJ [FredFJ@comcast.net]  
**Sent:** Saturday, January 29, 2005 3:48 PM  
**To:** Energy, Wind NAE  
**Subject:** Nantucket Sound Wind Farm

I am trying to locate the testimony of a hearing held by the USAC of E. held in downtown Hyannis, MA. I believe in April of 2002, as best I can figure that hearing date. I think it was in the second week of April 2002. The hearing was on the Test Tower in Nantucket Sound to be installed by Cape Wind Associates.

I was one of the Stake Holders at the MTC hearing held in Hyannis some time ago. I represented the Cape Light Compact at the MTC hearings. I am sure Karen Adams will recall me.

I am looking for the testimony given at this hearing. Specifically I would like to get the testimony of Bob Mahoney who spokes as the Chairman of the Cape Light Compact. I would guess his testimony would be five to seven pages max.

Is it possible that I could review this testimony on-line without the necessity of printing and mailing etc.

May I please hear from you.

Thanks

Fred

Fred Fenlon  
40 Baldwin Rd.  
North Eastham, MA 02651-1321  
[FredFJ@comcast.net](mailto:FredFJ@comcast.net)  
508 240-3258

2981

**Adams, Karen K NAE**

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**From:** Peter Lipsitt [PL@PeterLipsitt.com]  
**Sent:** Saturday, January 29, 2005 7:20 PM  
**To:** Energy, Wind NAE  
**Subject:** Support for Cape Wind Energy EIS ProjectCape Wind Energy EIS Project

Dear Karen Kirk-Adams,

I am writing in support of the Cape Wind Energy Project, which would harness an abundant natural resource by means of windmills off Cape Cod. This endeavor will, I understand, provide health benefits for the populace that resides near coal burning plants and create opportunities to acquire clean, reasonably-priced electric power, locally produced.

I am a professional sculptor who has an all-electric house, costly to heat, on Buzzards Bay near Cape Cod. The beauty of windmills whose propellers revolve on the horizon (such as those I've seen in Livermore, CA and the one near Nahant, MA) is a joyous scene to behold. As sail boats provide visual delight while transforming air into forces of propulsion, so will windmills which catch ambient breezes for essential power.

I strongly support installation of the proposed windfarm.

Sincerely, Peter Lipsitt

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PL@PeterLipsitt.com

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<http://PeterLipsitt.com>  
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**Adams, Karen K NAE**

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2982

**From:** sjstrong@solar design.com  
**Sent:** Sunday, January 30, 2005 5:40 PM  
**To:** Energy, Wind NAE  
**Subject:** Comments on Cape Wind EIS

Ms. Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742

Dear Ms. Kirk-Adams,

Please accept the attached letter in lieu of verbal public testimony in support of the Cape Wind project. My wife and I believe this project should go forward as quickly as possible. We would greatly appreciate your sending us a copy of your draft EIS on CD as offered on your website. Kindly send this to us at the address below. I thank you in advance for your consideration.

with best regards,

steven

-----  
Steven J. Strong  
Marilyn H. Strong  
252 Old Littleton Road  
P.O. Box 242  
Harvard, MA 01451-0242

January 31, 2005

2982

Ms. Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742

Ref: Army Corps of Engineers Draft Environmental Impact Statement for the Cape Wind Project  
Re: Written testimony in favor of the Cape Wind Project

Dear Ms. Kirk-Adams,

I am an engineer and my wife is a nurse. We are natives of Massachusetts and my wife's family has lived and worked on Cape Cod for many years. However, I believe we speak not just for our family but for all those who would like to see the human experiment continue – wherever they may reside. We respectfully request that you accept the following comments as our response to the call for public input on the Cape Wind project.

**The Big Picture** Our industrial society has become completely dependent on massive flows of petroleum to maintain our economy and our standard of living. No country uses more energy per capita than the United States. We are less than 5% of the world's population and we consume more than 25% of the world's energy.

No region of the United States is more dependent on petroleum than the Northeast. On top of the direct uses for transportation, agriculture and industry, our region has the highest consumption of oil per capita for heating and electrical generation of any in the country. It is fair to say that our regional economy is currently tied in 'lock-step' to the availability of oil and oil-derived energy.

The cost of oil has gone up >50% over the past 18 months. The cost of natural gas has also increased dramatically. We can not take for granted that the availability of relatively inexpensive oil and gas will continue.

Recently our president went, hat-in-hand, to ask the oil producing cartel to increase their output. Once again, our Great Country had to beg OPEC to raise crude oil extraction to meet our needs. The answer from OPEC gave us all a very clear understanding of our immediate future prospects for the availability of oil. OPEC agreed to increase extraction but was only able to provide ~1.5 million barrels / day (Mbbbl/d) more oil to the world market. When you consider that the average daily world demand was then about 82.5 Mbbbl/d, the elasticity in the world oil market (amount of oil available vs. demand) is now less than 2%.



With energy demand exploding in China, India and the Pacific rim, conservative projections call for world oil demand to top 84 Mbbbl/d within the next 12 months. It should be very clear that increasing demand chasing diminishing reserves will continue to drive oil prices upward.

**End of Cheap Oil** Today's economists, and the politicians that, of convenience, align with them, are in a never-never land of belief that there are infinite stores of oil and natural gas that will be available at yesterday's prices for generations to come – if only the environmentalists and the government regulators would just get out the way and let the free market function.

This is a global resource game of musical chairs. So long as the music keeps playing, the majority of people have not yet noticed that the chairs are gone.

It is by no coincidence that, over the past year or so, a number

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of the biggest multinational oil companies have “restated” their recoverable reserves and, that these restatements have all been downward. Big oil underwent this public shame and financial peril because the gap between geological reality and their annual reports had become simply too much to pretend anymore. We can expect more of the same in the future.

It is our firm belief that the economic tectonic plates of industrial society will undergo a profound shift in the not-to-distant future as the “perfect storm” in energy which is just around the corner becomes clear to enough people that the charade can no longer be maintained. When this happens, the old economic benchmarks for what energy is “worth” will change forever.

The debate over when the last drop of oil will be extracted will never be settled and it needn't be. It is largely irrelevant. What matters, of course, is when the world economy - now completely dependent on cheap oil and gas – will begin to falter due to price escalation and lack of supply. By then, the window of opportunity for a manageable transition to the post-petroleum era may be largely behind us.

Indeed the “free market” will function and, as the world markets begin to understand what **Peak Oil and Gas** really mean and, how this will impact every sector of world commerce, prices for the remaining “conventional” energy will soar. Has anyone forgotten what the futures speculators at Enron did for CA electricity pricing when the market was free to act?

As the cover story of the June 2004 National Geographic proclaimed, the era of cheap oil is over. The August 2004 cover of Fortune magazine, the bastion of capitalism, featured a drug syringe with oil dripping out and admonished the industrial world that it's time to Kick the Oil Habit.



Last year, the very conservative Economist proclaimed the End of the Oil Age. TIME, National Geographic and a number of other publications have devoted entire issues to Global Warming and a recent issue of the New Yorker dared illustrate the clear and undisputable linkage between resource depletion and war – past, present and future.

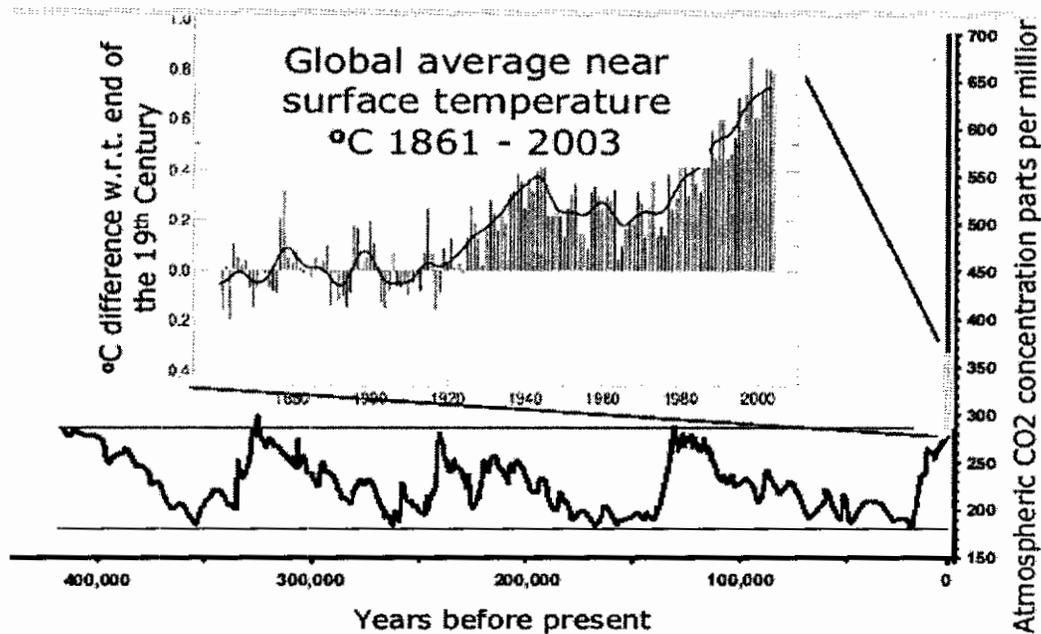
**Climate Change** A decade or two ago, it could still be passed off as conjecture. Now, the future is unfolding before our eyes. Canada's Inuit see it in disappearing Arctic ice and permafrost. The shantytown dwellers of Latin America and Southern Asia see it in lethal storms and floods. Europeans see it in disappearing glaciers, forest fires and fatal heat waves.

Climate change is with us. Scientists see it in tree rings, ancient coral and bubbles trapped in ice cores. These reveal that the world has not been as warm as it is now for a millennium or more. The three warmest years on record have all occurred since 1998; 19 of the warmest 20 since 1980. And, the Earth has probably never warmed as fast as in the past 30 years - a period when natural influences on global temperatures, such as solar cycles and volcanoes should have cooled us down.

Climatologists reporting for the UN Intergovernmental Panel on Climate Change (IPCC) say we are causing the change by the excessive combustion of coal, oil and natural gas. This releases billions of tons of carbon dioxide (CO<sub>2</sub>) into the atmosphere every year.

The physics of the "greenhouse effect" has been a matter of scientific fact for a century. CO<sub>2</sub> is a greenhouse gas that traps the Sun's radiation within the troposphere, the lower atmosphere. It has accumulated along with other man-made greenhouse gases, such as methane and chlorofluorocarbons (CFCs) since the beginning of the industrial age.

If current trends continue, the best scientists in the world are convinced we will raise atmospheric CO<sub>2</sub> concentrations to double pre-industrial levels during this century. That will probably be enough to raise global temperatures by around 2°C to 5°C.



### Temperature, CO<sub>2</sub> and Fossil Fuel Combustion – 1860 - 2100

Warming is bringing other unpredictable changes. Melting glaciers and heavy precipitation are causing some rivers to overflow, while evaporation and drought are emptying others. Diseases are spreading. Some crops and many weeds are growing faster while others see yields slashed by disease and lack of water. Clashes over dwindling water resources are already creating conflicts in many regions.

As natural ecosystems - such as coral reefs - are disrupted and degraded, biodiversity is reduced. While many species, mainly insects, are already evolving in response to warming, most species cannot adapt or migrate fast enough to keep up.

Thermal expansion of the oceans, combined with melting ice on land, is already driving measurable rise in sea levels. In the coming decades, atmospheric warming from human activity could trigger an irreversible melting of the entire Greenland ice sheet. This would condemn the world to a rise in sea level of some six meters - enough to flood land now occupied by billions of people. Melting of Greenland's ice sheet could also disrupt the thermohaline circulation that drives the Gulf Stream and its extension, the North Atlantic Drift, which brings warm, salty water to the northeast Atlantic, warming Western Europe.

Complete collapse of the Gulf Stream could well occur as large amounts of new fresh water from ice melt enter the thermohaline circulation in the north Atlantic changing the density and destabilizing the delicate balance of temperature and salinity that drives these massive global currents. The British Isles, Scandinavia and western Europe would be irrevocably changed. The Atlantic Maritime Provinces of Canada and the northeastern US would also be adversely impacted. This dire prospect is of such concern as to be addressed in a recent CIA/DOD report on the potential geopolitical impacts of climate change.

A very small, but vocal, minority of scientists argues that uncertainty over the exact pace and specific impacts of climate change is grounds for delaying action. However, the vast majority of scientists believe we are actually under-estimating the dangers. According to the IPCC, the world needs to quickly improve the efficiency of its energy usage and develop renewable, non-carbon fuels like: wind, solar, tidal, biomass, geothermal and wave power.

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The bottom line is that we will need to cut CO<sub>2</sub> emissions by 70% to 80% simply to stabilize atmospheric CO<sub>2</sub> concentrations - and thus temperatures.

According to the Department of Energy, by 2025 – just 20 years from now - the United States will demand 43 percent more electricity. Where will all this additional new power come from? If current practices persist, 42 percent more greenhouse gases will be emitted with the dramatic increase in fossil fuel combustion required to meet the projected demand.

**A Fork in the Road** The warning signs have been ubiquitous. There is a fork in the road ahead. As individuals, as a region and a society, we have some serious choices to make and precious little time left to make them. We can choose to continue to blindly embrace conventional sources of energy – mainly petroleum – ignoring all the warning signs and await the consequences. Or, we can begin in earnest to define and implement the path to a sustainable future in the post-petroleum world.

Once, during a fit of despair over US policy he felt to be seriously misguided, Winston Churchill mustered sufficient optimism to tell his inner circle: “The Americans can be counted upon to do the right thing – after they have tried everything else.”

We know renewable energy works. Wind and solar are now the fastest growing sources of new electricity in the world, with 30+% compounded annual growth for the last five years running. And, over these past decades, we have, indeed, tried everything else in US energy policy but renewables.

**A Solution Within Reach** The wind resources off of the southern coast of Cape Cod are among the most attractive in the country and represent a significant opportunity for Massachusetts to begin to harness this inexhaustible renewable resource for the benefit of all.

Cape Wind Associates (Cape Wind) is proposing to build the first offshore wind farm in the United States on Horseshoe Shoal, five miles off Cape Cod, Massachusetts. This pioneering effort will include 130 wind turbines producing a maximum output of 420 megawatts whose output would satisfy 75% of Cape Cod’s electricity needs.

Thanks to the focused effort of the Army Corps of Engineers and the 17 other federal, state and local agencies involved in completing the draft Cape Wind Environmental Impact Statement (EIS), we have now have a solution within reach.

The 3,800 page Draft Environmental Impact Statement released by the Corps is the product of three years of scientific, environmental and economic analysis and includes the input from many federal and state agencies with inclusive public participation. The report shows that the Cape Wind project will produce compelling public benefits with negligible environmental impacts.

Cape Wind can replace 113 million gallons of oil per year, that it will reduce regional greenhouse gas emissions by one million tons per year (the equivalent of taking 162,000 cars off the road) and reduce New England's wholesale electric prices by \$25 million per year. Its construction will create 1,000 new jobs and at least another 50 in the ongoing operation and support of the wind farm.

Offshore wind energy could soon provide an important source of clean electricity for our region, as it has in Europe, Australia and Japan for years. Our country is at least 10 years behind the rest of the world in harnessing wind energy. The Cape Wind project provides us the perfect opportunity to close that gap while benefiting from the technology development supported by the pioneering efforts of these other countries.

Unlike fossil-fuel-fired power plants that can be sited without much regard to their resource base - often being placed in the poorest communities - wind energy must be sited where the resources are. Fortunately, for all of us in the Northeast, we have a superb wind resource available right close by in an easily accessible location, which promises maximum return with minimum environmental impact.

When the opponents’ objections are boiled down to basic terms, their main complaint is that they feel the turbines will diminish their ocean view from the shore. With the turbines many miles from

shore, the visual impact has been shown to be minimal – even on a very clear day. However, is hard to argue this issue with facts or logic. Ultimately, beauty is in the mind of the beholder. Many people find wind farms elegantly beautiful, even poetic. Others have another view.

It is instructive to note that experience with wind farms in Europe – both off- and on-shore – has shown they actually serve to increase tourism as people travel from far and wide to see the new beginnings of a clean and sustainable future. Interest in boat cruises to view the offshore wind farms has even created a new flow of tourist income to increment the local economies.

While one could conclude that wind turbine aesthetics are subjective, virtually everyone would agree the smoke plumes that come out of the oil-fired Canal Electric plant are both ugly and unhealthy. But the wind project's most vocal opponents do not have to look at (or breathe) those plumes. The most powerful among the opponents do not even live on the Cape – they just visit occasionally. And, when they do come, we're sure they turn their view to the west as they cross the Sagamore bridge to avoid the Canal Electric plant to the east, which currently supports their lifestyles.

They probably have also conveniently forgotten that just a year and a half ago, some 100,000 gallons of number 6 fuel oil bound for Canal Electric washed up on Cape beaches and tidal marshes because an incompetent barge operator couldn't find his way to the plant and ran aground. This was not the first oil spill in this fragile coastal ecosystem and it will likely not be the last.

Our region and our country are now faced with real choices about energy that demand response. Where will the energy come from to power our society tomorrow? How can we preserve the environment and support our way of life? The issue is not: wind energy or do nothing.



With all that is at stake for our state, our region and our country, opponents' worries their view may be diminished by turbines several miles out at sea seems a feeble and pathetically self-serving and shortsighted excuse for doing nothing. With such important benefits and minimal impacts, the Cape Wind Project should be approved for construction as soon as possible. Tapping into our offshore wind resources is an all-important first step in defining our transition to the post-petroleum era.

**Draft EIS a Good Beginning** The Draft EIS prepared by the Army Corps of Engineers and 17 other agencies is a comprehensive and detailed document that does a very thorough job examining all the potential impacts of the Cape Wind project. All in all, it concludes that the project's negative environmental impacts will be minor.

The Corps explored many reservations voiced about the Cape Wind Energy Project, and found the project impacts to be minimal. For example, the Corps found little to no interference with fishing activity due to the wide spacing between the proposed turbines.

Another popular argument of opponents to Cape Wind has been impact on bird populations. Again, the EIS found minimal impact. It is instructive to compare these results with the number of birds killed from other activities considered fully acceptable. For example, the National Audubon Society (who should know this subject) states that over 100 million birds are killed legally and illegally by hunters each year. It would be interesting to see just how many of Cape Wind's opponents who profess such an acute concern for avian wellbeing go out each year and kill birds just for the fun of it.

The U.S. Fish and Wildlife Service (who also should know this subject) states that cars and trucks kill between 80 and 100 million birds a year on our nation's highways and that tens of millions more are killed annually from collisions with high-voltage electrical transmission lines.

While the Audubon Society has estimated over 100 million birds are killed by house cats every year, they place habitat destruction – mainly from strip mining and clear cutting of forests – as the

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leading cause of long-term bird population decline. Oil and oil spills also needlessly claim far too many birds. Add to this the 65 million birds the Smithsonian Institution estimates are killed each year by pesticides and herbicides and, the 100 million + killed from simple collisions with glass in buildings and one can readily see that the avian impact argument is way over done. Wind turbines pose virtually no incremental risk.



Careful analysis by the Corps also indicates that many of the other concerns opponents raised about potential impacts - on tourism, the economy, on navigation - will not be significant. We applaud the Corps on their in-depth, objective, qualitative and quantities analysis of the many complex issues involved.

Unfortunately, some wrongly see the choice before us as: support Cape Wind or do nothing. This is clearly not an option. To put things in their true and proper perspective, we believe the EIS should go further, putting the minimal environmental impacts of this project in context by contrasting the much greater impacts of our other options to meet future energy demand such as coal and oil.

For example, it would be very desirable to see more information about the potential *benefits* of the project, such as the health benefits from the offset fossil fuel emissions and the benefits to the problem of global climate change in Massachusetts. According to estimates from analysts used by the EPA, fossil fuel power plants in Massachusetts are responsible for over 300 premature deaths, over 700 heart attacks and over 8,000 asthma attacks each year due to harmful emissions from their smokestacks.

The EIS should also contain more information on the economic benefits of the Cape Wind project. And, it should compare these benefits against the other methods that would be employed to generate the electricity we need such as coal, oil and nuclear.

Indeed, the choice is not: support Cape Wind or do nothing. We will need more electricity to support our way of life. Our region is facing a "perfect storm" in energy as conventional fuels decline and prices rise precisely because we have, as yet, done nothing to reduce demand for foreign oil by deploying renewable energy at a commercial scale.

The Cape Wind project provides us in Massachusetts with the first opportunity to champion offshore wind energy development in the U.S. while showcasing classic Yankee ingenuity of doing the most with what you have to work with. When weighed against the very real threats of climate change to coastal property and the decline in conventional fuels, the benefits of well-sited offshore wind power are starkly apparent and very compelling.

The transition to the post-petroleum era is already upon us. The leaders of several of the world's major oil companies have acknowledged this while also acknowledging that global warming and climate change are very real, are largely the result of excessive combustion of fossil fuels and, demand our immediate attention.

We have a very big challenge ahead of us. The region needs to harness all the renewable resources available to help support our energy requirements while building the bridge to the post-petroleum era. The time frame we have to do this is short. Cape Wind gives us the perfect opportunity to begin to set the course toward a sustainable energy future in the post-petroleum world.

The decisions before us today will dramatically impact the future of our region and of our country. We need to get started. This transition will not be an easy one under any circumstances. The Cape Wind project should get underway as soon as possible. There is no more time to waste.

Very truly yours,

Steven J. Strong  
Marilyn H. Strong  
252 Old Littleton Road  
Harvard, MA 01451

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Adams, Karen K NAE

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**From:** Snider and Hutchings [SniderHutchings@comcast.net]  
**Sent:** Sunday, January 30, 2005 8:05 PM  
**To:** Energy, Wind NAE  
**Subject:** Support Cape Wind

Hello.

Everyone uses energy. There is no doubt that we must do everything we can to change the way we impact our world by our energy production and consumption. As a teacher, as a mother, as a resident of Cape Cod, I am concerned that we make every effort to reduce greenhouse gas emissions. Supporting Cape Wind is one way to do this. The Draft Environmental Impact Statement gives us every reason to believe the Cape Wind project will move our nation toward a fossil fuel free future. Thank you for your attention. Sincerely,

Mary Hutchings  
38 Pond Road  
Box 272  
North Truro, MA 02652

Adams, Karen K NAE

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**From:** Dunoyer [dunoyer@rcn.com]  
**Sent:** Sunday, January 30, 2005 10:15 PM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind

Dear Ms. Adams:

I would like to voice my overwhelming support for the Cape Wind proposal. I believe it is the right project for the right place at the right time. I use those waters to windsurf and kitesurf, and I know how windy it is. Since the waters are not navigable (too shallow) this power generation scheme makes good sense. I think people are afraid of change, but I believe that once built, the turbines will not be viewed as an eyesore, but rather, as an elegant testament to humankind's effort to reverse the path to climate change.

Respectfully,

Jean Dunoyer  
15 Adams Avenue  
Watertown, MA 02472

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Adams, Karen K NAE

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**From:** Ian Nisbet [icnisbet@cape.com]  
**Sent:** Saturday, January 29, 2005 12:07 PM  
**To:** Energy, Wind NAE  
**Subject:** Reference file NAE-20040338-1



Comments on DEIS for the Cape ...    ATT06465.txt

Dear Ms. Adams:

I attach my comments on the DEIS-DEIR for the Cape Wind Energy Project.

Sincerely, Ian C. T. Nisbet

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**Comments on the Cape Wind Energy DEIS-DEIR: Assessment of potential effects on birds.**

**USACE NAE-20040338-1**

**Submitted by Ian C.T. Nisbet, Ph.D.  
150 Alder Lane, North Falmouth, MA 02556  
icnisbet@cape.com**

**Submitted 29 January, 2005.**

**1. Summary Comments**

These comments are limited to parts of the DEIS-DEIR that address potential effects of the project on birds: specifically, Section 5.7, Appendices 5.7-A through 5.7-N, and Sections 3.4.3.2.1 (Alternatives Analysis) and 6.3.3.4 (Post-Construction Monitoring). I have reviewed descriptive material in Sections 3.0 and 4.0 to the extent necessary to evaluate the cited sections on potential impacts on birds.

I am a professional environmental scientist who has studied bird movements around Nantucket Sound since 1958. I have been a member of the Recovery Team for the endangered Roseate Tern (Northeastern Population) since 1988. I submitted detailed comments to USACE on the scoping process for the avian studies in April 2002, and I submitted comments on the agency draft of the DEIS in August 2004. Otherwise, I have not taken part in the studies or in any reviews or assessments. I have discussed issues with several government agencies and parties who have taken positions on the proposal, but I have not endorsed any of these positions nor taken any position myself. These comments are made on my own behalf as an independent expert and are not made on behalf of the Recovery Team or any other agency or institution.

Although the facility is the first in what is likely to be a large number of offshore wind energy projects in the USA, the DEIS-DEIR does not consider cumulative impacts. Because of the potential importance of offshore wind energy projects and because they pose similar and generalizable risks to birds and to other environmental resources, a Programmatic Environmental Impact Statement should be completed before evaluating or permitting any single project.

The avian studies reported in the DEI-DEIR do not meet the minimal standards set out by myself in April 2002 or by the U.S. Fish and Wildlife Service (USFWS) and other professional ornithologists. The aerial and boat surveys were well conducted and provided useful information on the distribution of terns, sea ducks, and other waterbirds in Nantucket Sound. However, they were conducted for only two years and did not provide information on the circumstances (evening and morning movements, bad weather, etc.) in which these birds are most at risk. The radar surveys were poorly designed, were conducted for only a few weeks in one year, and were totally inadequate to assess risks. Virtually no information was generated or cited on the migrations of

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seabirds through Nantucket Sound. The data presented on bird “traffic rates”, directions of flight and heights of flight are subject to considerable bias and should be recalculated. The estimates presented of the potential numbers of birds that might be killed by collision with the turbines are largely fanciful and almost totally baseless.

The DEIS-DEIR states that the offshore structures will be “bird-proofed”, but does not give details. Depending on how the “bird-proofing” will be achieved, it may present significant hazards to birds.

The emphasis in the DEIS-DEIR on evaluating whether bird casualties would be sufficiently large to affect populations is inappropriate, given the fact that state and federal laws afford protection to individual birds.

No new information was generated about bird movements through areas designated as Alternative sites. The information cited is incomplete and insufficient. Although evidence outside the DEIS-DEIR suggests that the marine Alternative sites would be more risky to birds than the proposed site and the terrestrial site less risky than the proposed site, the information presented in the DEIS-DEIR provides no basis whatsoever for evaluating alternatives.

Instead of making its own evaluation of the material generated by the Applicant, the Corps has adopted many of the Applicant’s conclusions, in some cases verbatim. This not only gives the impression of bias: it means that the Corps has assumed responsibility for the poor design, inadequate execution, and flawed analysis and interpretation of the results.

At least in regard to risks to birds, the DEIS-DEIR is inadequate as the basis for conclusions. Any final EIS-EIR will be indefensible without substantial new information and independent analysis. Although the Applicant and its consultants bear primary responsibility for the inadequacy of these sections, the Corps shares responsibility because it rejected the advice of USFWS and other professionals in the scoping and study design phases. The DEIS-DEIR should be withdrawn and new studies must be initiated to remedy the deficiencies of the present draft. Because the proponent and the Corps did not seek review of the study designs or of early results, the opportunity to make mid-course corrections has been lost. Some of the required studies will take several more years to conduct.

## **2. Scope of these comments.**

These comments are submitted by Ian C. T. Nisbet, Ph.D. My qualifications and experience were summarized in my letter dated 26 March, 2002, addressed to Karen M. Adams of USACE during the scoping process for the Cape Wind Energy DEIS-DEIR; that letter is incorporated herein by reference. Briefly, I have studied the occurrence and movements of birds over and around Nantucket Sound and adjoining areas since 1958. These studies included radar studies of migration (1958-1968), and studies of terns

nesting at several sites: at Bird and Ram Islands in Buzzards Bay (1970-2004), Monomoy and Tern Islands, Chatham (1972-80), Harding's Beach, Chatham (1975-76), Dead Neck/Sampson's Island, Cotuit (1980-81), Penikese Island, Gosnold (1998-99) and Muskeget Island, Nantucket (2000-01). Thus, I have studied breeding terns all around Nantucket Sound. I have also studied staging and feeding of terns around Nantucket Sound in August-September, and was the principal author of a paper describing their distribution and behavior (Trull et al. 1999). I have surveyed several parts of Nantucket Sound by boat or aircraft, but I have not visited Horseshoe Shoals. I have been a member of the Recovery Team for the Roseate Tern (Northeastern Population) (hereafter, RTRT) since 1988; however, these comments are submitted in my capacity as an individual expert and not as a representative of RTRT.

These comments are limited to the sections of the DEIS-DEIR that address possible risks to birds resulting from the Cape Wind Energy Project: specifically, Section 5.7 and Appendices 5.7-A through -N. I have reviewed other sections of the DEIS-DEIR, including Section 3.4.3.2.1 (Alternatives Analysis), Section 6.3.3.4 (Post-Construction Monitoring) and descriptive material in Sections 3.0 and 4.0 to the extent necessary to evaluate the cited sections on potential impacts on birds.

### **3. Authorship and Completeness.**

Appendices 5.7-A through 5.7-M are authored by consultants to the Applicant, The relevant parts of the text of the DEIS-DEIR also appear to have been written or drafted by the Applicant or its consultants, and rely entirely on the data and analysis in Appendices 5.7-A through 5.7-M, without evidence of critical review. Some conclusory statements in the text appear to have been copied verbatim from the Appendices or from early drafts that were prepared by the Applicant. Although it is appropriate for the field work and initial analysis to be conducted by the Applicant or its consultants, and for the Applicant's reports to be appended to or referenced in the DEIS-DEIR, the Corps should not rely uncritically on these reports. The current draft DEIS-DEIR relies so heavily on the studies and assessments by the Applicant that it suggests that the Corps is no more than an agent of the Applicant. The Corps should conduct an independent, critical review of the data, analysis and conclusions (either itself or through hiring an independent consultant or expert panel), and should make clear what conclusions are its own and in what ways they differ from the Applicant's. The final EIS-EIR should be updated to include the latest available information.

Appendix 5.7-H is not only authored by consultants to the Applicant, but is marked "Internal Review Only". It is not clear why this uncompleted draft has been included in the DEIS-DEIR, nor why the Corps has relied upon it.

### **4. Need for a Programmatic EIS.**

The proposed project would be the first wind power project to be located in inshore marine waters of the United States, but already many more have been planned or proposed. These projects pose new and in some respects unique environmental hazards, many of which are generic to the offshore environment and will recur with each project that is proposed. This DEIS-DEIR addresses several of these generic issues, but does not resolve any of them in an acceptable way. As I will show in succeeding comments, the Applicant in this proposed project (Cape Wind) has done a very poor job in planning, conducting and reporting studies of the affected environment and the environmental resources at risk. This is partly because the Corps (itself with no experience of the issues) did a poor job in scoping the studies and (apparently) did a poor job in overseeing them and reviewing the reported results. The Corps appears to have developed a somewhat adversarial relationship with other government agencies with expertise in marine environmental resources and with individual experts in the scientific community. Specifically, the Corps did not allow these agencies and experts to comment on its Scoping document, and did not release (or require the Applicant to release) interim reports on the study until the DEIS-DEIR was nearly complete. The result (as detailed in my comments below) is that parts of this DEIS-DEIR are incomplete and inadequate, so that it cannot be used as the basis for a defensible decision. Lengthy additional studies will now be needed.

Many of these deficiencies could have been averted if the Corps had conducted a generic review at the outset, with input from resource agencies and from the scientific community. This could have identified the resources at greatest risk, the studies needed to assess these risks in specific local circumstances, and appropriate mitigation measures. This could have been achieved if the Corps had prepared a Programmatic Environmental Impact Statement at the outset of the process. I recommend that the Corps should now do so, before specifying the additional studies that will need to be carried out in this case.

## **5. Terminology.**

The DEIS-DEIR frequently uses the term “Wind Farm” or “Wind Park” to describe the proposed project, or other groups of turbines used to capture power from the wind. This proposed project (like others referred to in the DEIS-DEIR) is neither a “Farm” nor a “Park”. It is an engineering project designed to convert power from the wind into electrical power. The terms “Wind Farm” or “Wind Park” are misleading metaphors that appear to have been coined to create a favorable impression of the project by referring to it in terms that imply rural or recreational values it will not provide. I presume that these terms were written into the DEIS-DEIR by the Applicant. The Corps should not display bias in favor of the project by including these terms in a document that is nominally its own work product. I suggest using the neutral terms “Wind Power Project” or “Turbine Array”.

As an agency that is supposed to have expertise in engineering, the Corps should also avoid using the term “Energy” in contexts where the correct term is “Power”.

## 6. Scope of the Evaluation.

Appendix 5.7-H states “This Evaluation .... has been prepared in accordance with the USACE Scope for the Cape Wind DEIS ... which was developed in consultation with USFWS, MassWildlife, and Massachusetts Audubon Society...”. The citation of these institutions may be intended to imply that they approved of the USACE Scope. In fact, although these institutions (and I, as an independent expert) submitted suggestions to the Corps during the scoping process, we were not made aware of the contents of the USACE Scope, and were not given any opportunity to review and comment on the scope or design of the Applicant’s field studies. As detailed below, the scope and design of the Applicant’s field studies, as described in Appendices 5.7-A through M, ignored a number of suggestions made by these institutions and by myself. Hence, the assessments are substantially incomplete or deficient in several respects. This outcome could have been avoided if either the Corps or the Applicant had submitted drafts of the Scope or the study designs for advance comment, or even if they had released draft reports on the first year’s work. I repeatedly asked the Corps for the opportunity to review and comment on the scope and design of these studies, and I offered to provide constructive comments without fee. However, the Corps declined this offer and sent me nothing to review until June, 2004, when it sent me an incomplete draft of the evaluation of the Roseate Tern and Piping Plover in Appendix 5.7-H. Although I sent some comments on this Appendix, I was unable to review it fully because it was incomplete and referred to the other documents that I was asked not to review. If I had been able to review either the Scoping Document or interim reports at earlier dates, my comments could have been more constructive.

Since receiving the DEIS-DEIR and writing the previous paragraph, I have seen an undated document entitled “Environmental Impact Statement -- Scope of Work” which starts “This is the Corps of Engineers scope of work....”. Assuming that this is in fact the document referred to as the “USACE Scope” and was issued to the Applicant at an early stage in planning the field studies, it is pathetically vague and inadequate. It contains only one short paragraph on Avian Impacts, which includes only three short sentences specifying new field studies. These lay out in very general terms what data should be collected, ignoring many of the recommendations made by myself and by the wildlife agencies. Although the studies conducted by the Applicant did not meet even the modest requirements set out in this document, the Corps bears some of the responsibility for the inadequacy of the studies because it failed to specify the requirements in sufficient detail, because it failed to incorporate recommendations made by experts, and because it did not make this document available for review.

The field studies included radar studies (Appendices 5.7-E and J) and aerial and boat surveys (Appendices 5.7-C, F, K, L M and N). I assess the scope and design of these studies in relation to the specifications in the “USACE Scope”, and also in relation to my recommendations in the scoping process (my letter dated 26 March 2002):

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“To assess potential risks to migrating landbirds, **fuller and more precise information is needed on numbers, timing, and heights of flight of birds passing through the project area, especially at night during September, October, and early November....**

“To assess potential risks to migrating waterbirds, **fuller and more precise information is needed on numbers, locations, timing, and heights of flight of birds passing through the project area, especially during evenings and at night during April-May and September-November....**

“To assess potential risks to terns (including the federally Endangered Roseate Tern and the state-listed Common Tern), **fuller and more precise information is needed on numbers, timing, and heights of flight of birds passing through the project area, especially by day in May-September and in late evenings and early mornings in August and September.**

“To assess potential risks to resident and wintering waterbirds, **fuller and more precise information is needed on numbers, timing, and heights of flight of birds passing through the project area, especially in evenings and at night, throughout the year....**

“To assess potential risks to wintering sea-ducks, **fuller and more precise information is needed on their distribution and movements within Nantucket Sound, including heights of flight of any birds that may pass through the project area, especially at night....**

“To assess potential risks to birds flying over Nantucket Sound at night, whether migrating or in transit to roosts or nesting areas, **information is needed on the extent to which the lights proposed for installation on the project towers would attract birds under different weather conditions, and expose them to risk of collision with the towers or rotating blades....**

“A common feature of most of these scenarios is that birds would be primarily at risk when traversing the project area at night. Hence, **studies of the numbers, distribution and movements of birds through the project area during daylight hours will not be sufficient to address these questions.**

“In my opinion, it will be essential to study the movements of birds through the project area at night (including late evenings and early mornings), and radar is the only feasible method for obtaining the required information. Accordingly, I recommend that a comprehensive radar study be required as part of the Environmental Impact Statement for this project. ...

“At a minimum, the station should be operated throughout each night (from early evening to mid-morning) during the migration seasons (mid-April to late May and late August to mid-November), and in evenings and mornings at other times of year

(daily from late July through August and periodically at other times of year). One year's sampling will not be sufficient: I recommend at least a three-year study to ensure that critical but infrequent weather conditions are encountered.

“In addition, I recommend that focused radar studies should be conducted during the migration seasons to investigate the response of migrating birds to the tower lights during nights with low overcast, mist, fog, or rain.” (All emphases in original).

Similar or identical recommendations were made by agencies with Trustee responsibility for migratory birds and with expertise in avian risk assessment, including the U.S. Fish and Wildlife Service (USFWS) and the Massachusetts Division of Fisheries and Wildlife (MDFW).

**VIRTUALLY NONE** of these recommendations was followed in the studies conducted by the Applicant and reported in Appendices to the DEIS-DEIR. The Corps appears to have negotiated with the Applicant behind closed doors and has made decisions about the scope of studies that would be acceptable, without soliciting comments on these decisions either from experts or the general public. By including the Applicant's flawed studies in the DEIS-DEIR and by parroting the Applicant's conclusions in the text, the Corps is thumbing its nose at expert opinion and is assuming full responsibility for the inadequate design, execution and interpretation of the field studies.

Although page 13 of Appendix 5.7-H asserts that field data for five years are available, the DEIS-DEIR presents systematic data for the project area for only two years, 2002 and 2003; the surveys in 1991 and 1992 were outside the project area, and the surveys in 2001 were preliminary (pilot) studies only. Both USFWS (letter dated 8 May 2002) and Dr. Nisbet (letter dated 26 March 2002) advised USACE that “at least” three years' data would be required; MassWildlife recommended “several years of careful work” (letter dated 20 December 2001). These recommendations for three years' data collection were intended to be understood as minima (“at least” three years), rather than maxima; they were intended as compromises between the desirability to monitor for long periods to detect infrequent events and the costs of longer-term studies and of delays in approval and construction. In response, the Corps merely specified “Information derived from other studies, which provides a three-year baseline data set, should be included *if available*” (emphasis added). The phrase “if available” is ambiguous, but evidently encouraged the Applicant to limit its studies to two years; this must have been approved by the Corps in private discussions with the Applicant. To my knowledge, the Corps has never explained why it would regard two years' data as sufficient, nor has it offered USFWS, MDFW or myself any opportunity to comment on this decision. I repeat that **at least** three years' data will be required before defensible decisions about risk could be made.

Appendix 5.7-H (page 13) indicates that a third year's field data (2004) have been collected by Mass Audubon, but does not refer to these data, even though the DEIS-DEIR

was dated November 2004, long after the field studies were completed. I do not know whether the design or execution of Mass Audubon's studies will prove sufficient to provide the third year's data that the wildlife agencies and I regard as minimal. However, I understand that Mass Audubon's studies were limited to the summer months (May-September), so they will not help to fill the gaps in information on migrating and wintering birds that occur in other months. At a minimum, the final EIS-EIR must include the data from Mass Audubon's 2004 studies, as well as independent evaluation of all the studies.

The aerial and boat surveys reported in the DEIS-DEIR provide information on the numbers and heights of flights of terns and other waterbirds within the project area during daylight hours in May-September. However, they provide virtually no information of any kind about *movements* of waterbirds through the project area in May-September, nor about "movements, timing, and heights of flight of birds passing through the project area ..... in late evenings and early mornings in August and September". Likewise, they provide information on the distribution of sea-ducks and other wintering waterbirds during daylight hours in November-March, but virtually no information of any kind about *movements* of these waterbirds through the project, nor about "numbers, timing, and heights of flight of birds passing through the project area ..... at night." Although radar studies were conducted during parts of May and September in one year, only minimal information is presented on the results of these studies, and this does not address any of the information needs listed above except for summary data on bird densities and heights of flight during those months. The minimal information on these topics that is referred to in the DEIS-DEIR is discussed in the next two sections of these comments.

## 7. Aerial and Boat Surveys

Aerial and boat surveys are reported in Appendices 5.7-C (July-September 2001), 5.7-D (December 2001 and March-April 2002), 5.7-F (May-August 2002), 5.7-G (September 2002- February 2003), 5.7-K (March-June 2003), 5.7-L (June-August 2003), 5.7-M (September 2003 – February 2004), and 5.7-N (May-September 2002-2003). The surveys in 2001 were reported as pilot studies and are not considered further here. Some of the remaining surveys overlap the natural divisions in the annual cycle of waterbirds (spring migration, breeding season, autumn migration, winter season). For a breakdown that is more biologically meaningful, I divide the surveys into three groups:

(a) *Breeding season* (May-September). The Applicant reported 17 aerial and 10 boat surveys during this period in 2002 and 2003 (Appendices 5.7-F, -G, -K, -L and -M). In addition, Mass Audubon reported 9 aerial and 3 boat surveys during this period in 2002, and 3 aerial and 13 boat surveys during this period in 2003 (Appendix 5.7-N). Most of the birds registered during these surveys were terns, gulls and cormorants. This period includes spring and autumn migrations for terns, as well as the breeding season, post-breeding dispersal and staging for terns, gulls and cormorants. As stated above, I regard the two-year coverage as **inadequate**, although Mass Audubon's surveys in 2004

will probably fill this gap. The coverage within years is **minimally adequate**, given the marked seasonal differences in tern distribution.

Appendix 5.7-F also includes summaries of birds seen from a boat on 13 days in 2002 (9 days on Horseshoe Shoals in May-June and 4 days near Cape Poge in September). These observations were described as intended to serve as “ground-truthing” for the radar surveys. However, they were apparently not used for that or any other purpose and hence are of **no value** for risk assessment.

(b) *Migration periods* (April and October-November). The Applicant reported 11 boat surveys and 5 boat surveys during these periods. These periods include the arrival and departure of wintering sea-ducks, departure and arrival of Common Terns and some gulls, and passage migration of transient waterbird species such as loons, gannets and cormorants. For most of these species, larger numbers were recorded during these periods in one or both of the years studied than in the summer or winter periods. Because most of these birds were in transit through the area during these periods, considerable fluctuations in numbers are expected from day to day and even from hour to hour. Accordingly, the 11 aerial surveys and 5 boat surveys during two years are **seriously inadequate** to characterize the numbers of any of these species at risk from the project.

(c) *Winter period* (November-March). The Applicant reported 22 aerial surveys but no boat surveys during this period, including 4 surveys during November that have been included in the previous paragraph of these comments. As these surveys demonstrate, this is the period in which sea-ducks, grebes and alcids occur in largest numbers, as well as important numbers of some species such as loons and gulls that are present in larger numbers during migration. For these species, the surveys were **minimally adequate** to characterize the numbers and distribution during daylight hours in the two years covered. However, they were **inadequate** to characterize the late evening and early morning movements of Long-tailed Ducks and other species that were identified in my comments and in those of the wildlife agencies as critical for risk evaluation. Also, despite the arguments in Appendix 5.7-B, two years’ data are **not sufficient** to characterize the variability in numbers of birds within the project area.

*Limitations of aerial and boat surveys.* Subject to the limitations discussed below, the Applicant’s aerial and boat surveys were well designed and appear to have been well conducted and reported. Apart from the fact that the quantitative information on the occurrence of waterbirds in the study area is based on only 45 aerial and 28 boat surveys in two years (see above), these field studies have two important limitations. The first, acknowledged by the Applicant, is that they were restricted to daylight hours (0500-2000) and to good weather. In spite of the statements by myself and others that observations during bad weather and in early mornings and late evenings would be essential, virtually no information was obtained about the occurrence or movements of waterbirds in these circumstances.

The second limitation, not acknowledged either by the Applicant or by the Corps, is that the information presented is on the *occurrence and density* of waterbirds present

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on Horseshoe Shoals and other parts of Nantucket Sound, not their *movements* through the project area. In the winter months, birds such as eiders, scoters, grebes and alcids that frequented Horseshoe Shoals probably spent much of their time on the water and would only have been at risk from collision with turbine blades during their arrival, departure, and occasional flights within the area. However, the field studies conducted by the Applicant and by Mass Audubon indicate that these species at other times of the year, and most other birds throughout the year, probably spent little time resting or feeding within Horseshoe Shoals. Instead, most of the observations probably referred to birds on transit through the area; each transit by each individual bird would have placed it at risk. For example, the observation of a single cormorant or gannet in the air during an aerial transect in April or October might have represented more risk than that of a flock of hundreds of scoters on the water in December. Because the Applicant's field surveys did not attempt to measure the numbers of birds flying *through* the project area at any time of year, they are **seriously deficient** as the basis for any risk assessments (see further discussion below under species and groups of species).

## 8. Radar Studies.

(a) *Scope*. The Applicant also reported observations of flying birds using two radars during the periods 8 May – 7 June and 3-30 September 2002, on a “jack-up” barge on Horseshoe Shoals and on a nearby land site at Cape Poge, Martha’s Vineyard, respectively (Appendices 5.7-E and J). These periods of operation fell far short of the multi-year studies called for as minimal in my comments during the scoping period: “each night (from early evening to mid-morning) during the migration seasons (mid-April to late May and late August to mid-November), and in evenings and mornings at other times of year (daily from late July through August and periodically at other times of year)”. In particular, they overlapped by only 13 days with the mid-July to mid-September period identified as the period of greatest potential risk to Roseate Terns by myself and Dr. Hatch, and did not cover at all the period from mid-July to mid-August when juvenile terns are learning to fly and to forage. Even within the 60-day periods of operation, equipment malfunctions limited the data obtained to only 59% of available hours (26 days and 26 nights) in spring and 60% of available hours (24 days and 25 nights) in autumn. Presenting these meager observations as though they were representative of the movements of birds through the area is **unwarranted**.

Appendix 5.7-F also includes summaries of birds seen from a boat on 13 days in 2002. These observations were intended to serve as “ground-truthing” for the radar surveys. However, they were apparently not used for that purpose and are not mentioned in the reports on the radar studies, except for two tables which were added at the end of Appendix 5.7-J. No useful findings are mentioned in the reports on the boat surveys, either.

The USACE Scope specified the following: “Data on use *throughout the year, especially through November for migratory species, and under a range of conditions* should be collected. Data collection methods should include remote sensing through

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radar and direct observations through aerial reconnaissance and boat-based surveys. *Data gathered through radar should be validated with direct observations*” (emphases added). The Applicant’s studies did not meet the specifications italicized, and hence are unacceptable even by the Corps’ lax standards.

(b) *Classification of Targets*. Without any serious attempt at “ground-truthing”, the radar observations **are of little use** for evaluating numbers or species of birds passing through the project area. Most of the data presented are numbers of “targets” detected by the radars, with crude breakdowns by season, time of day, ground speed, direction of flight and magnitude of target.

Data were obtained using two radars: TracScan to plot the distribution and tracks of targets in the horizontal plane, and VerCat to measure heights of flight. Targets detected by the TracScan radar were divided into two categories based on speed: “Slow” (< 27 knots), or “Fast” (> 27 knots). These were ground speeds (Appendix 5.7-E, p. 5). However, ground speeds are of **little or no value** for classifying flying birds because they depend very strongly on wind velocity. For example, a small bird with air speed of 20 knots (34 km/hr) would have ground speed of only 10 knots (17 km/hr) when flying into a head wind of 10 knots, but ground speed of 30 knots (52 km/hr) when flying with a tail wind of 10 knots. Thus, the ground speed of a target gives no information whatsoever about the size or other characteristics of the birds(s) unless the air speed is calculated. **All the data in Appendices 5.7-E and 5.7-J must be recalculated** in terms of air speed before they will have any value for biological inferences. When this is done, the targets should be classified into more than two categories: “Fast” and “Slow” provide little meaningful information about the nature and composition of targets.

Targets detected by the VerCat radar were divided into four categories based on inferred size: “Small” (< 80 g), “Medium” (80-800 g), “Large” (> 800 g) and “Flock” (Significantly > 800 g). This classification is **of limited value** given the expected range of targets, from small landbirds flying singly (10-15 g) to flocks of cormorants or other large birds (10-100 kg). If targets could be classified reliably according to total mass, then many more categories should have been distinguished. If (as I suspect), targets cannot be classified reliably on the basis of mass or other measures of body size or flock size, then this fact should have been acknowledged and the data should have been reported accordingly. Because the strength of a radar echo (and hence the inferred size of a target) varies with the 4th power of distance, it would have been more meaningful to report and classify targets according to their radar cross-sections than to have attempted to classify them by mass.

(c) *Estimates of Target Density*. Table 3 in Appendix 5.7-E presents seasonal averages of “Tracks per hour”. This metric is stated to be “roughly equal to **birds** tracked within the 8 nautical mile (14.8 km) area within which the TracScan radar registered birds (out to about a 4 nautical miles [7.4 km] from the radar” (emphasis added). It appears to have been assumed (a) that targets can be equated with birds; and (b) that all birds within the 7.4 km circle were detected. The first assumption is known to be wrong: many of the birds detected and reported in the aerial and boat surveys were in

flocks, each of which would have been detected as a single target. The second assumption is very unlikely to be true, for three reasons:

(i) the power density in the beam declines with the angle off-axis, so that targets at angles between  $3^\circ$  and  $12.5^\circ$  above the horizontal are progressively less likely to be detected; this would limit the detection of small targets at close range ( $3^\circ$  and  $12.5^\circ$  above the horizontal correspond to altitudes of 52 and 222 m at a range of 1 km); this would also be true for birds below the beam axis (e.g., all birds flying at rotor height at ranges greater than about 2.8 km);

(ii) targets above the upper margin of the radar beam ( $12.5^\circ$  above horizontal) would not be detected at all;

(iii) even close to the axis of the beam, distant targets would not be detected because they return echoes too weak to be registered.

To relate the numbers of targets detected to the numbers of targets in the air as functions of radar cross-section, altitude and range, would require calibrated information on the performance of the radar equipment, including polar diagrams of the dependence of the minimum detectable radar cross-section on the off-axis angle. Appendices 5.7-E and -J present no useful performance information except the statement that “TracScan’s operational detection range for large birds (i.e. geese) is over 10 nmi (18.5 km)”. Assuming that detection range scales approximately as  $\text{mass}^{0.25}$ , the “operational detection range” for a 10-g bird would be about 4.1 km, and that for a 100-g bird would be about 7.4 km. Detection ranges would be smaller for targets off-axis. This rough calculation suggests that many small and some medium-sized birds would have been missed in the outer parts of the scanned circle.

For all these reasons, the numbers listed as “Tracks per hour” in Table 3 are likely to be substantial underestimates. These numbers cannot be used as estimates of the numbers of birds passing per hour without correction for the geometrical biases pointed out above, and factoring in data on average flock size.

(d) *Calculation of Traffic Rates.* Appendix 5.7-E also presents calculations of “traffic rates”, defined as “numbers of radar tracks per hour per kilometer of front. These numbers appear to have been calculated using the formula:

$$\text{Traffic rate (targets/km/hr)} = \text{tracks per hour} / \text{diameter of scanned circle (km)}.$$

For example, for “Slow” Tracks in spring, 663 Tracks per hour in Table 3 was divided by 14.8 km to obtain the traffic rate of 44.8 targets/km/hr listed in Table 4. This would be correct if all birds passing through the circle in each hour were detected. However, because many distant birds are likely to have been missed (see previous section), the effective length of the “front” putatively crossed by the birds is likely to have been substantially less than 14.8 km.

(e) *Heights of flight.* Summary statistics on the altitudes at which targets were detected by the VerCat radar are presented in Attachments 3 and 4 of Appendix 5.7-E. Because the data presented are simple counts of targets falling into various categories, these data evidently have not been converted to target densities or otherwise corrected for differential detectability. However, because the radar beam spreads linearly, birds flying low are less likely to be detected than birds flying at moderate altitudes; birds flying very high are also less likely to be detected because the “typical operation range” is only 1,375 m downrange and 2,750 m vertically.

The limited technical information given in Appendix 5.7-J defies rational interpretation. Page 6 states that a minimum of 3 registrations were required to record a “track”. A bird flying at 40 km/hr (ground speed) will travel 56 m in 2 revolutions of the VerCat beam (5 sec). At a nominal 1° beam width, the beam does not reach 56 m width until 3,180 m from the source, far beyond the typical operating range. Thus, according to information given, the VerCat radar could not detect **any** tracks of birds passing overhead except for birds flying in the plane swept out by the radar beam (stated to be east-west). At oblique angles, detectability will be higher. However, even at a 15° angle, the beam does not reach 56 m width until 3,070 m horizontally from the source (820 m altitude); again, no birds would be detected except those flying in or near the east-west plane. At all angles, the VerCat radar will detect few birds flying north-south and far more birds flying east-west than NW-SE or NE-SW; at all angles, it will detect far more birds flying high than flying low, up to the heights where high-flying birds are lost because they are out of range. Because of these geometric properties of the VerCat radar, the data presented in Attachments 3 and 4 **cannot be used** to make inferences about the proportions or numbers of birds flying in the rotor-swept-zone, unless and until they have been corrected for the large variations in detectability according to target size, height, and ground speed.

(f) *Directions of flight.* Data on directions of flight are summarized into 16 compass-rose diagrams, representing various combinations of spring/fall, day/night, fast/slow targets, and clear/nonclear weather. These broad classifications are of little use for interpretation or assessments of possible risks. Compounding this problem, the data are reported as headings, calculated from the observed tracks using unspecified data on wind velocities. Because the targets were divided into two broad categories (faster or slower than 27 knots), the calculated headings are subject to substantial error. Tracks are more relevant to risk assessment than headings, and should have been reported.

(g) *Spatial gradients.* All data from the TracScan radar are reported as composites for all parts of the 7.4 km circle that was nominally covered. Hence, all information about spatial gradients in bird numbers has been lost. This is of particular concern for the birds tracked from Cape Poge in September, many of which would have been overland. Birds flying over land have little or no relevance for risk assessment for the marine site and should have been omitted from the summaries. Even the data for birds flying over water should have been analyzed to identify which birds were likely to have flown through the project area. Most seabirds avoid flying over land, so it is likely that the conformation of the land areas around Nantucket Sound would have led to

marked differences in flight patterns. In spring, for example, it is to be expected that seabirds migrating northeastwards would be diverted east by the south shore of Martha's Vineyard, and hence would be concentrated into a stream running northeast from the southeast point (Wasque). Depending on the flight directions of birds in this stream (NNE, NE or ENE), they may or may not cross the project area. This is important information and should have been reported in a way that is useful for risk assessment.

#### **9. Discrepancies between radar and aerial survey data.**

The radar data were not interpreted and were not compared with the visual observations in any way, despite the reported intention to "ground-truth" the radar data and despite that Corps' specification that "*Data gathered through radar should be validated with direct observations*". For example, terns are probably the seabird species at greatest risk in September. During 24 days of daytime operation in September, a total of 174,113 "Slow" and 128,861 "Fast" targets were tracked by the TracScan radar. These were calculated to correspond to average traffic rates of 46.7 and 34.6 targets per km of front per hour, respectively. Using the VerCat radar, 76% of daytime targets in September were above rotor height, 24% were in the rotor-swept zone (23-126 m above sea level), and only 0.3% were below rotor height. There is a complete disconnect between the visual record of 356 individual birds within the study area on 25 September 2002, mostly cormorants, seaducks, gulls and terns flying at altitudes less than 12 m above the water (Appendix 5.7-F, Table A), and the 11,156 targets detected by the radar on that day, mostly small and medium-sized targets flying higher than 23 m (Appendix 5.7-J, Table 12). The Applicant's reports made no attempt to relate the two or to explain the discrepancy. Obviously, the radar data showing "targets" flying within the rotor-swept zone are directly relevant to risk assessment, but the Applicant's Evaluation dismissed the radar data in one sentence (Appendix 5.7-H, p. 22).

The Applicant's reports acknowledge that the radars were not configured to detect birds flying close to the water surface, but the failure of the aerial and boat surveys to detect the targets higher than 23 m requires explanation. The most likely explanation is that the observers in aircraft or boats simply missed the high-flying birds. Except for large, dark birds such as cormorants, it is difficult to see high-flying birds against a bright sky, especially from a moving boat. The aerial surveys were conducted by looking downward between calibrated markers from an aircraft flying at 75 m altitude. In these circumstances, no birds flying higher than 75 m would have been observed, and birds flying between 23 and 75 m would have been difficult to detect (a) because the observers' attention was directed to the sea surface, (b) because the width of the transect declined linearly with distance below the aircraft, and (c) because they would be seen more fleetingly than birds further below. For these reasons, the data on heights of flight reported in the aerial and boat surveys should not be used to infer lack of risk.

#### **10. Roseate and Common Terns.**

Potential risks to Roseate and Common Terns are addressed in Appendices 5.7-H and 5.7-I, respectively. The relevant field studies were those carried out during the approximately 170-day period when these terns are present in the Nantucket Sound area (20 April – 30 September for Common Terns, 1 May – 16 September for Roseate Terns). The Applicant reported 7 aerial and 9 boat surveys during this period in 2002 (Appendices 5.7-D and -F), and 11 aerial and 4 boat surveys during this period in 2003 (Appendices 5.7-K, L and M). In addition, Mass Audubon reported 9 aerial and 3 boat surveys during this period in 2002, and 3 aerial and 13 boat surveys during this period in 2003 (Appendix 5.7-N). For reasons given above, the two-year coverage is inadequate, although Mass Audubon's surveys in 2004 may fill this gap. The coverage within years is minimally adequate, given the marked seasonal differences in tern distribution.

(a) *Results of aerial and boat surveys.* The reported results of aerial and boat surveys indicated that (a) most terns observed in the systematic surveys were close to the shorelines of either Cape Cod or Monomoy, Nantucket, Tuckernuck or Muskeget Islands; (b) substantial numbers of terns were also observed over shoals immediately to the north of the project area of Horseshoe Shoals (HSS); (c) terns were observed regularly over HSS, but in much smaller numbers; and (d) observed numbers were larger in May and July-September than in June. Mass Audubon's field studies gave generally concordant results, although their aerial surveys in 2002 were not designed to yield quantitative estimates of bird density.

The Applicant's aerial surveys were designed to yield quantitative estimates of bird density through use of calibrated transects. Densities of terns (pooling Roseate and Common Terns) were reported as totals over surveys both inside and outside the period when Roseate Terns were present. Reanalyzing the data to yield mean densities over all the surveys that were conducted within this period, the average densities on HSS (Alternative 1) were about 0.77 terns km<sup>-2</sup> in May-August 2002 (6 surveys), 3.95 terns km<sup>-2</sup> in May – early June 2003 (2 surveys), and 0.10 terns km<sup>-2</sup> from mid June – mid September 2003 (7 surveys). Mass Audubon's boat surveys similarly showed much larger numbers in May 2003 than later in that year. The wide variations in density within and between years illustrate the need to continue the surveys for at least one more year. The densities cited above correspond\* to average numbers of about 85, 435 and 11 terns, respectively, within the project area of 110 km<sup>2</sup>.

Estimating the relative numbers of Roseate and Common Terns is made difficult by the fact that only about 40% of terns could be identified to species. Restricting attention to terns observed over the study area, the proportion of Roseates among the terns so identified was 209/2,508 (8%) from May – August 2002, 94/397 (24%) in May – early June 2003, and 23/185 (12%) from mid June – mid September 2003.

The Applicant's observations during aerial and boat surveys indicated that almost all (>98%) of the terns observed in the study area were below rotor height (23-127 m), although two flocks of terns were observed at rotor height outside the study area and 47 terns were seen at rotor height within the study area in 2002 (Table 10 in Appendix 5.7-

F). However, the reliability of these findings is questionable, for reasons stated in Section 9 of these comments.

(b) *Limitations of field studies.* Apart from the fact that the quantitative information on the occurrence of terns in the study area is based on only 21 aerial and 13 boat surveys in two years (see above), these field studies have two important limitations. The first, acknowledged by the Applicant, is that they were restricted to daylight hours (0500-2000) and to good weather. In spite of the statements by myself and others that observations during bad weather and in early mornings and late evenings would be essential, virtually no information was obtained about the occurrence or movements of terns in these circumstances.

The second limitation, not acknowledged by the Applicant or by the Corps, is that the information presented is on the *occurrence and density* of terns present on Horseshoe Shoals, not their *movements* through the project area. Unlike sea-ducks, terns infrequently rest on the water; when observed at sea, they are usually flying, either while foraging or *en route* to somewhere else. Terns are at little risk of collision with turbine rotors when they are foraging, because they are then usually within 10-15 m of the sea surface; the main risk of collision is when they are commuting, when they sometimes fly higher. The only information that would throw light on this is the report by Mass Audubon (Appendix 5.7-N, Table 2), that 62% of the Common Terns and 100% of the Roseate Terns observed on HSS in 2003 were traveling. Depending on the direction of flight and the wind velocity, a tern would travel through the entire project area in about 10-15 minutes. Hence, even if high-flying terns had not been overlooked (see below), the estimated number of 435 terns in the area at any one time in May-early June 2003 would correspond to 1,700-2,500 transits per hour. If these numbers were maintained throughout a 14-hour day and throughout the period from early May to early June, this would correspond to roughly 800,000 – 1,200,000 transits (24% Roseates). These estimates are derived by extrapolation from a very small data set and are obviously extremely rough, but since the observations were designed to yield systematic samples, it should be possible for the Applicant or the Corps to derive statistically-based estimates and ranges. The point made here is that a “small” number of birds observed on a set of transects through the area does not mean that the number of birds at risk is small, unless statistically valid methods of estimation are used.

These two limitations are combined when attempting to consider the commuting of terns to and from their daytime staging areas and nocturnal roosts around Nantucket Sound in July-September. These commuting flights were identified as the principal risk to terns from the project both by myself (my letter of 26 March 2002) and by the Applicant’s consultant Dr. Hatch (Appendix 5.7-C). However, the field surveys were not designed to yield information on these flights and did not do so. The reports include only a few anecdotal observations that are relevant.

The main nocturnal roost of Common and Roseate Terns, at least in late August and early-mid September, is at South Beach in Chatham (Trull et al. 1999). Most terns arrive at this roost late in the evening (some after dark); I know of no observations of the

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times of departure. At roosts in winter quarters in Brazil, almost all Roseate Terns arrive after dark and depart before first light (H. Hays, unpubl. obs.) and I think it likely that behavior is similar at South Beach. Both Dr. Hatch (Appendix 5.7-H, p. 16) and I (unpubl. obs.) have seen and heard flocks of Common and Roseate Terns arriving at South Beach after sunset, descending from heights of 37-60 m (or higher). The Applicant's Evaluation of the Roseate Tern (Appendix 5.7-H, p. 16) argues that Roseate Terns would only fly high in this way when crossing land, but this argument is unconvincing without more data on birds commuting over water. The Evaluation claims (p. 16) that terns of both species flying towards their overnight roost at Fernando's Fetch on 1 and 15 August 2002 were below 9 m elevation. However, the original report (Appendix 5.7-F, p. 10) stated that these terns were flying higher than 18 m. I consider it likely that terns habitually fly high on commuting flights, especially after sunset and before sunrise, and especially when they are flying downwind. Specific evidence to the contrary would be required before this source of risk could be discounted.

The project area at HSS does not lie directly between the roosting area at South Beach and either known daytime resting areas (Trull et al. 1999) or major feeding areas (as documented in the surveys by the Applicant or Mass Audubon). However, neither Trull et al. (1999), nor the Applicant, nor Mass Audubon surveyed the parts of Martha's Vineyard from which terns would fly through the project area on a direct course to South Beach. Systematic observations will be required before it can be concluded that numbers of terns making commuting flights from these areas are low. These observations could easily have been made already if either I or the wildlife agencies had been given the opportunity to review the design of the field studies.

Of greater immediate concern is the tern roost at "Fernando's Fetch" (Appendix 5.7-F, p. 10). The project area at HSS lies directly between this roost and major feeding areas to the north and northeast, and indeed the Applicant reported seeing terns flying (some at over 18 m height) through the southern part of the study area towards Fernando's Fetch after dark on 15 August 2002. This anecdote resulted from a single unplanned observation; systematic observations and assessments of risk are needed. Fernando's Fetch is a recently-formed island, and if it continues to grow in size, I predict that it will become more important as a tern roost and might even displace South Beach in importance, because it is more secure from nocturnal human disturbance and nocturnal predation. If so, risks to commuting terns would increase.

(c) *Radar studies.* The radar studies conducted in September overlapped by only 13 days with the mid-July-mid-September period identified as the period of greatest potential risk by myself and Dr. Hatch, and did not cover at all the period from mid-July to mid-August when juvenile Roseate Terns are learning to fly and to forage. Although the May-June radar studies were at the time of year when the greatest numbers of terns were seen on HSS in 2003, there were virtually no field surveys on HSS at this period in 2002 (one aerial survey on 22 May and no boat surveys). Without any attempt at "ground-truthing", the radar observations are of little use for evaluating numbers of terns passing through the project area. Most of the data presented are numbers of "targets" detected by the radars, with crude breakdown by season, time of day, ground speed,

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direction of flight and magnitude of target. Single terns or small groups would have fallen into the "Medium" target category (80-800 g), but flocks of more than 6 birds would have fallen into the "Large" or "Flock" categories (> 800 g). Foraging terns would probably have fallen into the category of "Slow" targets (< 27 knots), but commuting terns would probably have fallen into the "Fast" category, at least when flying downwind. Average traffic rates of 46.7 and 34.6 targets per km of front per hour were reported for "Fast" and "Slow" targets, respectively. Using the VerCat radar, 24% of daytime targets in September were in the rotor-swept zone (23-126 m above sea level). These data are not specific to terns, but are consistent with substantial traffic of tern-sized targets through the rotor-swept zone.

(d) *Evaluation of Potential Collision Losses.* The Applicant's "Evaluation" of the Roseate Tern (Appendix 5.7-H) summarized the field studies referred to above, but did not mention the radar studies except to dismiss them in one sentence (p. 22). It then (p. 23) proceeded to discard all the data from the field studies as well (!), and instead based its risk assessment (pp. 23-24) on a report on Common Terns found dead at a terrestrial turbine array in Belgium. The Applicant's risk assessment referenced an unpublished report (Everaert et al. 2002) that is not available for review, as well as additional unpublished information from the first author (J. Everaert). After reviewing the published paper on this study (Everaert 2004), I believe that it could provide a partial basis for risk assessment for terns at HSS (specifically, because it gives an empirical value for the proportion of Common Terns flying in the rotor-swept-zone at the Belgian site that were killed). However, use of this value would require better site-specific data on the numbers of terns flying in the rotor-swept-zone at HSS, as well as scaling factors to take account of the greater number and larger size of the rotors at HSS. The Applicant's risk assessment (Appendix 5.7-H, p. 24) includes scaling factors, but its assumptions about the numbers of birds at risk ignore its own field studies and appear to be based largely on guesswork. The Applicant's Biological Review of the Common Tern (Appendix 5.7-I) cited some of the same data, but concluded that "No biologically realistic or precise prediction of number killed is possible with the available data." The text of the DEIS-DEIR (p. 5-135) similarly makes numerical estimates of possible deaths of Roseate Terns, but not of Common Terns. It is not clear why the Applicant (and by adoption, the Corps) is willing to make numerical estimates for one species but not for the other. The assessments of risk in the cited sections of the DEIS-DEIR are unsound and unacceptable. I recommend that risk assessment should be based on the site-specific data for Roseate and Common Terns in Nantucket Sound presented in other Appendices, combined with an explicit model of collision risks. .

Such an assessment will require:

(i) reconciliation of the visual and radar studies. This will require, at a minimum, further analysis of the "ground-truthing" data collected in 2002 and careful collation of these data with simultaneous radar echoes. It will also require re-analysis of the 2002 radar data to focus on specific times of day and types of echo that might yield information on terns. It will probably require additional radar studies, both to correct

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defects in the 2002 surveys and to expand coverage to additional months and additional years;

(ii) additional field surveys to collect data on birds arriving at and departing from the known roosting aggregations;

(iii) either focused field studies to investigate the behavior of terns in bad weather at lighted structures at sea, or a search for more relevant literature;

(iv) de novo modeling of collision risks (the volume-based model outlined on p. 23 is unsound).

(e) *Other Hazards Potentially Posed by the Project.* Section 4.2.1.2 of Appendix 5.7-H considers potential effects of project infrastructure used for perching/roosting. The statement (p. 19) that migrating Peregrines “typically travel along shorelines” is incorrect (it is well known that they also travel over the sea, often stopping over on offshore islands, rocks, ships, etc.). It is likely that there will be little temporal overlap between migrating Peregrines and pre-migratory Roseate Terns in Nantucket Sound. However, there will be some overlap between migrant Peregrines and pre-migratory Common Terns in late September and early October. At this time, it is very likely that Peregrines will perch on the project infrastructure and prey on passing terns. This issue needs to be addressed properly and an assessment should be added to Section 5.7.3.4.

I also have concerns about the intended use of “avian deterrent systems” on the WTGs and ESP. The system described for the WTGs, with a chain-link fence, a solid panel, and a stainless steel wire on top of the railing, is likely to be effective in discouraging Roseate Terns from perching on the decks. However, if these systems deteriorate under marine conditions (e.g., by corrosion of the fence or breakage of the wires) they might allow terns (and other birds) to perch on the decks and might pose hazards during take-off or landing. More information needs to be given about scheduled inspections and maintenance of these deterrent systems.

The ESP is even more problematic. The heliport deck will be large (60 m x 30 m) with a perimeter railing. It will have fences, stainless steel wires and solid panels to deter birds from perching on the railing (p. 20), but there will be no way to prevent birds from perching on the deck without preventing helicopters from landing there also. The arrival of helicopters will cause such birds to flee in panic, when the fences and wires will pose hazards to them. The Evaluation makes clear that “A final, complete deterrent design” has not yet been made (p. 20). The final EIS-EIR must present a complete design, along with a data-based evaluation of potential risks to Roseate Terns and other birds.

I agree with the assessments in Section 5.7.3 that other potential hazards associated with the project (disturbance, displacement, habitat modification, vessel traffic, indirect impacts, onshore construction) are unlikely to be significant for terns.

(f) *Population Viability Analysis (PVA)*. Appendix 5.7-H includes a “Population Viability Analysis” (PVA) for Roseate Terns. The Roseate Tern Recovery Team (RTRT) has previously taken the position that it would be premature to conduct a PVA or to construct any detailed population model for Roseate Terns, because of incomplete information on the key demographic parameters. After reviewing the PVA presented in Appendix 5.7-H, I consider that it is a useful first step towards a future metapopulation model, but provides insufficient basis for risk assessment for this project. Specifically, the demographic parameters assumed for this PVA were derived from a period (1988-1998) when the regional population was increasing fairly steadily, at a rate of about 2% per year. These demographic parameters (and hence the rate of population growth) were then assumed to remain constant, subject to stochastic variations. Following the methods of PVA, population changes were projected forward for up to 100 years. Not surprisingly, given the assumptions, the probability of extinction was calculated to be very low. The problem is that in recent years, total numbers of Roseate Terns in the northeastern region have shown marked fluctuations; the latest census data (2004) are 15% lower than those in 2001. Hence, it is not reasonable to assume that the demographic parameters will remain constant for even 5 years, let alone 100 years. Recent studies (e.g. Fieberg and Ellner 2000) have shown that predictions of extinction probability are extremely sensitive to the choice of initial demographic parameters, and that predictions become unreliable when projections beyond 10-20% of the period from which the parameters were derived. In the case of Roseate Terns, this would limit projections to no more than 2 years.

Accordingly, I think that this PVA is not an appropriate basis for evaluating the population consequences of losses from this population. The significance of the potential “take” of Roseate Terns by this or other projects should be weighed in the usual way, on an individual basis in the context of a currently declining population.

## **11. Piping Plovers.**

The Applicant’s Evaluation of the Piping Plover is closely parallel to that of the Roseate Tern, both in Appendix 5.7-H. It is bizarre that the predicted number of fatalities due to the project is 400 times higher for Piping Plovers than for Roseate Terns (0.08 vs 0.00002), despite the fact that the Roseate Tern is 10 times more numerous and crosses Nantucket Sound on a daily basis (versus the assumed twice per year for the Piping Plover: pp. 24-25). For reasons stated in section 10 of these comments, both assessments are unsound and need to be revised. However, I recommend that primary attention be given to the Roseate Tern, because even a superficial comparative analysis would show that risks to plovers are much smaller.

## **12. Wintering Sea-Ducks.**

Sea-ducks (eiders, scoters, Long-tailed Ducks, mergansers, and other species) were the most numerous species detected in the Applicant’s aerial and boat surveys in

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Nantucket Sound during the winter months (November-March). These included 4 aerial surveys in March 2002 (Appendix 5.7-D), 9 aerial surveys from November 2002 to March 2003 (Appendices 5.7-G and -K), and 8 aerial surveys from November 2003 to February 2004 (Appendix 5.7-M). No boat surveys were conducted during these periods. Although partial data were obtained from three winters, the surveys spanned less than two complete 12-month periods, and so fell short of the period of three years specified as minimal by myself and the wildlife agencies. The aerial surveys gave adequate coverage during the mid-winter period December-February, but not in November or March (4 and 3 surveys, respectively) when birds were expected to be arriving in, passing through and departing from the area.

The data presented in the cited Appendices are confusing because densities were averaged over surveys inside and outside the periods when sea-ducks were present in largest numbers. In addition, the metric reported as "Density" appears to be the sum of densities over all the surveys, rather than the mean. In the Horseshoe Shoals area (Alternative 1 in the tables) recalculated mean densities during November-March surveys were approximately as follows: Common Eider, 10/km<sup>2</sup> in 2002-2003, 20/km<sup>2</sup> in 2003-2004; Long-tailed Duck, 7/km<sup>2</sup> in 2002-2003, 8/km<sup>2</sup> in 2003-2004; combined scoters, 15/km<sup>2</sup> in 2002-2003, 55/km<sup>2</sup> in 2003-2004. Combining all five species and all surveys during November-March, the average number of sea-ducks present in the project area was about 2,000. All species displayed marked fluctuations in numbers both within and between the two winter seasons. In 2002/2003, numbers of Long-tailed Ducks were higher in October-November than in December-February, while numbers of eiders and scoters were similar. In 2003/2004, in contrast, numbers of scoters were higher in October-November than in December-February, while numbers of Long-tailed Ducks were similar and numbers of eiders were lower. These differences evidently reflect frequent movements of large numbers of sea-ducks into and out of the area. Large but similarly variable numbers of sea-ducks were recorded in other parts of Nantucket Sound.

As in the case of terns, these surveys provide a reasonable picture of the *distribution* of sea-ducks in the project area, but they provide no useful information about the *movements* of sea-ducks into, through and out of the project area. They are further limited by the fact that they were all conducted in good weather and during daylight hours. Although the USACE Scope specified collection of data, including radar studies, *throughout the year*, no radar studies were conducted during the period when sea-ducks are present. Although the evening and morning flights of Long-tailed Ducks into and out of Nantucket Sound were identified as a major concern in my letter of April 26, 2002, the Applicant did not make any attempt to study or document these flights or to assess risks. That letter made the following recommendation:

**"To assess potential risks to wintering sea-ducks, fuller and more precise information is needed on their distribution and movements within Nantucket Sound, including heights of flight of any birds that may pass through the project area, especially at night...."**

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Except for information on distribution, **none** of this information was generated and the Applicant appears to have made no effort to do so. Accordingly, the information presented in the DEIS-DEIR is **inadequate** to draw conclusions about risks.

The Applicant's assessment of risks to sea-ducks (adopted by the Corps in Section 5.7.3.2.1) places weight on the fact that only 54 of 377,432 sea-ducks seen during the aerial and boat surveys were observed flying at rotor height. No boat surveys were conducted during the period when most sea-ducks were present, so this conclusion depends primarily on data collected during the aerial survey. Since the aerial surveys were conducted only in daylight hours and only in good weather, this does not provide a meaningful basis for extrapolation to other conditions. As pointed out in my section 9 of my comments, the discrepancy between results of the aerial surveys and the radar studies during September indicates that high-flying birds of other species were largely overlooked during the aerial surveys. Radar studies could have helped to resolve the issue of the heights at which sea-ducks fly at night and/or in bad weather, but no radar studies were conducted during November-March when sea-ducks are present.

The Applicant (p. 5-126) somehow extrapolated from the 54 sea-ducks recorded flying at rotor height to estimate that "14,645 sea-ducks might be at rotor height", and then discussed the potential significance of "fatalities in single digits per turbine per year". No basis was given for these extrapolations and there does not appear to be any such basis. Even if there were, "fatalities in single digits per turbine per year" might result in more than 1,000 deaths each year.

### **13. Other Seabirds.**

In addition to terns and sea-ducks, other seabirds recorded in significant numbers during the aerial and boat surveys included grebes, loons, Northern Gannets, cormorants gulls and alcids. Grebes and alcids were seen in largest numbers during the winter months (December-March), but gulls were seen throughout the year and loons, gannets and cormorants were seen in largest numbers from mid-October to mid-November and in late March and April. For example, loons were present at average densities of about 11/km<sup>2</sup> during three surveys in November-December 2002, about 9/km<sup>2</sup> during three surveys in November-December 2002, and about 21/km<sup>2</sup> during three surveys in March-April 2003. [Average densities presented in the Applicant's reports were lower because they include surveys outside the main periods of occurrence.] These and other data in the Applicant's reports indicate that loons, Northern Gannets and Razorbills were sometimes present in thousands on Horseshoe Shoals, gulls in hundreds, and grebes in tens. Marked fluctuations in numbers from survey to survey within these periods indicate large movements into and out of the area. However, the reports on the surveys are limited to numbers observed and do not provide any information on movements. No radar studies were conducted during these periods, despite the Corps' specification that radar studies should be conducted *throughout the year*.

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It has long been known that many of these species pass through Massachusetts in large numbers in October-December and in April, with smaller numbers present in mid-winter (e.g., Veit and Petersen 1993). Gannets and loons in particular are known to fly habitually at heights of 30-150 m above the water, gannets when feeding, traveling between fishing areas, or migrating, and loons when migrating. Scoters and other seabird species commonly fly at these heights when migrating in late afternoons or evenings, even though they usually fly low over the water at other times. My letter dated 26 April 2002 drew attention to this and identified these movements as a major source of risk from the project; I specifically drew attention to major hazards to these birds while migrating at night:

“My radar studies detected migration of waterbirds through the area at several different times of year. Waterbirds were distinguished from landbirds on radar by several different characteristics, including echo intensity, wing-beat frequency, flock size and coherence, and temporal patterns (Nisbet and Drury 1967). I have also observed waterbirds migrating through the area during my field work at sites including Monomoy Island, Muskeget Island, Penikese Island, and Woods Hole (see below). The most conspicuous movements were: (a) large numbers of birds flying towards the SE or ESE (about 1250) from mid-October through November. These were probably mainly waterfowl such as oldsquaws, scoters, and loons arriving at the wintering grounds from staging areas in the Great Lakes. They usually arrived on a broad front in the later hours of the night at low altitudes and continued SE through Nantucket Sound and past Monomoy and Nantucket. (b) Large numbers of birds departing towards the SE (about 1300) from July to early October. These were probably shorebirds traveling towards winter quarters in South America. They usually took off in flocks from staging areas in late afternoon and ascended rapidly to high altitudes (up to 20,000 feet or 7,000 m) before departing towards the SE at high airspeeds (Nisbet and Drury 1967). (c) Variable numbers of birds flying through the area towards the SW or WSW in September-November and NE or NNE in April-May. These include gulls, terns, sea-ducks, gannets, loons, etc. In daylight hours, these fly in complex spatial and temporal patterns through Nantucket Sound, being diverted by coastlines and islands. Some of them take off from staging sites in late afternoon and continue flying through the night. I have observed birds such as gannets and white-winged scoters passing both ends of Muskeget Island in large numbers and flying towards the NE in May, but I have not spent time at locations such as the eastern shore of Martha’s Vineyard in spring or Point Gammon in fall, from which birds would fly over Horseshoe Shoals. At night, waterbirds fly on a broader front, but I have not studied them in detail because my attention was focused on migrating landbirds.

“In my opinion, the birds most at risk from flying through the project area would be those in group (a) in the above paragraph, but those in group (c) also need further study.

To assess potential risks to migrating waterbirds, **fuller and more precise information is needed on numbers, locations, timing, and heights of flight of**

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**birds passing through the project area, especially during evenings and at night during April-May and September-November.”** (Emphasis in the original).

Despite these recommendations, the Applicant made no attempt to study timing or heights of flight of birds passing through the project area, nor to study movements during evenings and at night. Accordingly, the data presented in the DEIS-DEIR are **totally inadequate** to assess risks to these birds.

The Applicant’s risk assessments (pp. 5-125 to 5-130) acknowledged some risk to migrating waterbirds. On p. 5-128, it is estimated that 164 grebes, 1,350 loons, 4,091 northern gannets, 8,767 cormorants, 658 scoters, 18,629 gulls, and 10,958 terns “may” fly through the Project area at rotor height in a given year. However, these numbers were derived by extrapolating from the numbers of birds actually seen flying at rotor height. For reasons stated in earlier sections of these comments, these numbers are not acceptable as reliable measures of the proportions of birds flying at these heights, even in daylight hours in good weather. The Applicant’s risk assessments then proceed to discuss the radar data and conclude (p. 5-130) that “it appears that over 600,000 birds could be flying at rotor height in any given year”. This number also is totally fanciful, given that the radar studies were limited to 26 days in May and 24 days in September in one year, and that the numbers reported were of “targets” (i.e., birds and flocks) rather than birds. After discussing these findings, the Applicant (and, by adoption, the Corps) rejects all the data generated in the aerial surveys and radar studies (!), and bases its risk assessment (p. 5-129) on extrapolation from “literature [that] suggests that collision-related mortality of birds within wind farms is a relatively rare event; an estimate of 0 to 2.8 fatalities/turbine/yr is low compared to other causes of mortality, such as collisions with buildings (Erickson et al., 2001). [The cited reference (Erickson et al., 2001) is a paper published by the National Wind Coordinating Committee, summarizing data on birds killed and found at terrestrial wind power projects in the United States. Data from terrestrial turbines cannot be used without modification to predict mortality from offshore turbines, because seabirds fly around much more than landbirds.] This range of 0 to 2.8 fatalities/turbine/yr is then (p. 5-130) used as the basis for the final estimate of numbers of birds killed: “conservatively indicating that an estimated 364 birds could be killed each year.” **The Corps demeans itself by publishing such arrant nonsense.**

#### **14. Migrating Land Birds.**

The only information on migrating land birds generated by the Applicant is from the radar studies conducted in May and September, 2002. I have addressed the limitations of these studies and the deficiencies in reporting them in Section 8 of these comments. Although May is the most important period of spring migration of land birds through the region, significant migrations also take place in April. September is only the beginning of migrations of land birds through the region; much larger movements occur in October and early November. I pointed this out in my letter dated 26 April 2002:

“My studies revealed that tens of millions of landbirds fly through the area every year, primarily between late August and early November. Most of these birds passed at night, flying on a broad front without detectable gaps or concentrations at coastlines or islands. We identified several discrete groups of birds flying in different directions, including SSE (about 1700), SSW (about 2150), and WSW (about 2450) (Drury and Nisbet 1964). The largest numbers passing over Nantucket Sound were those flying SSE and WSW. The former were small birds departing from southeastern Massachusetts towards winter quarters in South America, mainly from early September to mid-October. They took off en masse about 40 minutes after sunset, ascended slowly to heights of several thousand feet, and passed through the area during the first few hours of each night. The latter were small and medium-sized birds arriving over water from the direction of Nova Scotia, mainly in October and early November. They arrived after midnight and passed through the area at lower altitudes during the later part of the night. Birds were also seen migrating in many other directions at various times of the year, but usually in much smaller numbers. Most landbirds migrating in spring (April to early June) passed well to the northwest of Nantucket Sound.

“To assess potential risks to migrating landbirds, **fuller and more precise information is needed on numbers, timing, and heights of flight of birds passing through the project area, especially at night during September, October, and early November.**” (Emphasis in original).

Despite these statements and recommendations, the Applicant’s radar studies were limited to May and September, and the data were reported in such an aggregated way that it is impossible to discern what data refer to the specific groups of birds referred to in my letter. The Applicant stated that “Night migrating songbirds, for the most part, are likely to fly at altitudes well above the turbine rotors and are not at great risk of collision (Kerlinger, 1995; Kerlinger and Moore, 1989; Able, 1970).” The Applicant did not explain how songbirds could reach these altitudes without climbing and descending through lower altitudes, however. The Applicant acknowledged (p. 5-127) that 127,697 targets detected by the radars were flying in the rotor-swept zone, including 44,614 that did so at night. It then proceeded to reject its own data (!) and relied instead on compilations of birds killed at onshore wind power facilities: “The highest fatality rates at onshore wind power facilities in the United States have been about 3 to 7 night migrating songbirds killed per turbine per year (Kearns and Kerlinger 2004; Nicholson 2003)” . [The first of these references is not in the bibliography; the second refers to a single mountaintop site.] The Applicant (and, by adoption, the Corps) then rejected even these data (!), and based its final risk assessment (p. 5-129) on extrapolation from “literature [that] suggests that collision-related mortality of birds within wind farms is a relatively rare event; an estimate of 0 to 2.8 fatalities/turbine/yr is low compared to other causes of mortality, such as collisions with buildings (Erickson et al., 2001). This range of 0 to 2.8 fatalities/turbine/yr is then (p. 5-130) used as the basis for the final estimate of numbers of birds killed: “conservatively indicating that an estimated 364 birds could be killed each year.” This number apparently is intended to include landbirds as well as waterbirds. I repeat: **The Corps demeans itself by publishing such arrant nonsense**

## 15. Alternatives.

Section 3.4 outlined alternatives to the proposed project, of which four alternative sites for wind turbines were included in the Detailed Analysis of Alternatives in Section 3.4.3. Despite the title, the analysis in this section is far from “Detailed”. The information provided about avian resources at the four alternative sites is a superficial review of a few published sources and consultations with MNHESP and three unnamed experts. Although new data on the occurrence of seabirds within the Nantucket Sound Alternative sites were generated during the Applicant’s surveys, neither these data nor any newly-generated data of any kind were used. No information whatsoever is given about movements of birds through the Alternative Site areas, including the daily movements to and from breeding or roosting sites that present the greatest risks to Common and Roseate Terns (see above). Most of this section is restricted to Federally-Listed or State-Listed species or to State-Listed Habitats, despite the fact that all migratory birds (not only listed species) are protected under federal and state laws. The “Comparative Summary of Existing Resources” is limited to comparisons of “avian diversity”, listed habitats and/or listed species. It contains exactly five sentences on seabirds (pp. 3-48 and 3-49).

Although this section makes clear that the terrestrial site is the only one of the Alternative sites where Roseate Terns and other seabirds are not known to occur, it affords no way to distinguish among or to rank the four marine sites. This section is **totally inadequate** to serve as the basis for decision-making. At a minimum, it should be revised and expanded to reflect available information and knowledge about these sites, including the Applicant’s own data. Rational comparative assessment of the five sites will require additional, focused field studies to establish their relative risks to birds. If either the Corps or the Applicant had sought advice from federal or state wildlife agencies, or from individual experts such as myself, at the time the Alternative sites were selected, these studies could have been carried out already.

Based on my knowledge of these areas (but without detailed review), I believe that all three of the offshore Alternative sites would probably present greater hazards to seabirds than the Horseshoe Shoals site, although the South of Tuckernuck site would probably present lower hazards specifically to Roseate Terns. Only the Terrestrial (MMR) site would clearly present low hazards to seabirds, but detailed studies would be needed to evaluate whether this would be offset by greater hazards to land birds.

## 16. Standards for Assessing Potential Impacts.

Section 5.7.3 on “Analysis of Impacts” repeatedly attempts to weigh potential impacts of the proposed project in terms of effects on populations, or against other sources of mortality. For example, the Population Viability Analyses in Appendix 5.7-H

set out to determine whether hypothetical mortality to Roseate Terns or Piping Plovers would significantly increase their probabilities of extinction, or significantly reduce their probabilities of recovery. Page 5-122 compares the numbers of fatalities for wind turbines with those for collisions with glass windows, hunting activities, and collisions with communications towers. Page 5-126 compares hypothetical numbers of eiders and scoters that might be killed by collision with turbines with those shot legally each year. The same page compares numbers of Double-crested Cormorants that might be killed by collision with turbines with those killed under depredation permits. Table 9 in Appendix 5.7-G compares numbers of waterbirds recorded in the project area with those wintering in Massachusetts and in the Atlantic flyway, and with annual harvests of hunted species.

All these comparisons are misleading and inappropriate. Federal and state laws protect **all** migratory birds, not only those listed as Endangered, Threatened, or Special Concern. Furthermore, these laws protect individual birds, not populations. Mortality due to other causes is relevant only insofar as it places stress on wild populations, making them more sensitive to additional mortality from other causes. Thus, any fatalities that may be caused by this project should be considered as **cumulative** with other causes of death, not as alternatives to them. In particular, hunted species are monitored and managed by federal and state agencies; hunting regulations are established to maintain populations at harvestable levels. Under this regulatory system, additional mortality due to this or other projects would be significant because it would reduce the numbers available for harvest. Mortality of wild birds due to windows, communications towers, cats, etc., occurs and is regrettable, but that does not mean that additional mortality can be trivialized. To the contrary, it makes any additional mortality more serious.

#### **17. Data Requirements: Terrestrial vs Offshore Sites.**

My comments have pointed out severe limitations and deficiencies in the Applicant's field studies and have specified additional work that will be needed to characterize risks to Roseate Terns, both from the proposed project and from projects at Alternative sites. I recognize that field studies in offshore areas are difficult and expensive to conduct, and that there is little previous information from the offshore sites from which to draw inferences about risk or lack of risk. I also understand that the Applicant's field studies have been limited in scope and rigor because of these difficulties and costs. I am concerned that the Corps, by issuing this DEIS-DEIR in its present form, appears to be endorsing inadequate field studies, superficial analyses, and inappropriate risk assessment. The Applicant has proposed to construct this project in offshore waters, presumably because of other advantages that would result from doing so (I assume that these advantages are considered elsewhere in the DEIS-DEIR, in sections that I have not reviewed). Compared to siting the project on land, this decision obviously results in additional costs in construction, maintenance, and decommissioning. As environmental scientists and managers, I point out that this decision also leads to additional environmental costs, both in conducting field studies and in assessing risks to environmental resources. If this project had been proposed for a terrestrial site such as the MMR, the field studies and assessments presented here would have been dismissed as

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laughably inadequate. This project poses risks to many important resources, including the Roseate Tern and other listed species that would not be affected by a similar project at a terrestrial site. An inadequate assessment of such a project should not be accepted simply because an adequate assessment would be expensive or burdensome to the Applicant who chose a difficult site.

#### **18. References.**

Everaert, J. 2004. Wind turbines and birds in Flanders: Preliminary study results and recommendations. *Natuur Oriolus* 69: 143-155.

Fieberg, J. and S.P. Ellner. 2000. When is it meaningful to estimate an extinction probability? *Ecology* 81(7):2040-2047.

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**Adams, Karen K NAE**

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**From:** Sail50161@aol.com  
**Sent:** Saturday, January 29, 2005 5:14 PM  
**To:** Energy, Wind NAE  
**Subject:** CWEP

Karen Kirk-Adams  
Cape Wind Energy EIS Project  
U.S. Army Corps of Engineers, New England District  
696 Virginia Road, Concord, MA 01742

Dear Karen:

I wish to express my opinion on the Cape Wind Energy Project. I am a sailor that uses the Nantucket Sound, spends lots of time on The Vineyard where I have relatives, and also, time on Nantucket every year where I once lived. I have seen the unit that is NW of the Vineyard and thought it was about time that something practical and clean was done to create energy. It seems that everyone wants energy but no one ever wants a new windmill built or a new power station built, yet they all consume more and more energy.

The Project poses no threat to anyone (you are putting a fog horn on the units?) and can barely be seen. They are totally in the right place because no one lives near them!! The entire concept is long over due. I am strongly in favor of the Project and feel it should be expanded to include many more generating units. If for no other reason that there will be better fishing near them and they can be used for navigational purposes!

I have no idea why Sen. Kennedy is against the Project since, to the best of my knowledge, he uses electricity too. He is unable to see them from Chapiquidick anyway. I feel that if he will stop using electricity altogether, then I may reconsider my opinion.

Thank you for letting me share my opinion in this matter.

Regards,  
Al Clayton  
2476 Teakwood Drive  
Bayville, NJ08721

**Adams, Karen K NAE**

2987

**From:** birdlandparadis@aol.com  
**Sent:** Saturday, January 29, 2005 11:58 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

**Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.**

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

**These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.**

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

**This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.**

**Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.**

Sincerely,

Carol Hobbs  
10435 Second St.  
Charlevoix, Michigan 49720

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**Adams, Karen K NAE**

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**From:** janellecollett@hotmail.com  
**Sent:** Saturday, January 29, 2005 9:47 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

**Colonel Thomas Koning**  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

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**Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.**

Sincerely,

Janelle Collett  
6004 Rolling Hill Dr.  
North Wales, Pennsylvania 19454

Adams, Karen K NAE

2989

**From:** dglogan@yahoo.com  
**Sent:** Sunday, January 30, 2005 10:03 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

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- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

dawn logan  
126 bella vista dr  
san antonio, Texas 78228

2990

**Adams, Karen K NAE**

---

**From:** lottegard@yahoo.com  
**Sent:** Sunday, January 30, 2005 3:07 PM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning,

Before you approve or deny a permit to erect 130 turbines in Nantucket Sound, please require the developer to conduct the thorough studies recommended by the U.S. Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife.

Specifically, the environmental review of this project should include:

- Three full years of visual observations of birds
- 12 months of radar observations of flying wildlife
- A thorough and timely review of the project's potential effect on wildlife, including marine mammals

These factors will help determine whether the Cape Wind project is in the best interests of both the public and wildlife.

As it is written, the U.S. Army Corps of Engineers' draft environmental impact statement is hopelessly flawed, because it ignores relevant information and draws conclusions based on inadequate research.

This project could be the first marine wind energy facility in the United States. As such, it will set a precedent for other offshore renewable energy projects.

Please require a rigorous, scientific review of its environmental effects. Clean air and healthy wildlife populations are not mutually exclusive. We need both.

Sincerely,

Charlotte Gardiner  
3143 West Ridge Rd SW  
Roanoke, Virginia 24014

2991

**Adams, Karen K NAE**

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**From:** jomagwic42@aol.com  
**Sent:** Monday, January 31, 2005 8:57 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Joanne Ferguson  
10610 Holleybrooke Dr.  
Spotsylvania, Virginia 22553

2992

**Adams, Karen K NAE**

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**From:** jaynekaszas@peoplepc.com  
**Sent:** Monday, January 31, 2005 4:19 AM  
**To:** Energy, Wind NAE  
**Subject:** Ensure 'Cape Wind' Project Is Safe for Wildlife

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751

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Sincerely,

Jayne Kaszas  
41-44 Parsons Boulevard  
Apartment 4F  
Flushing, New York 11355-1948

2993

**Adams, Karen K NAE**

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**From:** Karen Malkus [renmalkus@yahoo.com]  
**Sent:** Monday, January 31, 2005 9:55 AM  
**To:** Energy, Wind NAE  
**Subject:** Cape Wind Energy Project

Dear Karen Kirk-Adams,

I am a resident of Brewster MA. I have lived in Falmouth every summer since I was born and for the last 10 years have lived in Brewster full time. I have sailed Nantucket Sound since I was a baby. I am raising my children on the Cape, because I want to share the beautiful natural resources with them. I care deeply for this place and its water. I am president of the "Friends of Long Pond", spending much of my time protecting a fresh water ecosystem. My husband and I are members of the BCT(Brewster Conservation Trust) and many other environmental groups. We are "tree huggers" in the truest sense. We also whole heartily support the building of the Turbines in the Sound. We hope this will be the beginning of many alternative forms of energy in our area.

In a recent trip to Denmark we spent time visiting several wind farms and we were impressed. The turbines were not loud and to us not visually disturbing. They were environmentally and economically sound. Clearly construction of the turbines is disruptive to any area, so all efforts to limit unnecessary ocean floor bed damage should always be a goal. Yet, we believe the reduction of fossil fuel consumption and taking steps down the road of alternative energies greatly outweighs the negative features of the Cape Wind project.

Thank you for your work on this project.

Sincerely,

Karen Malkus  
401 Hamilton Cartway  
Brewster, Ma 02631

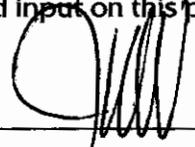
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[http://promotions.yahoo.com/new\\_mail](http://promotions.yahoo.com/new_mail)

2994

Dear Army Corps of Engineers:

A 60-day review period is unreasonable to adequately review the massive 4,000-page Cape Wind Draft Environmental Impact Statement document. I respectfully request that you extend the review period to 180 days in order for the public to be as best informed as possible and provide you with thoughtful and unhurried input on this precedent-setting project.

Sincerely, 

Date 11/22/04

Print Name JERRY CULANAN

Address BOX 152

City OSTERVILLE

State MA

Zip 02655

RECEIVED  
JAN 27 2005  
REGULATORY DIVISION