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OVERSIGHT HEARING TO REVIEW THE PERMITTING OF ENERGY PROJECTS

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

MAY 25, 2005

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ONE HUNDRED NINTH CONGRESS
FIRST SESSION

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OVERSIGHT HEARING TO REVIEW THE PERMITTING OF ENERGY PROJECTS

WEDNESDAY, MAY 25, 2005

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m. in room 406, Senate Dirksen Building, Hon. James Inhofe (chairman of the committee) presiding.

Present: Senators Inhofe, Warner, Chafee, Isakson, Vitter, Jeffords, Carper, Clinton, and Obama.

Senator INHOFE. The committee will come to order.

Let me start by recognizing Senator Vitter. He has to preside in just a few minutes. So if you would like to do an opening statement, I will defer to you for that purpose.

OPENING STATEMENT OF HON. DAVID VITTER, U.S. SENATOR FROM THE STATE OF LOUISIANA

Senator VITTER. Thank you very much, Mr. Chairman, and thank you for holding the hearing today. I think this is very important. I also want to thank all of our witnesses for coming to testify today about this very important issue.

As our economy continues to grow and create more opportunities for more Americans, clearly our energy consumption continues to grow, even as efficiency grows significantly. So improving our permitting process and making it more efficient is very important. It is important to develop new energy sources, and that is critical to fuel the growth of jobs and the economy.

By refining the permitting process, our Nation could focus on producing more energy domestically and reducing our reliance on foreign energy sources. Unfortunately, the way it is structured now, the National Environmental Policy Act, NEPA, has created obstacles that are very costly and slow progressing and even block projects rather than assess their environmental impact and move them forward.

Again, in saying this, I do not quarrel with the stated goals of NEPA; I quarrel with how it is achieved in practice, which is very cumbersome, very inefficient, very uncoordinated, and that tends to not achieve the stated goals of NEPA, but simply slow down all projects that must go through that process. So the permitting process needs to be realistic and achievable if we intend to reduce our Nation's dependence on foreign energy sources and increase our domestic energy productivity.

Cooperation among all involved Federal and State agencies could simplify the permitting process by focusing on common energy objectives that would eliminate conflicting agendas that hold up the approval and review process. Participating agencies working together can improve factors such as certainty and timeliness that impact that permitting process.

However, a definite time line would provide greater certainty for the review process since it is frustrating when not all of the participating agencies respond in a timely manner when issuing permits. Without processing the permits in a timely manner, development of necessary energy infrastructure is delayed and even financially crippled in many cases. In Louisiana this has significant impact. We need to take advantage of advancements in technology to increase domestic production of our natural gas reserves, and that has a big impact in Louisiana.

So once again, Mr. Chairman, I applaud you for bringing a lot of focus and resources to bear on this very important project. I think the bottom line is really this: it is fair and reasonable and necessary to set these environmental and other permitting processes, but once we establish those goals, it should be all of our goal to get that done in an efficient and coordinated manner. Once we establish the policy, folks should not then go and make the process as complicated and inefficient as possible, quite frankly, to frustrate that policy and to essentially reopen the policy debate. We should make the process efficient once we set the parameters and the policy. I think the White House's efforts at streamlining the process and your efforts in terms of your leadership position as Chairman are moving us in that direction. I thank you.

[The prepared statement of Senator Vitter follows:]

STATEMENT OF HON. DAVID VITTER, U.S. SENATOR FROM THE STATE OF LOUISIANA

Chairman Inhofe, thank you for holding this hearing today. I also want to thank our witnesses for coming to testify about this very important issue on reviewing energy project permitting.

As our economy continues to grow, so does our energy consumption. Improving the permitting process for developing energy sources is critical if we are going to meet our nation's increasing energy demands. By refining the permitting process, our nation could focus on producing more energy domestically and reducing our reliance on foreign energy sources.

Unfortunately, the National Environmental Policy Act (NEPA) process has created obstacles that are costly, slow progress and even block projects rather than assess their environmental impact and move forward. The permitting process needs to be realistic and achievable if we intend to reduce our nation's dependence on foreign energy sources and increase our domestic energy productivity.

Cooperation among Federal and state agencies could simplify the permitting process by focusing on common energy objectives that would eliminate conflicting agendas that hold up the approval and review process. Participating agencies working together could improve factors such as certainty and timeliness that impact the permitting process. However, a definite timeline would provide greater certainty for the review process since it is frustrating when not all of the participating agencies respond in a timely manner when issuing permits. Without processing the permits in a timely manner, development of necessary energy infrastructure could be delayed and even financially cripple the project.

In Louisiana, we need to take advantage of advancements in technology to increase domestic production of our natural gas reserves. Increasing domestic production will reduce our dependence on foreign energy sources and create jobs for a stronger economy.

I look forward to hearing from our witnesses about their experiences and suggestions for improving the permitting process. Once again, thank you, Mr. Chairman for your efforts to organize this hearing.

Senator INHOFE. Thank you, Senator Vitter, and thank you for your loyal attendance here.

OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

This is a very significant committee hearing. Before you leave, I will tell you one story. Back in real life I was a developer and I can remember building down in South Texas on the coast. At one time, I actually had to go to 26 governmental agencies to get a doc permit for a condo development. I got to thinking, in this information age, it is just not necessary, it should not be necessary. So I come, I am afraid to say, Ms. Buccino, with a little bit of a bias toward over-regulation as a general principle.

I believe that this Nation really needs an energy policy. It is ironic that we are having this meeting right now when the Energy Committee is in the process of working on the energy bill in a different room. The lack of a comprehensive energy policy has detrimentally impacted the country in several ways, and ultimately slowed down economic recovery.

I have long said and I maintain that having a strong energy policy is a national security issue. I can remember when many years ago, back during the Reagan administration, Don Hodell, who served as both Secretary of Interior and then also as Energy Secretary, he and I had a song and dance where we would go around and try to explain to consumption States that our dependence upon foreign countries for our ability to fight a war is not an energy issue, it is a national security issue. Nobody believed it at that time. I was alarmed because we were dependent upon foreign countries for 33 percent of our oil. Today, it is twice that. So we have been moving in the wrong direction.

Environmental policies have had a significant and varying effect on many of the energy problems this country faces—the high natural gas prices, the lack of refining capacity, which we have dealt with here in this committee at several hearings over a number of years, and the insufficient energy infrastructure, just to name a few.

With great foresight, President Bush recognized the need for a comprehensive national energy plan some 4 years ago this month, but implementation of many of his recommendations has been frustrated in Congress. Environmental concerns are among the principal reasons for Congress' failure to address America's energy needs.

Even the Federal Reserve Board Chairman Alan Greenspan noted as much, stating, "We have been struggling to reach an agreeable tradeoff between environment and energy concerns for decades . . . it is essential that our policies be consistent." Chairman Greenspan delivered this warning 2 years ago before another Senate committee.

I would ask my friends to remember that the Senate has been trying unsuccessfully to move an energy bill since the 107th Con-

gress. I am hopeful that we will be able to develop the needed consistency and send an energy bill to the President this year.

The purpose of today's hearing is to review the permitting of energy projects, and to consider whether permitting has incorporated the consistent approach Chairman Greenspan referred to; that is, balancing the needs of the environment and the energy needs. As an Oklahoman and someone very familiar with the oil and gas industry, it might surprise my friends that this hearing is energy source neutral. We are not here to discuss the environmental merits of one type of energy over another.

Rather than focusing on any one energy source, I am concerned about the entire process. I think that the following quote from an energy interest summarizes the issues permit, "Review needs to be completed in a timely manner" and "Slippage undermines the credibility of the process and drains the energy and resources of the members of the public; indefinite delay harms not only the project proponent and those who see the benefits flowing from the project, but also damages stakeholders."

The fact of the matter is that the country needs all forms of energy and requires a diverse fuel mix to maintain economic progress and ensure a clean environment.

Regardless of the type of energy, producers cannot find, harness, extract, or transport energy unless they can secure the necessary environment-related permits. The collective energy industries consistently claim that the requisite Federal permits and legal challenges from special interest opposition groups have prevented them from producing energy or delivering it to consumers and businesses.

President Bush recognized the complexities involved in the permitting process in issuing Executive Order 13212, which called for Federal agencies to expedite permitting and established a White House Task Force on Energy Project Streamlining. The Federal agencies have improved their permitting, but a lot more can be done.

I am not a bird expert. I do not know how much bird research should be done before building electricity-generating wind turbines. Is 6 months of state-of-the-art radar research sufficient, or is 3 years too much? I do not know.

However, I am confident that the project's proponents would like to know with certainty the proper reasonable approach at the beginning, not at the end of the Federal permitting process. A lot of you do not understand that it is predictability that is necessary. You cannot make the necessary investments and do the necessary things, very similar to our highway bill that we are doing right now, you cannot just operate on 6 months extensions, you have to have a 5- or 6-year bill where you can plan in advance what to do and you can venture your capital and sell your story.

Environmental regulations have increased demand for natural gas. Several special interest environmental groups celebrated natural gas over other energy fuels. Indeed, nearly all new electricity generation is fueled by gas over coal. Yet today, some of these same groups have worked against building the necessary infrastructure to transport their clean-burning bridge fuel.

For example, the California and Nevada chapters of the Sierra Club voted to oppose both on the offshore LNG facilities even though the club favors gas over coal and nuclear energy. Similarly, some of the States that have the greatest demand for gas have not increased the infrastructure to deliver it. California, for example, has opposed the permitting of Liquefied Natural Gas and pipeline infrastructure even though, according to California's Energy Commission, local air quality regulations require natural gas generation.

California certainly is not alone in contributing to or facing a regulatory paradox. According to a report from the New England ISO, the nonprofit operator of New England's power grid, natural gas in the region was increased from 16 percent in 1999 to a projected 45 percent in 2005; however, the States lacked the needed infrastructure to transport and distribute the gas. The ISO Chairman Berry stated that, "The long and complicated Federal permitting process for building new interstate pipelines is a greater obstacle than the technical construction work."

Some special interest groups would like oil and gas companies to go above and beyond what is required by environmental regulations. They would also like for operators to monitor potential environmental impacts. Council on Environmental Quality Chairman Jim Connaughton has suggested incorporating adaptive management, which includes monitoring to a wide variety of projects. These are fine goals in concept, but how do current permitting requirements provide for and encourage such a flexible approach?

Lastly, I would like to recall Chairman Greenspan's warning. He framed the issue as a tradeoff between energy and the environment. It is unfortunate that anyone describes balancing these two critical interests in terms of a tradeoff, sometimes that is thought of in disparaging ways.

So I look forward to hearing from both sides of those individuals who are here representing environmental concerns, as well as for those who are involved in the permitting process and those trying to get permits.

[The prepared statement of Chairman Inhofe follows:]

STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

The nation needs an energy policy today more than ever. The lack of a comprehensive energy policy has detrimentally impacted this country in several ways, and ultimately slowed economic recovery. I have long said and I maintain that having a strong energy policy is a national security issue.

Environmental policies have had a significant and varying effect on many of the energy problems the country faces; unsustainably high natural gas prices, lack of refining capacity, and insufficient energy infrastructure to name just a few.

With great foresight, President Bush recognized the need for a comprehensive national energy plan some 4 years ago this month but implementation of many of his recommendations have been frustrated in Congress. Environmental concerns are among the principal reasons for Congress' failure to address America's energy needs.

Even Federal Reserve Board Chairman Alan Greenspan noted as much stating, "[w]e have been struggling to reach an agreeable tradeoff between environmental and energy concerns for decades. . . it is essential that our policies be consistent." Chairman Greenspan delivered his warning 2 years ago before another Senate Committee. I would ask my friends to remember that the Senate has been trying unsuccessfully to move an energy bill since the 107th Congress. I am hopeful that we will be able to develop the needed consistency and send an energy bill to the President this year.

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Regardless of the type of energy, producers cannot find, harness, extract or transport energy unless they can secure the necessary environment-related permits. The collective energy industries consistently claim that the requisite Federal permits and legal challenges from special interest opposition groups have prevented them from producing energy or delivering it to consumers and businesses.

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Lastly, I would like to recall Chairman Greenspan's warning—he framed the issue as a tradeoff between energy and the environment—it is unfortunate that anyone describes balancing these two critical interests in terms as a tradeoff. A tradeoff was not what the nation's first environmental law considered; in fact one of the stated goals of the National Environmental Policy Act goal is "to create and maintain conditions under which man and nature can exist in productive harmony." A tradeoff was never intended.

I look forward to hearing from the witnesses about the permitting challenges I described and other issues.

Senator INHOFE. With that, let me just go over who we have here. Mark Robinson, a Federal non-partial witness, is the director

of Office of Energy Projects, permitting pipelines and liquefied natural gas, the Federal Energy Regulatory Commission. Dennis Duffy is the vice president of Cape Wind. Mr. Duffy will discuss how the permitting process of the proposed wind farm off Cape Cod has been overly burdened and allowing opponents to use stall and delay tactics. Sharon Buccino—is that pronounced right—is the attorney for the NRDC, and she will testify that existing Federal permitting process is adequate, and we will be looking forward to her testimony. Then Ron Hogan is the general manager of Questar, another one who has been involved in the permitting process.

Why not start, Mr. Robinson, with you. Let me tell you, even though we do not have many members now, members will be coming in and out, and all members are represented by staff. So there will be questions that will be submitted to you for the record.

We will go ahead and start with you, Mr. Robinson.

STATEMENT OF J. MARK ROBINSON, DIRECTOR OF THE OFFICE OF ENERGY PROJECTS, FEDERAL ENERGY REGULATORY COMMISSION

Mr. ROBINSON. Mr. Chairman, thank you very much. My name is Mark Robinson and I am the director of the Office of Energy Projects at FERC. We are responsible in our office for 1,600 hydroelectric projects, their licensing, inspections, safety and security of those projects. We also are responsible for certificating about 500 to 2,000 miles of interstate natural gas pipelines per year and storage facilities, and also the authorization, safety and security of LNG terminals.

I would like to make sure that I identify my bias, I think we all have those. I have been involved with siting energy infrastructure for the Commission for 28 years now. Over those 28 years, I have watched this process become more byzantine with every passing year. My concern is that we may be getting to a point in the complexity of the permitting process where ultimately the first dollar of investment will not occur and those dollars will migrate elsewhere, including overseas.

My testimony goes specifically to three issues that I think need to be addressed in enhancing the permitting process. One is the parochial interests that sometimes override regional needs; two is what I call agency creep, where different agencies use an aspect of the project and their authority concerning that aspect of the project to make the overall public interest determination; and three is what I term distributed decisionmaking. I would like to focus in these oral comments on distributed decisionmaking and how that affects permitting of energy infrastructure.

By distributed decisionmaking, I mean that everybody has a bite of the apple at this point. If you look at my testimony and the charts that I have attached to it, you will see for LNG facilities, as an example, in some States you are looking at 30, 40, 50 permits that have to be acquired by the proponent of that project before they can go forward. That in itself is a problem. But when you look underneath just the chart to see how that works, you can see how there is sort of an insidious aspect of permitting that can stop projects.

One is the aspect that one agency will wait for another. They will say we cannot do this until they do that. So you end up with a sequential aspect of the permitting process that seems to go on and on and on. Two, everybody seems to want to take their particular permit and make that the last action that occurs. They want to wait until everybody else sees what is going on and then they take action. Well, if you have several agencies that are trying to do that, it becomes almost a bidding contest to see who gets to be the last person to say yes or no. That can also affect the ability for a project to move forward.

The effect of this distributed decisionmaking is that ultimately projects that are in the public interest are not constructed. They die a death of a thousand cuts, with everybody taking a little bit of the project away as they go through the permitting process until the project just dies and goes away. I have seen that over and over again and with increasing frequency.

The cure for this, of course, is pretty plain—you vest all authority with one agency for all the laws that are affected and hold them responsible. That is never going to happen. The genie is way too far out of the bottle for us to ever go back to having an agency decide whether or not energy infrastructure should or should not be built, there are too many interests involved. But that does not mean you cannot discipline that distributed decisionmaking, and that is what I would call for today.

If we lack that discipline, if we do not acquire it—and Memorandums of Understandings, and MOAs, and administrative actions all seek to do this, but they do not have the force of law, if we do not discipline that process—what we will end up with is no decisions at all as this becomes increasingly more complex. To discipline that process, we are calling for a three-pronged approach to rational siting.

The first prong of that is identification of an agency having exclusive jurisdiction for the overall siting decision. That does not mean that anyone else loses their authority—the Clean Water Act would still apply, the Endangered Species Act would still apply—but those projects and those agencies dealing with that would have to recognize that is an aspect of the project, not the overall public interest determination.

The second prong is the development of one Federal record. This is just good Government. It is a matter of taking all those agencies that have a role in this, who play a role, forcing them through law to work together to develop one record and then everybody acts from that record in a timeframe set by the lead agency. If they fail to make that decision in that timeframe, their decision will be conclusively presumed. That is the discipline applied to them to take an action within a timeframe set by the lead agency.

The third prong of that rational siting process is direct appeal to the court of appeals. It does not do any good to have all those agencies make their decisions and then all of the appeal processes run off into various different arenas to try to be resolved over years and years of process. We need immediate appeals, a one-stop to go to the court of appeals to review those actions by those permitting agencies.

If we have rational siting that would affect any type of energy infrastructure, what we will gain from that is certainty of the decisionmaking process. With certainty, that first dollar that people want to invest to develop infrastructure will be invested; it will not migrate overseas, and we will get decisions on what is and what is not in the public interest to develop in this country. Thank you, sir.

Senator INHOFE. Thank you, Mr. Robinson. What is good about your opening statement is you actually come out with a specific recommendation. We do not hear that very often. I appreciate that very much.

Mr. ROBINSON. Well, I have been dealing with this a long time but I feel very strongly that is about the only thing we can do to try to bring some sanity to the process.

Senator INHOFE. We will be interested to explore that.

We have been joined by Senator Warner, who is the senior member on this committee; however, I chair it because he is the chairman of the Armed Services Committee. Senator Warner, do you have an opening statement?

Senator WARNER. Thank you, no. I would like the opportunity when Mr. Duffy completes his opening comments, if I could just spend a few minutes with him.

Senator INHOFE. In some questions, you mean?

Senator WARNER. Yes. I will not take long, and I thank you for the courtesy, Mr. Chairman.

Senator INHOFE. All right. We will go ahead and move on to Mr. Duffy. After that, I know Senator Warner cannot stay very long, we would recognize Senator Warner to pursue his request.

Mr. Duffy.

STATEMENT OF DENNIS DUFFY, VICE PRESIDENT OF REGULATORY AFFAIRS, CAPE WIND ASSOCIATES, LLC

Mr. DUFFY. Thank you, Mr. Chairman. My name is Dennis J. Duffy. I am the vice president of regulatory affairs for Cape Wind Associates.

For the past 5 years, Cape Wind has been developing the Nation's first offshore wind generation project. The project would be located approximately 5 to 10 miles off the nearest point of land on the coast of Massachusetts. It would generate up to 468 megawatts of clean and renewable energy, with no fuel requirements and no air emissions. This amount would represent approximately 75 percent of the annual electric needs of Cape Cod and the Islands of Martha's Vineyard and Nantucket.

The principals of our company have been in the energy business for more than 25 years. We have developed and operated some of the most efficient gas-fired plants now operating in the U.S. Now, in direct response to State mandates for renewable energies, the so-call "renewable portfolio standards," we are focusing upon wind energy development.

We are confident that wind technology has now advanced to the point where it is both proven and reliable and can play a much more meaningful role in our national energy supply. In order to realize the full potential of this source, however, we need to ensure

that our national energy and environmental policies are implemented in a consistent manner.

The Cape Wind project would consist of 130 wind turbines located in Federal waters connected to the land-based power grid via 2 submerged cables. Although this is the first offshore wind energy farm proposed in the U.S., in Europe offshore projects of this type have been operated successfully for more than a decade. The Cape Wind project——

Senator WARNER. Excuse me. I missed what you said. What had happened not in a decade?

Mr. DUFFY. The European projects have been operating for a decade or more now. The project would be located on a shoal out of shipping lanes and would impose no restrictions on current uses of the area. Cape Wind enjoys strong support from environmental, consumer advocacy, and labor groups, and a Cape-based grassroots support organization with now over 4,000 members.

The Federal regulatory process under current law is both thorough and comprehensive, but, importantly, it lacks any requirement that would limit the duration of project review period, which in some cases can open the door for opponents to try to use delay as an end in itself. After extensive analysis of potential sites, we submitted our application to the Army Corps in November of 2001. The project has been undergoing regulatory and public scrutiny for more than 3½ years, including the preparation of an Environmental Impact Statement under the NEPA.

The Army Corps has acted as the lead Federal agency in a process that has included 17 Federal and State participating agencies and which has afforded exceptional opportunities for public involvement, including 9 public hearings. During this process, an exhaustive record has been put together under a public interest standard which has included a whole range of issues, from environmental impacts, project aesthetics, cost implications, and the need of the public.

At the same time, there has been an extensive parallel proceeding. In 2002, we filed with the Massachusetts Energy Facilities Siting Board for authorization for the transmission facilities which would cross the waters of the Commonwealth. I am happy to report that after a 2½-year review, with 20 days of expert testimony and over 50,000 pages in an evidentiary record, on May 10, the Massachusetts Energy Facilities Siting Board approved our petition based largely on a finding that our energy would be needed for 3 purposes: To meet the growing need for the region's power; to lower the prices to electric ratepayers; and to offset air emissions from fossil generation.

Notwithstanding the review we have gone through over the last 3½ years, however, we still face additional processes of uncertain duration. In particular, the Army Corps issued a draft EIS in November of 2004 and has received more than 5,000 comments on the draft. While most of those comments were positive, the comments also included continued demands from project opponents that multiple years of additional field studies now be completed. Some, for example, call for the Corps to now evaluate nuclear and fossil plant proposals on an equal footing, notwithstanding the fact that we

proposed this project in specific response to mandates for renewable energy.

In conclusion, Cape Wind and the other wind projects that will follow present great potential for meeting the multiple objectives of national energy and environmental policy, including decreased reliance on imported fuel, reducing and offsetting air emissions, and lowering the cost of electricity to the ratepaying public, all with minimal environmental impact.

Based on our experience, we have two suggestions for improving the process. First, we believe that national policy objectives would be better served if environmental review of proposed energy facilities were conducted in a more timely manner, perhaps pursuant to statutory timeframes that would prevent delay tactics from crippling an otherwise worthy project. I point out in that case, for example, many of the New England States have adopted energy facilities siting acts which specifically limit the review period to a 12-month process for major energy projects.

Second, because the process involves so many agencies with often conflicting agendas, it is important that the process appropriately recognize the clearly stated Federal and State energy objectives, as well as the societal tradeoffs inherent to any major energy project. Thank you.

Senator INHOFE. Thank you, Mr. Duffy.

Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. I will not be too long. I will put a number of things with unanimous consent in today's record.

Let me make it clear, Mr. Duffy, you do not know me, I do not know you, and this by no means is any personal criticism to you. But I became involved in this issue, as you probably know, because of several concerns.

First, I think I have to digress a moment to speak about a personal aspect of this. For many years I was married to a wonderful person who is still a very dear and valued friend, I guess it was about 25 years ago now, 26 years ago when we unfortunately parted ways, but she does have a home in the Cape and I was actually married there to that wonderful woman. Every time I try and get into this fray, they conjure up this woman, who is very private, and three children of mine who occasionally visit the house.

I just think it is fine for anyone to heap criticism on me, but I really resent, and it is not a part of your organization, but the local press has seized on this as why I have questioned this thing. I have not been to the Cape personally for a number of years, although I plan to go this year to a wedding for 3 days. So when I make a sighting, I am sure they will conjure up some more stories. But let us put that to one side.

Here is my concern with this, because it really grabbed my interest in several ways. One, yes I have seen the Cape for many years, and that part of America to me is one of the great treasures—the next witness, Ms. Buccino, if you could listen to this—one of the great natural treasures in America is that confluence of islands up there, Martha's Vineyard and the Cape and so forth.

It is a marvelous sanctuary for birds and wildlife. It is a sailor's haven, a fisherman's dream. I could go on and on about that part

of America. In my years, I have been to every place in this country one way or another just about.

I have been very disturbed about the environmental community not focusing on this. The environmental community has sort of taken the hear no evil, see no evil, speak no evil, put hands over their face and look the other way because they realize that possibly some modest measure of energy can be derived from wind power and, therefore, all the evils of the other sources of energy is where they direct their attention.

But I have never quite understood why they did not step in to look at this magnificent piece of America and speak on it in a more objective and authoritative way. But put that aside. That is one concern that I have, that it is just a treasure of this country.

Second, let us go back—and I am going to put in today's record a letter I wrote, Mr. Chairman, to the Army Corps of Engineers.

Senator INHOFE. Without objection.

Senator WARNER. As a member of this committee, I have some say about the Corps, and as a member of the Armed Services Committee, we have some things to say about the Corps. We had before this committee, Mr. Chairman, the former Assistant Secretary of the Army, not the former, he is currently again acting, for Civil Works, Mr. Woodley, and I am going to put in today's record the full testimony of the Assistant Secretary.

Senator INHOFE. Without objection.

Senator WARNER. Mr. Woodley stated that he did not believe the Corps has clear statutory authority to grant Federal permits for wind power projects in the Federal offshore shelf waters. This is what I wrote to the Corps of Engineers, they are having this open hearing on this:

> "The Corps is reviewing an application for a navigation permit under section 10 of the Rivers and Harbors Act of 1899—1899. The only windmills or wind power that the Members of Congress had any knowledge about then maybe was Don Quixote, as you know, and a few local farmers' windmills and something else. They never envisioned this. To think that you are moving forward on this project under that ancient statute, which in my judgment and the judgment of the Acting Assistant Secretary of the Army for Civil Works, just does not have the statutory framework to support this decision.

I go on:

> "The stated purpose of this statute is clearly to prevent obstructions to navigation in waters of the U.S. It does not provide authority to the Corps of Engineers to grant property interests in those CS lands, as would be the result should this permit application be granted. The legislative history of the 1899 Rivers and Harbors Act shows that section 10 was originally enacted to remedy the inability of Federal common law to prevent obstruction to navigation. The law and implementing regulations have been broadened somewhat over the years and now includes a public interest test. But its essential purpose has not changed.
>
> "The jurisdiction of the Corps of Engineers as provided in the 1899 Rivers and Harbors Act and implied authorities under the Outer Continental Shelf Lands Act are wholly inadequate to evaluate the construction proposed of 130 windmill towers in U.S. waters to properly protect our environment, to ensure that navigation on our seas is not impeded, to guarantee that public assets are not granted to private developers for free, to provide for appropriate compensation to the Federal taxpayer for the private use of public lands, and to ensure the careful management of other Federal interests. The 1899 statute simply cannot, and should not, be stretched 100 years later to embrace the unique concepts of the proposed project."

I am not against the concept of wind power. I simply say, if it is going to be done, do it right. The responsibility in large measure falls upon the Congress. When the energy bill, Mr. Chairman, is brought up, I intend to address this issue on the floor. I tried last year in the context of the Military Act, which the Chairman and I worked on, to ask for a 1-year moratorium to give Congress the opportunity to step in and establish a regulatory framework for these offshore lands, such that you could proceed under a current law of Congress specifically designed to take care of the wind power.

Now these wind units are proposed off the shore of Virginia, and that is really the underlying reason why I am so involved in this. I do not understand how you can put this much private capital behind a project that really has no foundation in statutory law for the regulatory process. Yes, you have been at this for 3 years-plus. I guess I am slightly amused by that. I have been for 15 years trying to get a dam in Virginia with the Corps of Engineers. I have not given up by any measure, but these processes are somewhat slow.

So I have stated my case, Mr. Chairman, and I would like to have our distinguished witness reply, to the extent that he wishes. To save time, you can have a chance to look over my letter, and I would ask that maybe you would like to expand your remarks and place them in today's record after you have had an opportunity to reflect on this.

Mr. DUFFY. Thank you, Senator, I would welcome that opportunity. Let me just say, I fully appreciate your concerns, but on the legal analysis I think we respectfully disagree on a couple of points, which I can explain somewhat.

The way we have read section 10 of the Rivers and Harbors Act is that it was always intended to be a general delegation of authority to the Army Corps and not limited to any specific type of structure or for a specific purpose.

For example, we looked back over a long history of courses of dealing where the Army Corps has used its section 10 authority for a whole host of different types of projects. Some have included things like rerouting rivers; others, highway construction projects, bridge construction projects; and others offshore have included things such as filling hundreds of acres of waterways of the Federal waters for things such as airport expansions.

More specifically going offshore, the section 10 authority has been used for a whole range of authorities which have been recognized by court decisions which have included things such as offshore cable projects, weather towers, and radio stations. There is a whole range of things that the Corps has done historically with an established course of dealing which has been upheld in the courts.

I would also point out that we, more than 2½ years ago, got a preliminary permit to place an offshore weather station with a 200-foot tower for taking wind data, which has been in service now for over 2 years. The opponents to our project appealed the grant of that permit under some of the very same reasons, arguing that the Army Corps' offshore structure was intended to be very narrow and limited, and in fact limited only toward extractive operations.

We have now gone through 2 years of Federal court litigation with two decisions at the district court in Massachusetts, and two decisions at the first circuit, which we think confirm our original reading that the congressional grant of authority to the Corps was not meant to be limited, but it was general in nature and extends beyond extractive structures.

But I think probably more importantly to the policy question, we feel that under current law the structure is in place to give a full and fair regulatory review to the substantive issues.

Senator WARNER. What structure is in place?

Mr. DUFFY. Well, I would say the structures are the public interest review that the Army Corps applies under any section 10 review process, which includes the whole range of all likely detriments and benefits that might result from the project, which are going to include issues such as aesthetics, tourism, conservation, fish and wildlife impact, as well as current uses of the area.

That is why the draft EIS which was released after the first phase of the project included over a 4,000-page analysis of all these issues. I would point out that, in addition to the process being driven by the broad public interest test of the Corps' statute, it is also being done pursuant to the National Environmental Policy Act, where it is proceeding in line with the rules and procedures established for an environmental impact statement, which has involved 19 participating agencies both from the Federal and the State level.

So I recognize fully the type of issues that you raised in particular. I know the Cape very well. It is very special to me as well. But I feel that when you stop and look very closely at the process which has happened so far, including the Massachusetts review and approval which we just got a couple of weeks ago, as well as the Federal process, I think the analysis really shows a careful balancing which recognizes that there are going to be detriments to this project, like any energy project, but tends to view those in the overall scheme where they are at least weighed and measured against the potential benefits.

We just think when people see the final environmental impact statement we really believe that the merits of the projects are going to be far in excess of the detriments. We do not dismiss the detriments, but we think on balance the project makes sense.

Senator WARNER. I came within a millimeter of getting my statute of a year's moratorium through. I will not tell you what happened in the wee hours of the morning, but one individual was able to stop it in the other body. That is the way we do business up here. I am not complaining. I have done it myself.

But I came up through the legal profession and I just say to myself, if I were in your position, as an industry, not just your company, as an industry, you should have come to the Congress and said, "Look, we are first cousins to the oil and gas industry and there has been a framework of law and regulation covering their offshore drilling for years and it sets out clearly the criteria, the environmental concerns, a whole framework is there."

You should, in my judgment, be treated fairly under that type of framework of law, rather than fumbling around and trying to squeeze an 1899 statute to get under. Because some Federal court someday might just slam you down and say, "You know, those

Members of Congress never were envisioning this type of energy, the source, as fitting into a navigation statute."

There you are, and all your shareholders and the rest of the world, and all the turbulence in the Cape, and everything else either comes to a standstill or collapses. Why has the industry never come to the Congress and said, "Come on Congress, this is a potential source of energy, we would like to do it in the proper way, give us a framework of laws?"

Mr. DUFFY. I understand your concern there, Senator, and to some extent I do share it. But I think on one level we do feel sound in our legal position.

But we, both our project as well as the industry generally, have been supportive of some of the legislative proposals which have been circulating for the last 2 years, including the Administration's proposal which was introduced last session originally as the Cuban amendment, now included in the House version of the energy bill and I believe also in the version that is circulating in the Senate.

Senator WARNER. Well, we will see what comes out of that. That has sort of made my point. But there is also the interest of the Federal taxpayer. I think you will grant me the common ground of agreeing that in the oil and gas situation that taxpayer is protected when U.S. property is used for purpose by the private sector to create a product, whether it is oil and gas or, in this instance, wind. But the taxpayer is not protected as you are proceeding. Am I not correct there?

Mr. DUFFY. You are correct, Senator. Under current law, only extractive uses of the Outer Continental Shelf pay a royalty back to the Government, oil and gas extractions under a mineral lease. Non-extractive activities such as the Ocean Thermal Energy Act, cables, communications systems, are permitted, but they do not pay a royalty. We do not oppose that. The current provisions within the bill that would address offshore would provide for compensation to the Government, and we have no problem with that.

Senator WARNER. I thank you for your indulgence and your courtesy. We will continue to work away. I thank the Chair. I will put some things into the record. I will provide you with a copy of my letter to the Corps of Engineers which sort of states the case, maybe you have it, I do not know, but I will give you a copy. Thank you very much.

Mr. DUFFY. Thank you, Senator.

[The prepared statement of Senator Warner follows:]

STATEMENT OF HON. JOHN W. WARNER, U.S. SENATOR FROM THE COMMOMWEALTH OF VIRGINIA

Thank you, Mr. Chairman for calling this hearing today. We are here to discuss and examine the permitting process for energy projects. Our witnesses will share their first hand knowledge and experience with what is a broken process. The growth in demand for energy is outpacing our growth in supply and increased global consumption is driving prices even higher. As the demand for energy rises in the U.S. our goal as public servants should be to help provide a legal and regulatory framework that helps deliver basic resources to the citizens in the most cost-efficient and environmentally friendly manner possible. The President has called for efficient permitting and numerous energy bills have been proposed with hopes of improving this review process.

Ironically, the permitting process isn't just inadequate for energy projects but also other public works. I have been working for the better part of two decades to get

a reservoir approved for an area of my state in desperate need for more drinking water. It simply should not take this long to obtain a permit for a water reservoir.

Today we will hear testimony from entities in oil and gas exploration and wind energy development tell their stories of how difficult it is to obtain the necessary permits to move ahead on any energy producing work. They will share very different stories; one of frustration with bureaucratic red tape and the other as a pioneer attempting to break new ground.

Over the past several years I have taken a particular interest in the growing wind energy industry in the U.S. The Department of Energy says that this industry is growing at a 24 percent rate each year. Technological advancement (mainly as a result of growing the size of the actual wind turbines) and a healthy Federal tax credit have combined to enable wind energy companies to produce electricity at a consistently cheaper rate over the past twenty years. However, the cost to the American consumer is not accurately reflected in this model as it fails to take into account the overall cost to the Treasury of the tax credits. The Department of Interior has a strong and clear process in place for the permitting of these resources on public lands and also for the competitive bidding and leasing of OCS lands for oil and gas development. Unfortunately this framework is not currently clarified for the permitting of offshore wind production. As a result, we could have a form of electricity production subsidized by the American taxpayer in the form of free land and cash back just to make the cost to the consumer about the same as other forms of electricity.

I look forward to hearing from our witnesses today and having the opportunity to shed some light on the potential problems on the horizon if we do not establish a comprehensive process for the permitting of off shore wind production. According to the U.S. Commission on Ocean Policy "there is no comprehensive and coordinated Federal regime in place to regulate offshore wind energy development or to convey property rights to use the public space of the OCS for this purpose." The Commission has clearly called for the establishment of such a process in its Final Report saying that Congress should enact legislation to streamline the licensing process with adequate review from local, state, and Federal entities, with a fair return to the U.S. Treasury for the use of the public resource.

The U.S Army Corps of Engineers has claimed Federal authority over the granting of permits through the Rivers and Harbors Act of 1899. However, the legislative history of that law shows it was originally enacted to prevent obstructions to the navigable waters of the U.S. It is not only my view, but one shared by many others, that this law is clearly inadequate to fully evaluate the construction of thousands of windmills in the waters of the United Sates. In fact, the EPA, USGS, and U.S. Fish and Wildlife have all gone on the record about the current application. When asked directly about the Corps' authority under the 1899 statute, the Assistant Secretary of the Army for Civil Works said "It is not well adapted to the purpose I do not believe that the Corps of Engineers is the appropriate resident for that except to the extent that we should be consulted with respect to the navigation channels."

It is our responsibility to make certain that any permit granted is done so in a manner that uses more than just a superficial review under the Rivers and Harbors Act of 1899 so that we are ultimately able to properly protect the environment, to ensure that navigation on our seas is not adversely affected, to guarantee that public assets are not granted for free to private developers, to provide for appropriate compensation to the taxpayers for the use of public lands, and to provide for and ensure the careful management of other national interests such as aviation and the national defense.

It is my hope that we are able to continue to shed light on this issue so that the Nation will be able to move ahead in the expansion of our energy and electricity production. As we know all too well, the growing population and economy will continue to grow its need for these resources. The communities affected, companies working hard to develop innovative solutions, and the American public all deserve a process that is sufficient and efficient in providing the proper review to achieve our ultimate goal.

Senator INHOFE. Thank you, Senator Warner.

So the other members who have arrived will know where we are, we have completed opening statements, and we have heard the opening statements of Mr. Robinson and Mr. Duffy, but not from the other two witnesses yet.

At this point, if any, or all of you, want to make an opening statement, I only ask that you try to confine it to 4 or 5 minutes. In order they came in, I believe Senator Chafee is first.

Senator CHAFEE. I will submit mine for the record, Mr. Chairman, so we can continue with the hearing.

[The prepared statement of Senator Chafee follows:]

STATEMENT OF HON. LINCOLN CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Thank you, Mr. Chairman.

Thank you for calling this hearing on the permitting of energy projects.

Energy is the lifeblood of our economy. Everyone depends upon access to affordable, reliable energy to conduct the activities of their lives.

As our nation's demand for affordable, reliable energy increases, our current capacities continue to be strained. My hope is that we can continue to work at alleviating the supply shortage by promoting energy efficiency and energy conservation programs to cut down on demand. However, these measures alone will not be enough. To sustain a growing, robust economy, new energy projects will have to be sited. It is my hope that the siting of new projects will be carefully scrutinized, and that public safety and environmental concerns remain our nation's priorities.

It is my firm belief that Americans deserve an affordable, reliable energy supply and a clean environment. Both are achievable. Today's hearing is important so that we can benefit from the experiences of existing energy projects; learn from the past; and build upon the successes that we have already enjoyed. By doing so, we have the opportunity to make significant improvements in our quality of life. I look forward to hearing the testimony of today's witnesses so we can benefit from their work. Thank you.

Senator INHOFE. Thank you, Senator Chafee.

Ms. Buccino, we are finally around to you. You are recognized. Please try to confine your statement to 5 minutes if you could.

STATEMENT OF SHARON BUCCINO, SENIOR ATTORNEY, NATURAL RESOURCES DEFENSE COUNCIL

Ms. BUCCINO. Good morning. My name is Sharon Buccino. I am an attorney with the Natural Resources Defense Council. NRDC is a nonprofit organization. We have over half a million activists and members across the country. We work to protect the environment, but for the humans living in it.

I, like you, want to make energy permitting work better. I have had the privilege to work with ranchers, farmers, homeowners across the West as energy development has come to their communities. Domestic energy production, the work of companies like Questar, is important. The permitting process is what allows this development to go forward in a way that identifies community concerns and addresses them. The permitting process is what gives citizens a voice in the Government decisions that affect their lives.

I would like to spend the few minutes I have here to address the National Environmental Policy Act, known as NEPA. NEPA was signed into law in 1970 by President Nixon. Since then it has served as a valuable tool to produce both informed and accepted Government decisions. It has helped citizens protect their communities and enhance the quality of their lives. NEPA has also helped Federal officials better meet the needs and interests of the public they serve.

NEPA improves projects. I was involved in a seismic exploration project in the Nine Mile Canyon region of Utah. This is an area that the State of Utah has described as "an outdoor museum." The Bureau of Land Management describes the area as "the greatest concentration of rock art sites in the U.S." This project involved 60,000 pound trucks and they used explosives to collect data about

oil and gas resources. It was in a very sensitive, arid area in Utah's canyon lands.

As a result of the review process under NEPA and also under the National Historic Preservation Act, the company conducting this exploration took additional steps to protect those natural and cultural resources that were in the area. The company agreed to additional monitoring and mitigation. In fact, just recently in a USA Today article, the BLM manager for that project said, "I can't imagine this project without a process like (this)."

NEPA gives people a voice. You will find that many of your constituents, from city council members to homeowners, care deeply about NEPA. They care about having a say when the LNG facility may be coming into their area, when a gas company wants to put a coal-bed methane well in their backyard, when a highway is proposed through their neighborhood. I urge this committee and Congress to work to enhance the public's voice and not silence it.

There are several provisions that have actually been introduced and passed on the House side in the energy bill, H.R. 6, that take us in the wrong direction. I will just highlight one, which is section 2055. It removes completely from the NEPA process numerous oil and gas activities, including the seismic exploration that I just described. It provides that those activities shall not be subject to review under NEPA. Rather than working to improve the review process, this provision simply eliminates it. Instead of using the NEPA process to identify and address concerns and potential adverse impacts on the public's health, livelihood, and communities, this provision excuses the Government and industry from listening.

I urge you to fight to keep energy legislation clean of provisions that compromise environmental protections and public participation. In the past, this committee has stood strong in defense of NEPA, the Clean Water Act, the Clean Air Act, the Safe Drinking Water Act, and I urge you to stand strong now.

Finally, one last point I would like to make is that we can increase domestic energy production without weakening environmental protections. Getting permits is not preventing oil and gas companies from drilling. In fact, the Bureau of Land Management is issuing record numbers of permits. In the last fiscal year, they issued over 6,000 permits, which was up from about 3,800 the previous fiscal year. Many of these permits are actually going unused right now.

So in conclusion, because of the increasing demands being made on our public lands and our shrinking open space, NEPA is needed now more than ever. I remain inspired by that vision that was in NEPA—it is a future where man and nature can exist in productive harmony. It is a future where our valuable public lands serve diverse interests. I hope that this is a vision that you all share and will fight for as well. Thank you.

Senator INHOFE. Thank you, Ms. Buccino.

We have been joined by some other members. They have agreed not to have opening statements. So we will move right along.

Mr. Hogan.

STATEMENT OF RONALD E. HOGAN, GENERAL MANAGER, QUESTAR EXPLORATION AND PRODUCTION COMPANY

Mr. HOGAN. Good morning, Chairman, and members of the committee. My name is Ron Hogan, general manager for the Pinedale, WY Division of Questar Market Resources.

I would like to describe our efforts to obtain permission to reduce our environmental impact to levels substantially below existing regulations, while increasing worker safety and stabilizing our contribution to the local community. Some of the special technology and innovative solutions I will describe shortly may or may not be applicable to other oil and gas development projects, but perhaps our experience can help this committee understand the challenges we face in today's complex regulatory environment.

Pinedale is a small community in Sublette County, WY. According to the current estimates, there are over 20 trillion cubic feet of recoverable natural gas in the Pinedale anticline, which is about 1 year's supply of natural gas for the entire country. In July 2000, the Pinedale field office of the Bureau of Land Management published a record of decision that outlined the guidelines and restrictions for oil and gas exploration and development on the Pinedale anticline. This decision was the result of a comprehensive NEPA process that included significant public involvement.

Among the many guidelines imposed by the record of decision was a restriction prohibiting drilling operations during the winter to minimize possible disruption to deer herds, other wildlife, and their habitat. To meet these restrictions, Questar was forced into a condensed, summer-only drilling schedule. Under these restrictions, we projected it would take nearly two decades just to fully develop the gas reserves available on our acreage, thereby delaying the delivery of much needed gas.

While operating within these restrictions, we witnessed some of the unintended consequences of the summer-only schedule. For instance, the shortened season made it unfeasible and cost-prohibitive to apply available disturbance-limiting technologies like drilling directionally multiple wells from a single well pad.

Also, it was difficult for us and our contractors to hire, train, and retain quality employees due to the seasonal part-time nature of the work. This, in turn, created an annual boom-and-bust economic impact on the local community. Perhaps most importantly, winter restrictions made better environmental mitigation measures economically unattractive or, in many case, physically unattainable.

We did not feel these unintended consequences were the goal of the BLM's record of decision. Therefore, Questar voluntarily offered to engage in a multi-year, multi-million effort to explore ways that we could leverage the benefits of new technology, minimize environmental impacts, enhance the safety of operations, stabilize the impact on the local economy, and meet or exceed the established goals for the protection of local wildlife and habitat.

The first step in our effort was to submit a request to the BLM for a permit to operate one drilling rig during the winter of 2002–2003. This would allow us to gain valuable scientific data and technical insight into whether a year-round development project could help avoid the unintended consequences of summer-only restrictions. In addition, we also voluntarily agreed to fund a University

of Wyoming and Wyoming Game and Fish study that would help determine the real impact, if any, of natural gas development on wintering deer populations.

Our request for an exception to the winter drilling restriction was approved by the BLM for the winter of 2002–2003, as was a similar request for a one rig, one winter exception for 2003–2004.

On April 15, 2004, we formally submitted a comprehensive proposal for long-term year-round operations, with certain restrictions, on Questar's acreage. I want to provide some quick highlights of our proposal so you can get an idea of the scope of our request.

First, we proposed investing more than $200 million in directional drilling, thereby greatly minimizing surface disturbances and associated environmental impact.

Second, we proposed expanding both the scope and the duration of the ongoing deer study to help design energy development projects that minimize disruption to wildlife and habitat.

Third, we proposed building a $25 million water and liquid condensate pipeline system. This pipeline system eliminates the need for truck transport of produced water and condensate off the winter habitat area. At peak production from just our acreage, this system will eliminate more than 25,000 tanker truck visits in a single year. The result will be a significant reduction in traffic and air emissions from levels originally anticipated by the BLM.

Fourth, we eliminated the need for flaring, which is used to clean up the production stream from new wells to remove the water and sand we use during the completion process.

Last, we invested in busing our contractor's employees during the winter months and trucking necessary materials in bulk to the rigs in the fall to decrease traffic in the wintering wildlife areas.

In summary, our proposal included investments of more than $200 million in onsite mitigation and outlined an approach that was scientifically based, field tested, and offered substantial benefits over the restrictions imposed by the 2000 Pinedale record of decision.

To facilitate a thorough review and analysis of our proposal, we worked closely with local BLM officials, biologists, and experts from Wyoming Game and Fish, and elected officials. We received formal support of our proposal from Wyoming's Governor Dave Freudenthal, the Wyoming Game and Fish Department, U.S. Senator Craig Thomas, Wyoming State Representatives Monte Olsen and Stan Cooper, Pinedale Mayor Rose Skinner, as well as the Sublette County commissioners, the North American Grouse Partnership, and Trout Unlimited.

We also recognized that the Pinedale community needed to be involved in the decisionmaking——

Senator INHOFE. Try to wrap up, Mr. Hogan, if you would.

Mr. HOGAN. Yes, sir. In November 2004, the Bureau of Land Management officially approved our request for the site-specific limited year-round operations. I am proud of Questar's Pinedale project. Our company is committed to invest over $200 million to achieve the benefits significantly above and beyond those required by existing regulations.

But even with this commitment, our proposal is constantly at risk. We continue to get bogged down in a complex web of overlap-

ping jurisdictions and a maze of regulatory requirements that many times simply defy logic. When you add to the equation those that take advantage of regulatory complexity to delay, litigate, and obstruct any energy project——

Senator INHOFE. Mr. Hogan, I am going to have to interrupt you. You are almost 2 minutes over. We have to keep some time discipline here.

Mr. HOGAN. Thank you.

Senator INHOFE. Let me share with my panel members up here that the order of early bird and, going back and forth, will be myself, then Senators Carper, Chafee, Jeffords, Isakson, and Clinton.

I will go ahead and start off. In my opening statement I made a statement that I will read again. I am going to ask each one of you whether you agree or disagree with this statement. So listen very carefully. What I said in my opening statement is, "Environmental review needs to be completed in a timely manner and slippage undermines the credibility of the process and drains the energy and resources of the members of the public. Indefinite delay harms not only the project proponent and those who see the benefits flowing from the project, but also damages stakeholders."

I will start with you, Mr. Robinson. Do you agree with that?

Mr. ROBINSON. Agree wholeheartedly.

Senator INHOFE. Mr. Duffy.

Mr. DUFFY. Absolutely.

Senator INHOFE. Ms. Buccino.

Ms. BUCCINO. I agree with that statement.

Senator INHOFE. Mr. Hogan.

Mr. HOGAN. I agree, Chairman.

Senator INHOFE. Thank you very much. I thought that would be the case. This actually was a quote from a letter that came from 13 environmental groups, advocacy groups. So it seems that we do all agree, we have one area where we agree.

Mr. Robinson, after your opening statement, I complimented you because you came out with something that was very specific. If you could abbreviate that for the members who were not here at the time, and then I am going to ask the other three if they agree with your comments on what I consider to be a reasonable solution.

Mr. ROBINSON. First, I would like to make it clear that this proposal for a rational process for siting energy infrastructure does not in any way reduce the authorities of any other agency. What it does is to try to provide discipline to that process, something that we all work on and have worked on for years through administrative procedures, MOAs, and things of that sort.

The first leg of that rational siting process is exclusive jurisdiction designated to a lead agency. What this would do would make it clear to all agencies that one agency is responsible for the overall public interest determination. Everyone else should focus on their aspect of the project, be it dredging for the Corps of Engineers, or water quality for the States.

The second leg of the rational siting process is one Federal record development. All agencies involved in the decisional process should work together to create one record. That record would be used for all decisions at a single point in time under a schedule set by the lead agency. Should an agency fail to exercise their authority with-

in that schedule—keeping in mind that the lead agency has to look at all aspects of the project, so any schedule that would satisfy them should satisfy an agency that only has one aspect of the project—they would lose that authority. Their authority would be conclusively presumed.

The third leg of that rational siting process is direct appeal of all of those decisions to the U.S. Court of Appeals. Instead of going off to the State administrative agency, then the State's courts, or to another Federal agency, and then the Federal courts, everybody would go at one time. It would shorten the timeframe and give a certainty to the decisionmaking process.

Senator INHOFE. OK. Mr. Duffy, what do you think of that?

Mr. DUFFY. I had not thought of it before today, but I like that approach very much, and let me just tell you why. It sounds to me very similar to the approach on energy projects that most of the New England States have taken for their State environmental review of energy projects. By adopting energy facility siting acts which delegate to a specific board the primary, the ultimate authority for the decisions for energy projects, all the other entities that would otherwise have jurisdictional roles are still involved in the process but when they review the project, rather than each issuing their own opinion or their own decision, they issue an advisory decision to the State siting board which then makes a decision based upon all the relevant factors.

I think the important thing to keep in mind is that when it operates in that way, the substantive standard should not have changed, the degree of examination and review should not have changed. But what you get is a single decisionmaker who is in a position to make a public interest determination after considering all of the other authorities which otherwise could give you conflicting results.

Senator INHOFE. Thank you.

Ms. Buccino.

Ms. BUCCINO. I guess the way I react to that is, first, I would like to emphasize that I am for spending more money on protection rather than paper. As I said, I am for making the system, the process work better. I think maybe this takes us in the right direction. I would just like to flag a couple concerns that I think need to be looked at carefully if you consider moving in this direction.

One is, I think that while the statement has been made, you are not taking authority away from existing State or local governments, there is very real concern that is the result. At least in the version that I have seen, I think it is in H.R. 6, at least it has been articulated there, you are making a clear change. You are concentrating authority in FERC.

So my approach would be to give the resources that are needed to the agencies to provide their input in a timely manner rather than create a system that may put them at a disadvantage. You can look to the transportation act ISTEA where it was first used, where you have transportation funds going to resource agencies, wildlife agencies to help them get their job done. So my approach is help the agencies provide their input in a timely manner rather than silencing those voices.

Senator INHOFE. All right. Mr. Hogan, I am going to let you answer for the record because we are running short of time here and I had one more question I wanted to ask in my turn here.

Mr. Duffy, I found it to be interesting after Senator Warner asked you some questions, in your opening statement, do I understand that 75 percent of the electricity in Cape Cod, Martha's Vineyard, and Nantucket is wind?

Mr. DUFFY. No. If our project were to come online.

Senator INHOFE. If it were to come online. How long would that take?

Mr. DUFFY. Oh, probably 2 years from the time of a favorable decision. We have to work around winter construction seasons, but basically 2 years.

Senator INHOFE. You always hear that the technology is not there, it is not going to work, and I have heard a lot of gloom and doom about wind energy. I would like to see it work. Where do you think we are in technology?

Mr. DUFFY. Obviously, we have been in the energy development business for 25 years and we are putting our private capital at stake in this project. We have invested very heavily in this and, prior to doing that, we had to come to the conclusion that it was both technically viable and economically viable. I think in particular looking at the offshore projects, it is a proven technology, it has been commercially successful in operation in the European market for more than a decade. There are numerous projects under development in the European markets today. Off the coast of New York, the Long Island Power Authority is proposing a project very similar to ours. We are just absolutely convinced that the technology is proven.

Senator INHOFE. Thank you, Mr. Duffy.

Senator Carper is not here. Let us just go ahead and come back to him.

Senator Chafee.

Senator CHAFEE. Thank you, Mr. Chairman. It is a pleasure to join you here at this hearing on an important issue of the siting of energy facilities. Certainly, New England has been mentioned not only with Cape Wind, but LNG being very important to us also. We all know the abundance of natural gas in the world. The problem is getting it to market. It certainly burns cleaner than coal and oil, so it is advantageous to try and get it to market. Thus the dilemma. We have several fairly controversial proposals in Narragansett Bay; one on the Massachusetts side, one on the Providence side.

But my question is to Mr. Robinson. In response to Ms. Buccino's assertion that under H.R. 6, numerous gas and oil activities on public lands shall not be subject to review under NEPA, has FERC taken a position on that?

Mr. ROBINSON. It is amazing how this proposal has generated criticism that has no application to the proposal. No one is calling for any changes to the NEPA process. The only thing that we are asking for is to discipline the process by allowing an agency, be it FERC or any other agency, who is designated as that lead, to set a schedule and have all other agencies act under their authorities whatever actions they want to take to grant or deny within that

schedule. So there is no diminution of authority in any other agency whatsoever.

As far as resources go, I think that was one of the other criticisms that we heard, that we should just apply more resources. I will guarantee you, as a regulator of 28 years, working with every agency that you can think of, State, local, or Federal, that we will consume those resources and we will design even more complicated processes administratively to try to do what we should do. It is not a matter of resources. It is a matter of discipline. I think that is what we are calling for in our proposal.

Senator CHAFEE. Thank you. Mr. Hogan, I know you had interesting testimony of what is happening in Pinedale, but because of time constraints could not get through it. I think there is a ranch there, the Box R.

Mr. HOGAN. I have heard of it, yes.

Senator CHAFEE. The Logier family—I think Mrs. Logier came from Rhode Island from years back. So I am familiar with Pinedale. A beautiful area of the world.

But you were going to say that you were trying to get the proposal to drill into the winter, at least one well during the winter. How has that proceeded so that you could diversify? You said it was a boom and bust economy, all the people come in for the summer, and you are trying to diversify the impact on the community. Has that process concluded? Are you getting that one well in the winter?

Mr. HOGAN. Yes. We received two opportunities to drill with one rig during the winter season to try and establish a baseline that we could, in fact, do what we want to do, which is to have three pads with two rigs on each pad drill during the winter. When we receive that, we have had that approved, but when we are actually able to implement it this coming winter, then we are estimating that will establish the beginning of our 9 years of drilling on a year-round basis, which will provide opportunities for members of the crews to be able to identify long-term employment and therefore move their families into the area.

Senator CHAFEE. What year are you in in that process?

Mr. HOGAN. Excuse me?

Senator CHAFEE. What year are you in the winter drilling process?

Mr. HOGAN. We just received approval in November to start. We were unable to start the three pad winter proposal until this coming winter. So we currently have commenced the pipeline portion of the project.

Senator CHAFEE. How was the regulatory process at trying to make that proposal?

Mr. HOGAN. It was a fairly long, drawn out procedure. We identified early on that there was a certain element of timidity, I guess, on behalf of the BLM to try and take a leading edge. I want to say that the BLM office in Pinedale is an excellent office. I do not take anything away from them.

But they were a little skittish about going forward with our proposal fairly independently. So we took it upon ourselves to meet with the public on a very concentrated basis, explain our project, answer any questions that they would have to try and make sure

that really the critical mass that the BLM needed in order to make a positive type of determination was there.

Senator CHAFEE. Was there concentrated public opposition initially?

Mr. HOGAN. Well, I would not say it was concentrated. But there was some opposition. We spent a lot of time with the conservation groups and I think it was a matter of education. Once we got over the hurdle of educating them as to the benefits of our proposal, we did not receive any opposition. At this point, we have not had any litigation filed against our project. So we take that as a form of endorsement.

Senator CHAFEE. I am sure in all these siting proposals public involvement has its pros and cons. Having been a mayor and going through zoning processes, you have to make sure you reach out to the neighborhood as the proposal comes forward. I know Cape Wind has tried to do that, and the liquid natural gas people have as they come up Narragansett Bay, but nonetheless, as politicians, we sure hear from our constituents on these issues. Thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Chafee. Only we former mayors understand that.

Senator CHAFEE. Front lines.

Senator INHOFE. Senator Carper left. We will come back to him when he comes back. Senator Jeffords, do you have some questions? Our distinguished Ranking Minority Senator Jeffords.

Senator JEFFORDS. That is better. Thank you. Mr. Robinson, in your testimony, you provide a chart that lists the number of State and Federal approvals and permits needed for liquified natural gas facilities. Can you clarify for the committee which of these are actual permit requirements as opposed to some other review status?

Mr. ROBINSON. I think we were using the term permit in its broad sense. But I believe all of them are, in fact. It is a process, a certificate, an authorization, a permit, an OK from an agency that our applicants have to go through. Now there is a distinguishing aspect of those permits that is not identified in that chart.

Some of those are permits that are pursuant to Federal statutes—the Clean Water Act, the Clean Air Act, the Coastal Zone Management Act, and others—and many of those are legal predicates for an action to occur at the project, others are not. So there is a distinction there. But there is at least a half a dozen of those permits which by Federal statute must be acquired prior to any construction of a project.

Senator JEFFORDS. Mr. Duffy, I would be interested in your thoughts about how the NEPA process has affected your project so far. Do you feel that the process of developing the draft Environmental Impact Statement has increased local community acceptance of the project?

Mr. DUFFY. I think it has, Senator. NEPA is always a double-edge sword. It is a difficult, long process, but I think the level of public support, in particular from the environmental community, has been much stronger now that the draft EIS has been issued. I mean, we have always had the strong support of the most respected environmental organizations. But until the draft EIS came out, it always was subject to the caveat that it is a good idea pro-

vided that the EIS is favorable. Now that it is out and it is showing a very favorable conclusion, it has absolutely solidified our support in the public.

Senator JEFFORDS. Thank you. Ms. Buccino, in your experience, do you think that the current Clean Water Act, Safe Drinking Water Act, and National Environmental Policy Act provide enough protection for landowners who live near the energy-production sites?

Ms. BUCCINO. Well, those Acts provide a core of protection that is essential. There are issues related particularly to the split estate situation where a company has leased the mineral rights underneath the land. Actually legally right now those mineral rights underneath the land trump private property rights on the surface. So there is quite a bit of conflict occurring right now primarily around coal-bed methane development where drill pads are being put in people's backyards, and the current legal framework does not address adequately those concerns.

Senator JEFFORDS. To what extent has changing administrative guidance on NEPA fueled litigation in an effort to clarify the requirements regarding the content of the Environmental Impact Statement?

Ms. BUCCINO. There has been quite a bit of work actually, administratively to help improve the process. For example, the White House, under this Administration, had a NEPA Task Force that focused on implementation—improving implementation—and I think they are moving forward with some of those recommendations. The White House Task Force on Energy Project Streamlining was referred to earlier, and they have actually done a lot of work within the existing statutory framework.

In fact, they issued a report, it was December 2002, reporting on the proceedings of their first year. In that report, they reaffirmed that improvements can be made within the existing statutory framework, there is no need to change that statutory framework, and they have moved forward with Memoranda of Understanding to address deep water ports and also pipelines.

Senator JEFFORDS. Thank you very much.

[The prepared statement of Senator Jeffords follows:]

STATEMENT OF HON. JAMES M. JEFFORDS, U.S. SENATOR FROM THE STATE OF VERMONT

Mr. Chairman, thank you for holding this hearing, and a sincere thanks to all the witnesses, many of whom have traveled across the country to provide testimony to the Committee. The Committee will be examining several very important issues today, as we conduct oversight of energy project permitting.

Though this is the first one this Congress, this is essentially the third hearing in the last year in which the Committee has examined environmental permitting related to energy projects. In the 108th Congress, we held both a natural gas and a gasoline supply hearing in which permitting issues were discussed.

America needs a reliable, affordable, and environmentally friendly energy supply. I'm concerned, Mr. Chairman, that in our desire to adopt a national energy strategy, a goal I share, we may yield to premature calls to repeal or revise our Federal environmental laws. These are important laws, important for the health of our citizens and our environment. In exercising our oversight responsibility, we must examine the effect of environmental laws, if any, on various sectors of the economy, including energy industries.

Of course, however, this Committee's first and foremost responsibility is to assure that the nation's laws are protective of public health and the environment. It is our job also to set performance standards for industries like the natural gas or wind in-

dustry that are adequately protective and wherever possible, fuel neutral. These standards should not be skewed to protect any one industry, but should encourage sustainable economic development.

We must be mindful that though we benefit from the use of natural gas and wind resources to generate electricity, heat our homes, and produce commodities, there are costs as well. While we have improved public health by improving our air quality, we are also having real on-the-ground environmental impacts on our country's public and private lands, and our water and wildlife resources. I feel that a good understanding of these issues is extremely important.

I think this is even more the case now that the Senate is putting together an Energy Bill. Therefore, I am pleased that we will hear from witnesses, both energy producers and individuals who have examined energy production sites, about the sufficiency of these laws in protecting the environment.

Moreover, whatever contribution the costs of environmental compliance has made to the overall price of energy development in our country, I am very skeptical that these costs are a primary driver behind the recent price fluctuations we have seen.

We routinely implement our environmental laws in a deliberate and measured way. In the case of Clean Air Act and Clean Water Act requirements, all of them have been phased-in over long timeframes in consultation with industry. We have done this specifically to try to avoid market shocks and price spikes. These are not new requirements, they are not a surprise, and the costs associated with meeting them are known.

The National Environmental Policy Act of 1969 has largely been heralded as a success as well. It has made Federal agencies take a hard look at the potential environmental consequences of their energy permitting actions. It has also involved the public into the agency decisionmaking in a way unlike any other statute.

We must not sacrifice our environmental laws to pressures from the power industry. The energy future of our nation relies on our ability to find ways to harness our current resources in cleaner ways and develop cleaner alternative energy sources.

Thank you again, Mr. Chairman for holding this hearing. In covering the issues I have outlined, it will be a comprehensive look at several areas of permitting. I look forward to hearing from the witnesses.

Senator INHOFE. The next would be Senator Isakson. I have asked if he would Chair the remainder of the meeting, which will just go for one round of questions because of something that has come up. So I appreciate your willingness to do that, Senator Isakson, and you are recognized for your questions.

Senator ISAKSON. Thank you, Mr. Chairman. Out of respect for Senator Carper, in case he does not come back, I will ask a question I think he rhetorically asked in his brief opening statement. I guess, Mr. Robinson, it would be for you. What I heard him say was a discussion of giving the State a role in the siting of LNG facilities. That implied to me that the States do not now have a role. I am not knowledgeable either way. Would you tell me?

Mr. ROBINSON. I would like to give you one example. We have a project proposed in California, the Port of Long Beach, it is the SES project. There, the State designated agency for their CEQA responsibilities, the NEPA equivalent, is the Port of Long Beach Authority. They are supposed to gather the information for all the other State agencies and act as the agency that prepares the Environmental Impact Statement. They are a cooperating agency with the Federal Energy Regulatory Commission in preparing the NEPA document that we are doing.

We were prepared in October of last year to go forward with our draft EIS on that project. The Port Authority was not. There were more studies that they wanted to do. We agreed, and continue to agree, to wait while the Port Authority continues their State process before we go forward with our NEPA document.

The State has a vital role in the siting of LNG facilities integrated into the NEPA process, certainly, as I just demonstrated, but also in terms of the permitting that goes on. No LNG facility can be sited unless it receives a Coastal Zone Management Act permit granted by the State. The State can stop any LNG facility they wish just with that one Act, and that is one of three that they can stop a project with.

Senator ISAKSON. Thank you. I want to be sure to get that in the record in case Senator Carper did not get back in. I do not know if he had a follow up question, because I am not a mind-reader.

Mr. Hogan, I would like to ask you a question. Does Questar—is it Questar, is that right?

Mr. HOGAN. Yes, sir.

Senator ISAKSON. Do you do offshore drilling for natural gas?

Mr. HOGAN. No, Senator, we do not.

Senator ISAKSON. All right. If anyone at the dais is knowledgeable about offshore drilling, and this again is educational and informative for me, what are the environmental concerns, I understand those with regard to petroleum, but what are the environmental concerns with regard to drilling for natural gas offshore? Ms. Buccino?

Ms. BUCCINO. I will just highlight a few. A lot of them are similar, and it starts with the exploration stage, not just at the production end. There are concerns about the impacts on marine mammals from the seismic exploration, and I think there are also concerns that relate to impacts on tourism and local economies.

I know there has been a debate about whether the potential impacts are really the same with gas versus oil drilling. I think again, that illustrates the importance of the environmental review and public participation process, to allow that information to come out, to allow the public to digest it, and if the case is made, the public accepts it and you can move forward with a project that is not controversial and not opposed.

Senator ISAKSON. Well that was my reason for asking the question. Georgia has about a 123-mile coastline and natural gas is a real premium today and is going to be in shorter supply than it now is because of the amount being consumed just in generating electricity. As the pressure grows on that, I just was not familiar with what the environmental—I know on petroleum, it would obviously be the oil spill and the fracturing and everything else that goes on. But it primarily would be to the marine wildlife and the esthetics, I take it, more than anything else. Is that correct?

Ms. BUCCINO. I think that is true. I think it is an area that has not been explore fully and the review process can help do that.

Senator ISAKSON. Thank you very much.

Senator Clinton.

Senator CLINTON. Thank you, Mr. Chairman, and I thank the witnesses who are here with us today.

I wanted to just add something for the record, because I know my friend Senator Warner was here earlier to discuss his concerns with the current permitting process for offshore wind farms, and there are several proposals under consideration as part of the energy bill debate to revise that permitting process, which is cur-

rently being done by the Corps under section 10 of the Rivers and Harbors Act.

I just want to state for the record that we have a proposal that is in the pipeline in New York. The Long Island Power Authority has selected Florida Power and Light to build a 140-megawatt wind farm off the Long Island coast. This project enjoys strong local support, and the permitting process is in midstream. So I think it is extremely important that whatever we might do in the context of any energy bill, or any other bill where this issue is addressed, we take into account some of the projects that are strongly supported and already on their way to going into production.

I understand Senator Warner's concerns and I appreciate them. Whatever the adequacies or inadequacies of the Corps current authorities may be, my concern is that I do not want LIPA to have to start all over again if we change the permitting rules. So I hope that the Chairman and all of our colleagues will work with me on that in the spirit of this hearing, which is to reduce unnecessary roadblocks to energy projects. I would look forward to working with Senator Warner and others on the committee.

I have a few questions for Mr. Robinson, and, Mr. Robinson, it is in line with what you have already been testifying about. As I believe you know, Broadwater Energy has proposed building an offshore LNG terminal in the New York waters of Long Island Sound. There are many concerns on both sides of the Sound about the impact such a facility would have. It is not a huge body of water. It is not out in the open ocean. It is an important environmental, recreational, and economic asset. Given the importance of this issue, I laid out a number of concerns in a letter that I sent to FERC Chairman Wood last week.

Twenty million people live within 50 miles of the Sound. Obviously, for anybody who has ever been to Long Island, you know we have some of the most beautiful beaches, some of the most picturesque towns and villages. The first time, Mr. Chairman, I went to Long Island, I told some people where I was going and they said, "How can you be going to the beach in New York?" So there is a lot of education that needs to be done.

But it is an incredible resource and it is something that we care deeply about, because it is also not just recreational and environmental, but economic. There are a number of people who make their livelihoods from the Sound. So we have specific concerns about the safety and security risks associated with the presence of an anchored LNG terminal that could hold up to eight billion cubic feet of natural gas.

So I would like to ask, Mr. Robinson, what is the size of the area around the proposed terminal in which release of gas by either accident or attack could result in pool fires or flammable vapor clouds?

Mr. ROBINSON. Well there are two aspects to safety and security that you have to consider when you are thinking LNG. One is the tanker safety and security, and the other is the terminal itself. We actually commissioned a study by ABS about a year, gosh, I guess it was a year and a half ago now. That calculation that they came up with, which we use as a model for site-specific calculations, was in the range of around 4,500 feet for a radiant heat zone of 1600

BTU per square foot per hour. That is a heat rate that if you left your skin exposed to it between 30 and 40 seconds and just waited, you would get a second degree burn; your clothing would protect you. So that is the perimeter of that 1600 BTU per square foot per hour is about 4500 feet for a tanker spill at its worst extent, the biggest pool expression.

Sandia Laboratory did a follow up study on that in December of last year, and I think their number came out, again in general, it has to be applied specifically with the winds and the humidity and all the different types of factors that go into the calculation, and I believe it was around 5200 feet for that same 1600 BTU expression.

Senator CLINTON. That is the immediate area where there might be pool fires. But the impact would go beyond that immediate restricted area in terms of impact in the water. So how would access around the terminal be restricted? What would be the size of a restricted area around this terminal?

Mr. ROBINSON. That is something that will be looked at in the analysis of the specific project, so I cannot answer that now. But typically, we are looking at an area for an on-ground land terminal of about 21 acres being about what you need to ensure that you have exclusion zones that will protect the public in case you have a worst case accident.

Senator CLINTON. Do these calculations take into account a deliberate attack on the terminal from missiles or aircraft?

Mr. ROBINSON. It is hard to imagine how you would get the worst case example that we are analyzing in any way other than if there were a direct attack.

Senator CLINTON. Mr. Robinson, how would this area be patrolled, and by whom?

Mr. ROBINSON. Well again, through the NEPA process that we go through, we involve the State and local experts in this, the first responders, and the Coast Guard is heavily involved in this and they develop a waterways security assessment that we incorporate into our analysis, and then ultimately, the Coast Guard and ourselves put conditions on the proponent that include the development with the local responders exactly how the project would be protected, right down to do you need to close a bridge while a tanker passes under, or do you need six boats around the tanker as it comes in, with what type of protective measures that those boats have to employ. All of that is worked out with the site-specific characteristics of the project and the people that would be intimately involved in that protection.

Senator CLINTON. My time has expired. But I find it hard to imagine how, given the potential site for this project, those kinds of concerns could be satisfied. But I appreciate your answers, and I would look forward to receiving a response to my letter to Chairman Wood.

Mr. ROBINSON. Certainly.

Senator CLINTON. Thank you.

Senator ISAKSON. Thank you, Senator Clinton.

Senator Carper.

Senator CARPER. Mr. Chairman, thank you. Mr. Robinson, I welcome you and the other witnesses here today. Thank you all for being here and for your comments.

I seem to recall a number of years ago I think GAO recommended that there be a requirement that all new large LNG facilities be built in remote areas, and I think some kind of prohibition against transportation through densely populated areas. I do not know when that recommendation was made, but I am told there was such a recommendation.

I think in your testimony you suggest that in order to effectively site natural gas infrastructure, and this may be a quote, "A rational siting process should be adopted." I think those are your words. I would just suggest that the first step in that rational siting process should be rational siting. I understand the economic motives for companies, and I do not blame them, to try to get their facilities as close as they can to population centers, and if I were in their shoes I would be doing that, too. But I just do not understand why those same motives should also drive FERC. That is not clear to me.

I just wonder why does, and if I am alleging something that is not true, correct me, but why does FERC continue to consider locations like the Delaware River, across the river from where we live, or in places like Fall River, Massachusetts? Would not many of the problems with State and local governments that you cite be lessened, not by overpowering them, but by trying to rationalize the sites that you do approve?

Mr. ROBINSON. OK. I am trying to think where to start on that. The rational siting process is a process that tries to bring officials——

Senator CARPER. First of all, go back to the GAO. Any recollection——

Mr. ROBINSON. I am totally unaware of a GAO recommendation like that. What I think you may be speaking of is that in 1979 the Pipeline Safety Act had a provision which required the development of regulations for remote siting of LNG facilities. DOT promulgated those regulations in 1980, and the response to that, the definition of "remote siting" was the development of these exclusion zones which we just discussed. So that constitutes remote siting if you can put a terminal in place and look at the impacts associated with the 1600 BTU per square foot per hour radiant heat flux and protect people from that, that was considered to be remote. That went through a review process and it was appealed and all that, and it has stuck ever since.

So that is the only thing prior to about now, because people really have not talked about LNG much in the last 30 years, that I know where remote siting came up, and that is how it was handled.

Senator CARPER. All right. All right.

Mr. ROBINSON. Now as far as rational siting, first, I would like to make it clear that the Commission does not have the profit motive aspect in looking at the siting, but we do have some knowledge of the infrastructure needed to deliver gas to regions of the country. In New England, in particular, the problem is that I doubt if

we will ever see another pipeline cross the Hudson River, I just do not know that will ever happen.

If you do not, then your capacity for delivery of gas to New England is set. The gas that comes down from Canada is dwindling, the play off Nova Scotia did not come in the way they thought; the Maritime Northeast pipeline is running I think about two-thirds full. The only option—and you have no underground storage in New England—is LNG. Underground storage is not geologically possible.

Senator CARPER. Say that again.

Mr. ROBINSON. You have no underground storage in New England. It is geologically impossible. That is a big component of a good gas delivery system which you just really do not have. Your storage is all above ground, about 40 LNG tanks spread around New England right now, with 10,000 truck loads of LNG moving around New England every year right now. The only real addition to natural gas that you have in New England that is available is LNG.

Now the problem becomes, where do you find a deep water port in New England that can accommodate these ships? There are not many available that are not already in use or protected in some fashion. So you are basically looking at existing ports with existing industrial uses bringing in existing cargos that, in my estimation, in many instances are much more hazardous than an LNG tanker.

Senator CARPER. Are you at all familiar with the Delaware River?

Mr. ROBINSON. I have crossed it.

Senator CARPER. Did you pay the toll?

Mr. ROBINSON. Most times.

Senator CARPER. Our friends from BP, and they are a good company, as you know, but they are interested, along with some folks in New Jersey, in building a pier that would stick a couple of thousand feet out into the Delaware River, at least initially they were and I think they are having some second thoughts about it. The Delaware River is not all that wide in that point and as you go further north. The idea of having a pier that sticks a couple thousand feet out into the river is just a cause for concern for a lot of reasons, not the least of those could involve homeland security and potential for some kind of terrorist attack. Is that the sort of thing that you all think about?

Mr. ROBINSON. Oh, absolutely. In fact, that will be a key component of our environmental analysis, to look at river congestion, the effects on the economy, if there are any, and how it might be mitigated. Those are the types of public interest concerns, and they range from wetlands to economic impacts to endangered species, that the Commission has to look at in total in making the judgment whether it is in the public interest to grant an authorization for an LNG terminal.

Senator CARPER. I would kind of like to go back and sort of ask this again and ask you to think about it one more time. My final question, it is kind of a restating of my earlier question, would not many of the problems with State and local governments that you cite, I think, in your testimony be lessened, not by overpowering them, but by trying to rationalize the sites that you approve?

Mr. ROBINSON. Certainly, there is a difference in siting regionally across the country. We have LNG proposals that are in populated areas where we have absolutely no opposition to them whatsoever. We have the same technology being proposed for areas where there is enormous opposition, and you are aware of those. That has to be accounted for, that has to be taken into consideration, but it has to be analyzed in terms of exactly what those impacts are and how those people would be inconvenienced, and then that judgment made.

I do not think we can have a national network of energy infrastructure that supports our economy that is based upon a vote at the local level. I think that lowest common denominator aspect of that would eliminate the ability for regionally significant energy projects to be developed where local concerns of, "we do not want it here," would override that.

Senator CARPER. All right. Thanks very much. Thanks, Mr. Chairman.

Senator ISAKSON. Thank you, Senator Carper.

I have never chaired a committee before, but I think I am supposed to leave the record open for 5 days in case any member wants to submit any additional questions for the record.

Senator CARPER. Why do we not bring up some legislation and see if we can get it through.

[Laughter.]

Senator ISAKSON. I know I am not supposed to do that. I suggest the absence of a quorum on that.

Senator CARPER. Unanimous consent, what do you think?

Senator ISAKSON. I want to thank all the witnesses who testified today, and thank the members who attended.

The committee stands adjourned.

[Whereupon, at 11:06 a.m., the committee was adjourned.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. BARACK OBAMA, U.S. SENATOR FROM THE STATE OF ILLINOIS

Mr. Chairman, thank you for holding this hearing today.

Like you, I am very concerned about this country's energy future. The rising cost of natural gas, our dependence on foreign oil, the aging of our coal burning facilities, and the daunting prospect of restarting a national dialog on nuclear power are just a few of the issues with which Congress must grapple.

The good news is that there are many new prospects for energy sources, some of which will be discussed here today.

At the same time, however, one of the clear differences between the U.S. and many developing nations is our quest to balance economics with a healthy environment. We learned from our early mistakes as an emerging industrial nation and instituted a series of environmental safeguards that have served us well. In our quest for streamlined processes, we must be careful not to truncate the roles given different permitting agencies and deprive the public of access to the expertise that is vested in those agencies.

We also must be careful not to needlessly amend the National Environmental Policy Act, one of the pillars of U.S. environmental law and a model for legislation in other countries. At the heart of this law are the twin goals of disclosure and informed discussion regarding Federal actions. Through the NEPA process, many interested parties have been given a voice that might not have been heard otherwise.

I look forward to hearing the testimony of the witnesses. Thank you.

STATEMENT OF J. MARK ROBINSON, DIRECTOR, OFFICE OF ENERGY PROJECTS, FEDERAL ENERGY REGULATORY COMMISSION

My name is J. Mark Robinson and I am the director of the Office of Energy Projects (OEP) at the Federal Energy Regulatory Commission. I am here as a staff witness speaking with the approval of the Chairman of the Commission. Our office is responsible for the licensing, administration, and safety of approximately 1,600 non-Federal hydropower projects; the certification of between 500 and 2,000 miles of interstate natural gas pipelines annually; the certification of natural gas storage facilities; and the authorization, safety and security of liquefied natural gas (LNG) terminals.

I would like to thank you for the opportunity to speak today on the permitting of energy projects. I will focus on natural gas-related facilities. The permitting of natural gas facilities is governed by a comprehensive scheme of Federal regulations that guarantees that the FERC and other Federal agencies will work with state and local agencies, as well as the general public, to ensure that all public interest considerations are carefully studied and weighed before a facility is permitted, and that public safety and the environment are given high priority. We are proud of our track record of working well with other agencies, the states and with all interested stakeholders on these projects, and are committed to continuing to be responsive and responsible regulators. The comprehensive nature of the FERC's permitting program addresses all siting and operational issues with the full participation of the Federal and state agencies while attempting to ensure the timely development of necessary energy infrastructure. Timeliness, however, is a virtue that, with some regularity, goes by the wayside as a result of a widely distributed decisionmaking process. The remainder of my testimony will describe the efforts the Commission has made to efficiently process applications, the issues that still detract from our ability to move, in a timely fashion, on energy projects that are in the public interest, and a rational approach to the siting of energy infrastructure that would improve all agencies' ability to reach a decision jointly on needed projects.

I. THE COMMISSION'S PROCESS

The Commission is charged, under the Natural Gas Act and the regulations that codify the act, with jurisdiction over the construction of facilities used to transport natural gas in interstate commerce and the construction of facilities used for the export or import of natural gas which includes LNG terminals. The fundamental concept that governs our efforts is the early identification of project related issues with all parties that would be affected by the development. We believe that a proactive approach to issue identification and collaboration among all parties provides the best hope of determining whether a project is in the public interest in a timely fashion.

The goal of the FERC's natural gas permitting process is to determine if a project is in the public interest. As an integral part of this process, FERC staff coordinates closely with other agencies and solicits comments and recommendations at several points in the review process from Federal, state, and local authorities, and members of the public. We do this in order to obtain the broadest possible range of information and views and to accommodate, to the greatest extent possible, state and local concerns.

Prior to a company filing a natural gas-related facility application, company representatives commonly meet with the Commission's staff to explain the proposal and solicit advice. These meetings provide prospective applicants the opportunity for Commission staff to offer suggestions related to the environmental, engineering and safety features of the proposal. At this stage, Commission staff reviews conceptual designs of planned facilities, provides guidance on resolving potential environmental, safety, and design issues, and explains the level of design detail and safety analysis required for a complete application. In this manner, Commission staff learns about future projects that may be filed at the Commission and helps direct companies in their application preparation. I should also note that we encourage project sponsors to also make early contact with all other relevant agencies, including state agencies, about their proposals.

During these early meetings, the Commission staff strongly encourages potential applicants to engage in the Commission's Pre-Filing process. This process involves getting the agencies and the applicants to begin the National Environmental Policy Act (NEPA) review with FERC well before the filing of an application. The Pre-Filing process provides for early identification of issues, increased Federal, state and public involvement, and the opportunity to begin developing consensus and working on issue resolution. This process also calls on all agencies to work together concurrently under a schedule set in consultation with those agencies. FERC signed an

interagency agreement with 10 Federal agencies in May 2002 that was based on the principals of the Pre-Filing process that has fostered a more efficient review of energy projects. However, even though we work extremely well with agencies most of the time, there is no force of law in effect with respect to timing of other agencies review and issuances of permits.

Once an application has been filed, the Commission prepares either an environmental assessment (EA) or an environmental impact statement (EIS) to fulfill the requirements of NEPA and the Commission's implementing regulations under Title 18, Code of Federal Regulations, Part 380. The purpose of these documents is to inform the public and the permitting agencies, and to solicit comments about the potential environmental impacts of the proposed project and its alternatives. A thorough analysis of any substantive environmental issue raised by a proposed project is undertaken during the preparation of the environmental document.

Federal and state agencies and the public play crucial roles in the Commission's authorization process. The Commission works with all stakeholders during the Pre-Filing process, to identify issues and establish partnerships for developing solutions. As part of our NEPA analysis we consider the impact of the project on geological resources; soils and sediments; water resources; vegetation; wildlife and aquatic resources; threatened, endangered and other special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; and cumulative impacts. We also look at alternative locations for the proposed facility. This analysis includes consultation with state as well as Federal agencies under the Clean Air Act (CAA), the Clean Water Act (CWA), the National Historic Preservation Act (NHPA); the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and the Endangered Species Act (ESA). Applicants are also required to consult with and obtain from the state, a determination that the project is consistent with the state's Coastal Zone Management Plan. Attached to my testimony are tables showing the Federal, state, and local authorizations that are required for siting LNG facilities in Texas (31 permits required), Louisiana (29 permits required) and Massachusetts (43 permits required). Further, in the course of the NEPA process, the Commission holds public scoping meetings, notifies the public when a draft environmental document is available for review and comment, and holds public meetings to receive comments regarding the draft document. These meetings are held near the site of the proposed facility for the convenience of the stakeholders and to build a more complete record. Stakeholders are also given the opportunity to intervene and file comments in the proceeding.

As part of our NEPA responsibilities, we ensure that the appropriate studies requested by, for example, the State Historic Preservation Office are conducted and that properties protected by the NHPA are appropriately cared for. We also consult with the U.S. Fish and Wildlife Service, NOAA fisheries and the appropriate state agencies to avoid, or minimize, the effects of the project on the species that are listed in the ESA and the MSA. We also consult with all relevant state agencies that have a role to play in the authorization of the facility.

We are committed to an early collaborative approach to authorizing energy infrastructure and have designed processes to maximize our potential for efficiently handling projects. Several issues, however, keep us from achieving this objective as consistently as we would like.

II. CHALLENGES TO THE PERMITTING PROCESS

Underlying the difficulty in efficiently managing the permitting process is just the shear number of agencies that have a role in any energy facility siting. As shown on the attached tables the authorization of any project can best be described as distributed decisionmaking. Even where an agency has the lead, until the last agency acts the first authorization does little good for the advancement of a project. Money is not loaned, contracts are not signed and ground is not broken. That is why it is critical to recognize this distributed decisionmaking process and modify it by placing timing parameters on all participants. Although memorandum of agreements can move agencies in this direction, only the potential loss of the agencies authority can guarantee that action will be taken in a timely fashion.

A related issue in timely permitting can be described as extended agency authority. This is where agencies will take the authority they have been granted covering an aspect of the project (*e.g.*, water quality under section 401 of the Clean Water Act) and utilize that singular authority to duplicate the action of the siting agency to make an overall public interest determination. This unnecessary duplication of the public interest determination can results in regulatory uncertainty when an applicant does not know which forum will ultimately decide if a project should be constructed. This is not to say that the agencies with permitting authority need to

agree with the Commission's decision, but rather that those agencies should focus on their aspect of the project and permit accordingly while leaving the overall siting determination to the agency given that exclusive authority.

Another issue of concern is the growing tendency for parochial, or local, interests trumping the greater public good. All siting is local and local concerns are of high significance, but if the standard for approving infrastructure requires that there be no local opposition for what in most instances are energy projects of regional importance, then no energy infrastructure will be built. An example of this is the state of Connecticut's moratorium on energy projects crossing under Long Island Sound. This moratorium prohibited state agencies from issuing a decision on any applications relating to electric power line crossings, gas pipeline crossings or telecommunications crossings of Long Island Sound. This action stops the development of natural gas pipelines needed to ensure the reliability of the delivery system to New York. This problem is not limited to states, but also shows itself with landowners, towns, municipalities and non-governmental organizations. Admittedly, much of the infrastructure proposed today is going to serve the future and those that are comfortable with the status quo may not see any direct benefit for themselves. But if our parents and grandparents had taken that same attitude more then a half century ago, I doubt we would be traveling on the interstate road system we have today.

We need a national natural gas system that contains a balance of domestic production and imported LNG deliveries, transportation, and storage. This system will serve the greater public at a lower cost. There, of course, are legitimate local concerns, but to adhere to all of their requests to not be disturbed will result in a balkanization of a national network that needs to expand and grow on an integrated basis.

III. RATIONAL SITING PROCESS

In order to effectively and efficiently site natural gas infrastructure that is found to be in the public interest and to address the challenges discussed above, a rational siting process should be adopted. This process would be equally applicable to the siting of any energy infrastructure and consists of three elements: the designation of an agency with exclusive authority to site the projects; a requirement that all agencies with authority over an aspect of the project work with the lead agency to develop one Federal record from which all agency decisions would be made; and direct appeal of all agency actions at one time to the Federal courts.

Designating one agency as having exclusive siting authority would not usurp the decisional authority of the other agencies involved. Rather it recognizes that one agency has been vested with the decisional authority to determine whether the proposal is in the public interest while others have been vested with authorities that go only to some aspect of the project like affects on water quality or endangered species. This would specifically address the issue of extended agency authority. The recently enacted Alaska Gas Pipeline Act of 2004 specifically addressed this issue by distinguishing between the lead agency and other agencies that are handling aspects of the project.

The development of one Federal record for all agencies is at its core just a matter of good government. Currently, at times multiple Federal and state agencies go to the effort of developing records covering the same issues under different timeframes. Requiring all agencies to work together under the schedule of the lead agency would reduce waste, improve decisionmaking, and reduce the potential for conflicting conclusions. The schedule set by the lead agency would have to recognize any statutory timing requirements and should work for all, given that the lead agency has to consider all elements while the others would only be dealing with specific aspects of the project. Finally, to make this function the agencies need to know that, should they not meet the schedule, their permit would be conclusively presumed or waived as is now the case with a 401 permit granted by the state under the Clean Water Act.

The final step in the rational siting process would be to require that all actions taken by all the permitting authorities be subject to one appeal process. Currently appeals can run in many different directions including the state courts, state administrative reviews, Federal courts and Federal administrative reviews. Some of the appeals processes involve more than one of the above in a sequential fashion. The net result of an appeals process that can run into multiple years is that a project once found to be in the public interest will die from a death of a thousand cuts administered one appeal at a time. It is not only enough to approve a project on a timely, unified basis, but there is a need to avoid fragmented, multi-layered administrative and judicial review that could unduly delay a final decision on the project. This could be accomplished by having all appeals of Federal and state agency deci-

sions that administer Federal law reviewed immediately in a single U.S. Court of Appeals.

IV. CONCLUSION

The Commission's process is designed to ensure the safe, reliable construction and operation of natural gas facilities, based on extensive input from all affected parties and timely decisions from the relevant Federal and state agencies. Nevertheless, the challenges that I outlined in my testimony are threatening to disrupt this process and the timely approval and construction of necessary natural gas infrastructure. At the present time, the number of LNG and other natural gas infrastructure projects filed at the Commission is at an all time high. To respond to this, the FERC's need to coordinate early and effectively with other Federal and state agencies is paramount. While the FERC staff must coordinate early with other agencies, so too must those agencies cooperate with FERC—and do so, on the schedule which FERC establishes. This is also critically important. The adoption of the rational siting process would curb these disruptions and allow the natural gas infrastructure to grow as necessary. Natural gas is a crucial component of the nation's energy structure and the timely approval of the necessary infrastructure is vital to meet the demands of a diverse and continually growing economy.

Federal, State, and Local Permits and Approvals Required for the Construction of an LNG Terminal						
	Texas		**Louisiana**		**Massachusetts**	
	Agency	**Permit/Approval**	**Agency**	**Permit/Approval**	**Agency**	**Permit/Approval**
FEDERAL						
	Federal Energy Regulatory Commission	Authorization under Section 3 of the Natural Gas Act	Federal Energy Regulatory Commission	Authorization under Section 3 of the Natural Gas Act	Federal Energy Regulatory Commission	Authorization under Section 3 of the Natural Gas Act
	U.S. Army Corps of Engineers	Section 10, Rivers and Harbors Act Section 404, Clean Water Act Approval and coordination for disposal of dredge material in dredged material placement areas	U.S. Army Corps of Engineers	Section 10, Rivers and Harbors Act Section 404, Clean Water Act Approval and coordination for disposal of dredge material in dredged material placement areas	U.S. Army Corps of Engineers	Section 10, Rivers and Harbors Act Section 404, Clean Water Act Approval and coordination for disposal of dredge material in dredged material placement areas
	U.S. Department of Commerce (NOAA Fisheries)	Section 7, Endangered Species Act Magnuson-Stevens Fishery Conservation and Management Act Marine Mammal Protection Act	U.S. Department of Commerce (NOAA Fisheries)	Section 7, Endangered Species Act Magnuson-Stevens Fishery Conservation and Management Act Marine Mammal Protection Act	U.S. Department of Commerce (NOAA Fisheries)	Section 7, Endangered Species Act Magnuson-Stevens Fishery Conservation and Management Act Marine Mammal Protection Act
	U.S. Department of the Interior -U.S. Fish and Wildlife Service	Section 7, Endangered Species Act Migratory Bird Treaty Act	U.S. Department of the Interior -U.S. Fish and Wildlife Service	Section 7, Endangered Species Act Migratory Bird Treaty Act	U.S. Department of the Interior -U.S. Fish and Wildlife Service	Section 7, Endangered Species Act Migratory Bird Treaty Act

Federal, State, and Local Permits and Approvals Required for the Construction of an LNG Terminal						
	Texas		**Louisiana**		**Massachusetts**	
	Agency	**Permit/Approval**	**Agency**	**Permit/Approval**	**Agency**	**Permit/Approval**
	U.S. Environmental Protection Agency	Section 402, Clean Water Act, National Pollutant Discharge Elimination System Industrial Storm Water Permit Process Waste Water Discharge Permit Industrial Non-process Waste Water Permit Storm Water Construction Permit Section 404, Clean Water Act (veto power for wetland permits issued by the U.S. Army Corps of Engineers)	U.S. Environmental Protection Agency	Section 402, Clean Water Act, National Pollutant Discharge Elimination System Industrial Storm Water Permit Process Waste Water Discharge Permit Industrial Non-process Waste Water Permit Storm Water Construction Permit Section 404, Clean Water Act (veto power for wetland permits issued by the U.S. Army Corps of Engineers)	U.S. Environmental Protection Agency	Section 402, Clean Water Act, National Pollutant Discharge Elimination System Industrial Storm Water Permit Process Waste Water Discharge Permit Industrial Non-process Waste Water Permit Storm Water Construction Permit Section 404, Clean Water Act (veto power for wetland permits issued by the U.S. Army Corps of Engineers)
	U.S. Coast Guard	33 CFR 127, Waterfront Facilities Handling Liquefied Natural Gas and Liquefied Hazardous Gas 33 CFR 127, Letter of Intent	U.S. Coast Guard	33 CFR 127, Waterfront Facilities Handling Liquefied Natural Gas and Liquefied Hazardous Gas 33 CFR 127, Letter of Intent	U.S. Coast Guard	33 CFR 127, Waterfront Facilities Handling Liquefied Natural Gas and Liquefied Hazardous Gas 33 CFR 127, Letter of Intent
STATE						
	Railroad Commission of	Section 401, Clean Water Act, Water	Louisiana Department of	Air permit	Executive Office of	Federal Consistency Review with CZMP Program Policies

Federal, State, and Local Permits and Approvals Required for the Construction of an LNG Terminal						
	Texas		**Louisiana**		**Massachusetts**	
	Agency	**Permit/Approval**	**Agency**	**Permit/Approval**	**Agency**	**Permit/Approval**
	Texas	Quality Certification National Pollution Discharge Elimination System Hydrostatic Discharge Permit	Environmental Quality	Section 401 – Water Quality Certification Louisiana Pollution Discharge Elimination System – Construction and industrial (operation) storm water permits Hydrostatic Discharge Permit (construction) LPDES Permit to Discharge Water (operation)	Environmental Affairs (Office of Coastal Zone Management)	
	Texas Commission for Environmental Quality	Permit-by-Rule in lieu of Title V Permit Waste Water Permit Temporary Water Use Permit	Louisiana Department of Natural Resources	CZMA – Coastal Use permit (CZMP consistency determination)	Executive Office of Environmental Affairs (Environmental Policy Act Office)	Compliance with MEPA regulations
	Texas General Lands Office	Coastal Zone Management Consistency Determination	Louisiana Department of Wildlife and Fisheries	State-listed threatened and endangered species clearance	Energy Facilities Siting Board	Review and comment on FERC-regulated energy projects
	Texas Parks and Wildlife Department	State-listed threatened and endangered species clearance			Department of Environmental Protection	Water Quality Certification pursuant to Section 401 of the CWA Non-Major Comprehensive Plan Approval

Federal, State, and Local Permits and Approvals Required for the Construction of an LNG Terminal						
	Texas		**Louisiana**		**Massachusetts**	
	Agency	**Permit/Approval**	**Agency**	**Permit/Approval**	**Agency**	**Permit/Approval**
						Water Supply Cross Connection Permit Asbestos Abatement Permit Chapter 91, Waterways License Wetlands Protection Act Permit Massachusetts Contingency Plan approval
	Texas Historical Commission	Review and comment on undertakings potentially affecting cultural resources Section 106, National Historic Preservation Act	Louisiana Department of Culture, Recreation & Tourism, Office of Cultural Development, Division of Archaeology	NHPA, Section 106 – Review and comment on undertakings potentially affecting cultural resources	State Fire Marshall	Storage of Liquids and Inflammable Materials
	Texas Department of Transportation	Road crossing permits	Louisiana Department of Transportation	Road crossing permits	Department of Public Safety	Tank Approval for Storage Tanks over 10,000 Gallons Hazardous Substances Tank Approval
					Department of Fisheries, Wildlife, and Environmental Law Enforcement, Natural Heritage and Endangered Species Program	State-listed threatened and endangered species consultations
					Massachusetts	Review and comment on undertakings potentially affecting cultural resources

Federal, State, and Local Permits and Approvals Required for the Construction of an LNG Terminal						
	Texas		**Louisiana**		**Massachusetts**	
	Agency	**Permit/Approval**	**Agency**	**Permit/Approval**	**Agency**	**Permit/Approval**
					Historical Commission	
					Massachusetts Board of Underwater Archaeological Resources	Review and comment on undertakings potentially affecting underwater cultural resources
					Massachusetts Division of Marine Fisheries	Marine fisheries consultations
					Highway Department	State Highway Access Permit
LOCAL						
	Brazoria County	Building Permits	Cameron Parish Police Jury	Building Permits and Floodplain development permit	Various towns	Order of Conditions for Wetlands and Riverfront Areas, issued through the local Conservation Commission
	Brazoria County Floodplain Administrator	Permit for Construction in Flood zone			Fall River City Council	Removal of curbing for installation of private driveway, Permit to Install LNG, Permit to Store LNG, Permit to Install Tank, Registration of Tank
	Velasco Drainage District	Levee Construction Plan Review and Approval			Fall River Water and Sewer	Permit to Connect from Sewer Commissioner, Department of Public Works, and City Engineer Department Water Hook Up Permit from administrator of public utilities
	Village of Quintana	Permit for Construction in Flood zone				

STATEMENT OF DENNIS J. DUFFY, VICE PRESIDENT OF REGULATORY AFFAIRS, CAPE WIND ASSOCIATES, LLC.

INTRODUCTION

I Appreciate this opportunity to address the Committee. My name is Dennis J. Duffy, Vice President of Regulatory Affairs of Cape Wind Associates, LLC ("Cape Wind"). For the last 5 years, Cape Wind has been developing the Nation's first offshore wind generation project. The project would be located approximately 5 miles off the nearest point of land on the coast of Massachusetts. It would generate up to 468 MW of clean and renewable energy, with no fuel requirements and no air emissions. This amount would represent approximately 75 percent of the annual electricity needs of Cape Cod and the Islands of Martha's Vineyard and Nantucket.

The principals of our company have been in the energy business for more than 25 years. We have developed and operated some of the most efficient gas-fired plants operating in the U.S. and we are intimately familiar with Federal and state licensing processes for electric power plants. In direct response to State mandates for renewable energy, the so-called "Renewable Portfolio Standard", we are now focusing upon wind energy development. We are confident that wind energy technology has now advanced to the point where it is both proven and reliable and can play a much more meaningful role in our National supply mix. In order to realize the full potential of wind energy, however, we need to ensure that our National energy and environmental policies are implemented in a more consistent manner.

2. THE CAPE WIND PROJECT

The Cape Wind project would consist of 130 wind turbines located in Federal waters on submerged lands located approximately 5 miles off the coast of Massachusetts, with an aggregate generating capacity of approximately 468 MW. The project would be connected to the land-based transmission grid via two 115 KV submarine cables. Although it is the first offshore wind energy farm proposed in the U.S., there are several operating successfully in Europe. The Cape Wind project would be located on a shoal that is outside of the shipping lanes and would impose no restrictions on current uses of the area. A schematic site map is attached. Cape Wind enjoys strong support of environmental, consumer advocacy and labor groups, and has a grass-roots support organization with over 4,000 members.

3. FEDERAL REGULATORY PROCESS

The Federal regulatory process is thorough and comprehensive, but lacks any legal requirements that would limit the duration of the review period. As a result, with no required end point, opponents can use stalling tactics to try to financially cripple even a project that meets all statutory standards and serves Federal and State policy objectives.

After extensive analysis and long review of sites and conditions, Cape Wind submitted its Federal permit application to the U.S. Army Corps of Engineers ("USACE") in November of 2001, pursuant to section 10 of the Rivers and Harbors Act, as amended by the Outer Continental Shelf Lands Act of 1978. This Act governs the placement of all offshore structures in Federal waters. The project thus has been undergoing extensive regulatory and public scrutiny for more than 3 and one-half years, including the preparation of an Environmental Impact Statement ("EIS") under the NEPA.

The US Army Corps of Engineers ("USACE") has acted as the lead Federal agency in reviewing Cape Wind's application in a process that has included the active participation of 17 Federal and State participating agencies and which has afforded exceptional opportunities for public involvement. There have been nine public hearings.

During this process, an exhaustive analysis of all potential impacts of the project was conducted, including studies of issues including potential impacts upon existing uses of the area; environmental issues, including potential impacts to fish, birds and marine mammals; project aesthetics; cost implications; and the energy needs of the public. The USACE issued a Draft EIS ("DEIS") in November of 2004, including more than 4,000 pages of detailed project analysis based upon extensive scientific literature and data bases, as well as some of the most extensive field work ever undertaken for a wind energy project. The USACE extended the normal period for public comment in the DEIS, and we are now awaiting the USACE's response to such comments and the release of a final EIS ("FEIS").

4. STATE REGULATORY PROCESS

In addition, there are extensive, parallel state regulatory proceedings, because the project's transmission facilities must cross state waters in order to be connected to the regional power grid. In September of 2002, Cape Wind and the local electric utility jointly petitioned the Massachusetts Energy Facilities Siting Board ("MEFSB") for authorization to construct those portions of the transmission facilities for the project located within the land and territorial waters of Massachusetts. Although the MEFSB's enabling statute requires it to reach its decision within 12 months, in this case the review process took more than 2 and one-half years, including more than 20 days of expert testimony, as well as an evidentiary record of over 50,000 pages.

However, the end of this process finally has been reached. After its exhaustive review, on May 10, 2005, the MEFSB approved Cape Wind's petition. This decision is based largely upon its findings that Cape Wind's energy is needed (i) to reliably meet the growing need for power in the region; (ii) to lower prices to electric rate payers; and (iii) to offset air emissions from fossil generators, as follows:

> The Siting Board has found there is a need for the power provided by the wind farm beginning in 2007 for reliability purposes. The Siting Board has also found that: (i) there is an additional need for additional renewable energy resources to meet the requirements of the Massachusetts RPS beginning in 2006; (ii) there is a need for the full renewable output of the wind farm to meet the requirements of the Massachusetts RPS beginning in 2010; and (iii) there is a need for the renewable resources provided by the wind farm to meet regional RPS beginning in 2006. The Siting Board further has found that there is a need for the power generated by the wind farm for economic purposes during the first 5 years of operation.

EFSB 02–2, p. 189. More specifically, the MEFSB found that because generating units without fuel costs displace higher cost units from dispatch, Cape Wind would lead to substantial costs savings to the rate paying public:

> The record shows that the wind farm will tend to reduced market clearing prices for electricity because it typically will be bid into the market at its marginal operating costs, which are close to zero, than those power plants with higher marginal costs. . . Consequently, the Siting Board finds that *operation of the wind farm will provide average annual savings of $25 million for New England customers,* including $10 million annually for Massachusetts customers during the first 5 years of operation.

Id. at 162. The MEFSB also recognized the environmental benefits of Cape Wind, noting that "the Siting Board finds that, in the near term, operation of the wind farm would reduce regional air emissions by approximately 4480 tons of SO_2, 1132 tons of NOx and 1,062,554 tons of CO_2 annually . . ." *Id.* at 169.

5. REMAINING REGULATORY REVIEW

Notwithstanding the extensive review and analysis that has been done over the past three and one-half years, the Cape Wind project still faces additional review processes of uncertain duration. In particular, after the USACE issued the DEIS in November of 2004, it received more than 5,000 comments. Notably, many of the leading environmental organizations praised the depth and detail of the DEIS, including the following comments filed by the Conservation Law Foundation:

> CLF commends the Corps and the project proponents for providing a fairly exhaustive, comprehensive and accurate picture of the range of potential environmental impacts from the project and reasonable alternatives to the project. In many instances, *the level of scrutiny in the environmental review [of the DEIS] exceeds comparable projects with similar profiles but far fewer environmental benefits than the Cape Wind Energy Project.*

While most of the public comments were positive, the comments also included demands by project opponents that multiple years of additional field studies be conducted before the issuance of a Final EIS. Some call, for example, for the USACE to conduct an expanded alternative study that would evaluate nuclear and fossil plant proposals on an equal footing, notwithstanding the fact the Cape Wind is proposed in response to specific legislative mandates for *renewable* energy. Other comments demanded multiple years of additional bird studies, notwithstanding the fact that the Cape Wind DEIS already reflects more extensive avian field research than has ever been done for any other energy project of which we are aware, and includes more than 450 pages of detailed avian analysis that provides an ample informational basis upon which a reasoned decision can be made.

In addition, the project will be subject to further review under the Massachusetts Coastal Zone Management Act for consistency with the enforceable provisions of the Massachusetts Coastal Zone Management Plan, pursuant to the provisions of the Coastal Zone Management Act, 16 USC 1451, et seq. The Massachusetts CZM Office has long been an active participant in the permitting process.

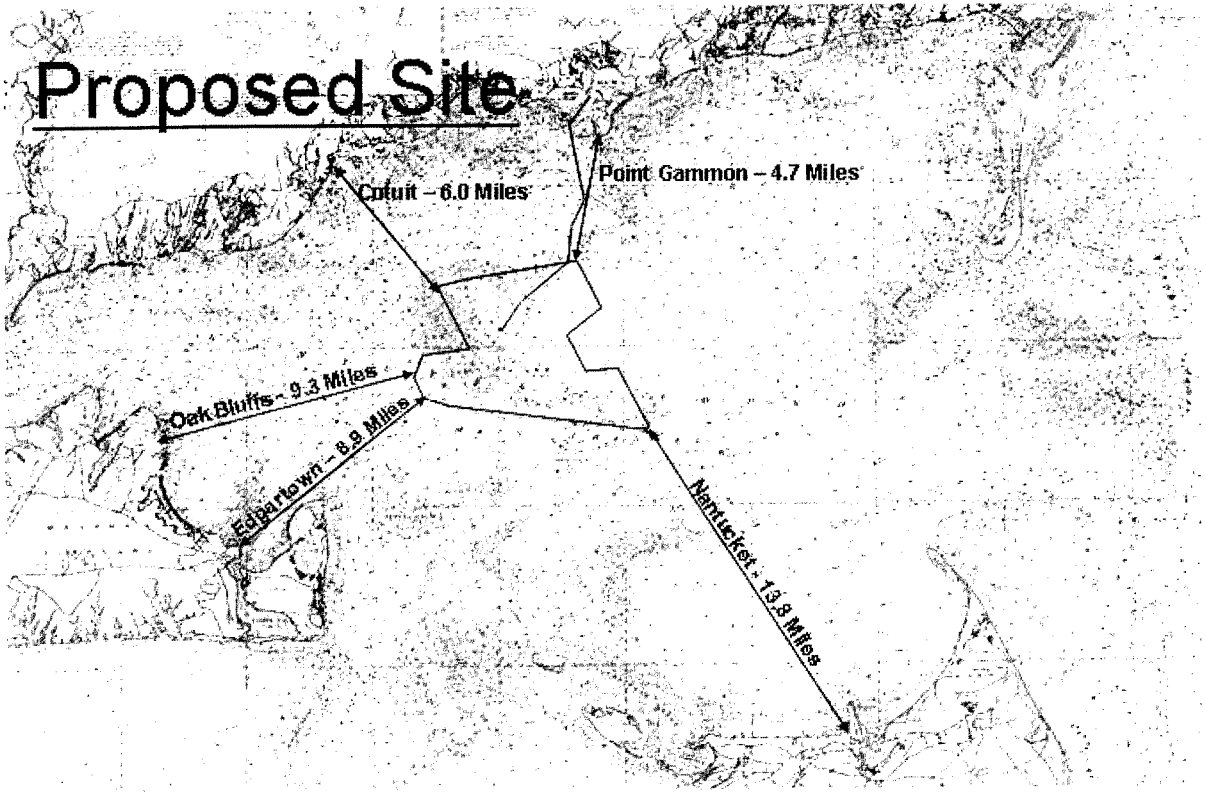
6. CONCLUSION

The Cape Wind project and other wind energy projects that will follow present great potential for meeting the multiple objectives of our National energy and environment policy, including (i) decreasing reliance upon imported fuel sources, (ii) reducing and offsetting air emissions, and (iii) lowering the cost of electricity to the ratepaying public, all with minimal environmental impact. Nonetheless, after more than 4 years, the schedule for completion of the permitting process is still unclear.

Based upon our experience, we have two suggestions for improving this process. First, National policy objectives would be far better served if the environmental review of proposed facilities were conducted in a more timely manner, perhaps pursuant to specific statutory timeframes that prevent delay tactics from financially crippling an important and worthy project. Second, because the process involves so many regulatory agencies with often conflicting regulatory agendas, it is important that the process appropriately recognize clearly stated Federal and State energy objectives, as well as the societal tradeoffs inherent to any major energy project.

Thank you for your consideration.

CAPE WIND


Point Gammon – 4.7 Miles
Nantucket – 13.8 Miles
Edgartown – 8.9 Miles
Oak Bluffs – 9.3 Miles
Cotuit – 6.0 Miles
Proposed Site

U.S. SENATE COMMITTEE ON ENVIRONMENT & PUBLIC WORKS HEARING

Supplemental Statement of Dennis J. Duffy, Vice President of Cape Wind Associates

May 25, 2005

I. Introduction.

Cape Wind Associates appreciates this opportunity to supplement its earlier written and oral testimony in order to address the statements submitted by Senator Warner respecting the law and regulation currently applicable to the siting of wind energy projects on the Outer Continental Shelf ("OCS"). First, we concur wholeheartedly with the Senator's opening observation that "As the need for energy rises in the U.S. our goal as public servants should be to help provide legal and regulatory framework that helps to deliver basic resources to the citizens in the most cost-efficient and environmentally friendly manner possible." As evidenced by the testimony of each of the witnesses at the May 25th hearing, the delays and uncertainties often associated with open-ended review processes can seriously impede this important policy goal.

II. The ACOE's has Sufficient Authority under Section 10 of the Rivers and Harbors Act ("RHA") to Permit Non-Extractive Offshore Structures.

The adequacy of the ACOE's authority under Section 10 of the RHA to authorize offshore wind farms is demonstrated by legislative history, a long course of administrative practice, and decisions of the Federal Courts. This is the unambiguous position of the federal government. Attached for reference is the Memorandum of Law prepared by the United States Department of Justice ("DOJ") on behalf of the ACOE in the recent Federal court challenge of the ACOE's issuance of the Section 10 permit for Cape Wind's offshore meteorological station on the Outer Continental Shelf ("OCS").

In particular, the DOJ relied upon the legislative history of the 1978 amendment of the OCSLA to refute any suggestion that Congress intended to limit the ACOE's offshore permitting authority under Section 10 to only those structures related to extractive operations, concluding the "Congress specifically disclaimed any intent to limit the Corps' authority to structures related to resource development." Id. at 13. The resulting decisions of the Massachusetts District Court and First Circuit Court of Appeals concurred that the ACOE's existing authority under Section 10 was sufficient to authorize Cape Wind's non-extractive meteorological station on the OCS without further action by the Congress.

It should also be recognized that there is a long history of Federal case law confirming that Sections 9 and 10 of the RHA establish a two-tier system for authorizing offshore structures. As the Court explained in Patterson v. Froehlke (D.Or. 1971), the types of structures listed in Section 9, which are more likely to obstruct navigation (i.e. bridges, damns, dikes or causeways), require both an ACOE permit and Congressional action, whereas all other offshore structures, which are more likely to merely divert navigation, require only ACOE authorization. See, e.g. Hart and Miller v. ACOE (4th Cir. 1980) ("Although structures subject to Section 9 require Congressional action, for those subject to Section 10, ACOE approval is sufficient for construction...."); Citizens' Committee v. USEG and ACOE (D.N.J. 1978) ("No authorization of

Congress is required because Section 10 permits are specifically delegated to the [ACOE] ....”). Thus, there is a long history supporting the ACOE’s authority over those non-extractive offshore structures subject to Section 10 of the RHA.

III. The Leading Environmental Organizations Concur that Current Law Provides for Comprehensive Review of Offshore Wind Projects.

The current regulatory review process for offshore wind projects pursuant to the Rivers and Harbors Act and NEPA is in no sense “a superficial review.” To the contrary, the regulations of the Corps, long-established regulatory practice and an extensive body of case law all confirm that the Corps’ current review of offshore structures is extremely comprehensive, and involves the following broad “public interest” standard:

> The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impact which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of this general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

ACOE Regulation at 33 CFR § 320.4(a)(1) (emphasis added).

The leading environmental advocacy organizations concur that the review process is comprehensive and sufficient to thoroughly review pending applications. The Environmental Defense Fund in its comments to the House Subcommittee on Energy & Mineral Resources regarding H.R. 5156 stated that “there is no urgent need, and there is no valid justification” for alteration of the current law regarding the permitting of offshore wind facilities, as follows:

> The present jurisdictional authority over project involving ... wind and wave energy has not been shown to be flawed and in need of repair. The Federal government presently has clear authority to review, permit, and provide appropriate regulatory oversight for projects of this kind. There has been no evidence of demonstrable flaws in the current permitting system.

Comments to Subcommittee re. H.R. 5156 (7/24/02, emphasis added.) With specific reference to the Cape Wind project, the Conservation Law Foundation and Union of Concerned Scientists by letter to the Corps dated August 16, 2002, similarly concluded that the Corps' authority under Section 10 is sufficient to conduct a meaningful review of, and to authorize, Cape Wind's pending proposal:

> Section 10 of the Rivers and Harbors Act, together with the National Environmental Policy Act, provide clear authority to conduct comprehensive environmental review process and to issue permits for the [Cape Wind's offshore data tower] and ultimately, should it be appropriate, for a wind farm. CLF is the region's advocate for a better-developed resource management and regulatory frame work for the marine environment. At the same time it is the position of the CLF and UCS that the Section 10 and NEPA processes can and should be used to produce good offshore wind energy sitting decision in the near term.

The National Resources Defense Counsel similarly issued a position statement concluding that consideration of Cape Wind's pending application can and should proceed pursuant to the existing avenues for review and participation, as follows:

> Meanwhile, projects like Cape Wind must obtain an Army Corps of Engineers permit pursuant to Section 10 of the Federal Rivers and Harbors Act. ... Pending more comprehensive Federal legislation, the existing combination of Federal and State processes should be used to evaluate the environmental merits of proposed wind power sites and to assure appropriate mitigation for any environmental impacts that might be identified. (emphasis added)

Thank you for your consideration.

Attachment

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

COPY

ALLIANCE TO PROTECT NANTUCKET SOUND, INC., RONALD BORJESON, WAYNE KURKER, SHAREEN DAVIS, ERNEST ELDRIDGE, DAVID ELSWORTH, ROBERT HAZELTON, OSTERVILLE ANGLERS CLUB, INC., and HYANNIS ANGLERS CLUB, INC., Plaintiffs, v. UNITED STATES DEPARTMENT OF THE ARMY; HONORABLE THOMAS E. WHITE; SECRETARY OF THE ARMY; UNITED STATES ARMY CORPS OF ENGINEERS; LT. GENERAL ROBERT B. FLOWERS, CHIEF OF ENGINEERS, UNITED STATES ARMY CORPS OF ENGINEERS; COLONEL THOMAS KONING, DISTRICT ENGINEER, UNITED STATES ARMY CORPS OF ENGINEERS, Defendants.	**Civil Action No. 02-11749-JLT**

DEFENDANTS' MEMORANDUM OF SUPPORT IN OPPOSITION TO PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT AND IN SUPPORT OF DEFENDANTS' CROSS-MOTION FOR SUMMARY JUDGMENT

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Pursuant to Rule 56, Fed. R. Civ. P., Defendants United States Department of the Army, Hon. Thomas E. White, United States Army Corps of Engineers, Lt. General Robert B. Flowers, and Col. Thomas Koning (hereinafter collectively "Defendants" or "Corps"), hereby oppose Plaintiffs' motion for summary judgment. Instead, for the reasons discussed more fully herein, the Court should grant Defendants' cross-motion for summary judgment. Simply put, the Corps properly granted a permit application submitted by Cape Wind Associates, LLC ("Cape Wind"), seeking authorization under Section 10 of the Rivers and Harbors Act of 1899 ("Section 10"), 33 U.S.C. § 403, to construct and maintain a "Data Tower" in an area of Nantucket Sound under federal jurisdiction and control. The Corps' permit decision is well-supported by the administrative record, entirely consistent with applicable law, and therefore should be upheld.

I.
INTRODUCTION AND SUMMARY OF DEFENDANT'S POSITION

First, and most importantly, this action only involves a challenge to a distinct Section 10 permit decision by the Corps to allow the construction and operation of a single structure, the Data Tower. As will be explained herein, the Corps clearly was correct in determining that a Section 10 permit is required for a project of this type because it is located in that area of the ocean commonly referred to as the outer Continental Shelf ("OCS") which is subject to federal jurisdiction and control. The Corps' decision to grant Section 10 authorization for the Data Tower – made after a full opportunity for public comment and an examination of a host of environmental and other public interest issues – is well-supported by the administrative record.

Second, there simply is no merit to Plaintiffs' contention that if the Section 10 permit for the Data Tower is allowed to stand, it will automatically lead to a "land rush" to erect wind farms on the OCS. To the contrary, were the Court to accept Plaintiffs' narrow and unsubstantiated view that the Corps lacks the authority to regulate these types of projects on the OCS, then the

Corps – and perhaps the federal government as a whole – would be divested of its authority to regulate development on the OCS for any activities that are unrelated to the extraction of oil, gas, and other minerals, without an act of Congress.

Finally, this action does not involve a wind farm, nor is it a referendum on how development of the OCS should best be regulated. It is true that the Data Tower will provide Cape Wind with data that will help Cape Wind determine the feasibility of locating a wind farm in Nantucket Sound. The Data Tower will also provide the Corps, and the public at large, with data useful for other purposes, including scientific research and education. Thus, for good reason, the Corps is processing Cape Wind's application for a Section 10 permit for the wind farm in a completely separate proceeding that will provide Plaintiffs with a full and complete opportunity to comment. Plaintiffs' strong and sincerely-held opinions about the broad policy implications of nascent attempts to develop renewable energy projects – particularly wind farms – on the OCS, should be directed at the larger wind farm application process, and not at the Data Tower.

At the end of the day, this action can only be judged on existing law, which, for decades, has made clear that Section 10 permits are required for development projects on the OCS. The question of whether it would be desirable, or good public policy, to establish additional regulatory requirements for wind farms on the OCS is simply not part of this action. Nor is there any basis for recklessly abrogating the Corps' Section 10 authority simply to satisfy Plaintiffs' short-term goal of slowing Cape Wind's planning process. Instead, this case simply involves one Section 10 permit for one Data Tower, a permit that was properly issued and which should be upheld.

II.
STATUTORY AND REGULATORY BACKGROUND

A. The Corps Permit Process Under Section 10 of the Rivers and Harbors Act of 1899

Pursuant to Section 10 of the Rivers and Harbors Act, a permit from the Corps is required before any structures (or other "obstructions" to navigation) can be erected in the navigable waters of the United States. See 33 C.F.R. § 320.2(b). Corps regulations generally define the "navigable waters of the United States" as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce." 33 C.F.R. § 329.4.

Although the Corps' regulatory jurisdiction under these provisions typically only extends to ocean and coastal waters up to three geographic miles seaward of the coast, this jurisdiction extends further on the OCS. 33 C.F.R. § 329.12(a). Pursuant to the Outer Continental Shelf Lands Act ("OCSLA"), the Corps' Section 10 authority is extended, inter alia, to "all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom . . . ." 43 U.S.C. §§ 1333(a)&(e). As will be explained more fully herein, the legislative history of these provisions of OCSLA makes clear that Congress intended the Corps to have Section 10 authority over all such islands, installations, and other devices on the OCS, regardless of whether or not they are related to resource development. Accordingly, the Corps' regulations require Section 10 permits for such "artificial islands, installations, and other devices . . . to the seaward extent of the [OCS]." 33 C.F.R. § 320.2(b); see also id. §§ 322.3(b), 322.5(f).[1]

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[1] "The term '[OCS]' means all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in section 1301 of this title (state waters), and (continued...)

Corps regulations detail the procedures by which permit applications pursuant to Section 10 and other related authorities (such as section 404 of the Clean Water Act for filling and dredging in navigable waters, 33 U.S.C. § 1344) are processed. 33 C.F.R. Part 325. In general, individual permit applications are subject to a public interest review by the Corps that examines a host of environmental and other considerations, 33 C.F.R. § 320.4(a), and which includes an opportunity for public comment. 33 C.F.R. § 325.3. In conducting a public interest review for an individual permit, such as the permit at issue in this action, the Corps balances "benefits which reasonably may be expected to accrue from the proposal" against the proposal's "reasonably foreseeable detriments." 33 C.F.R. § 320.4(a)(1). Subject to other applicable legal requirements, the Corps will grant a permit application "unless the district engineer determines that [to do so] would be contrary to the public interest." 33 C.F.R. § 320.4(a)(1). All permits issued by the Corps must contain such special conditions as are necessary to satisfy applicable statutory and public interest requirements. 33 C.F.R. § 325.4.

One of the specific issues raised by Plaintiffs in this case involves whether or not the permittee, Cape Wind, possesses a sufficient property interest to actually construct the proposed project. On this issue, the Corps' regulations provide:

> A [Corps] permit does not convey any property rights, either in real estate or material, or any exclusive privileges. Furthermore, a [Corps] permit does not authorize any injury to property or invasion of rights or any infringement of Federal, state or local laws or regulations. The applicant's signature on an application is an affirmation that the applicant possesses or will possess the

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[1](...continued)
of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control. . . . OCSLA, 43 U.S.C. § 1331(a). Along the Atlantic Coast, the width of the Continental Shelf is extremely broad. It extends seaward approximately 250 miles off the New England coast, and elsewhere ranges from approximately 40 to 100 miles from shore. H. R. Rep. No. 411, 83d Cong., 1st Sess. p. 2. (1953) (enacted as OCSLA) (quoting the testimony of the Secretary of the Interior before the Senate Interior and Insular Affairs Committee).

> requisite property interest to undertake the activity proposed in the application. The district engineer will not enter into disputes but will remind the applicant of the above. The dispute over property ownership will not be a factor in the Corps public interest decision.

33 C.F.R. § 320.4(g)(6). As discussed below, in this case, the project location is on a part of the OCS that is beyond the limit of State jurisdiction,[2] and the reach of federal jurisdiction is specified in OCSLA.

B. The Outer Continental Shelf Lands Act

The OCSLA, first enacted in 1953 and substantially amended in 1978, governs federal jurisdiction and control over the OCS. 43 U.S.C. §§ 1331 et seq. The OCSLA does not assert federal ownership of the OCS, but rather only an extension of federal law and "civil and political jurisdiction . . . to the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed . . . . 43 U.S.C. § 1333(a)(1); see also id. § 1332(1) ("the subsoil and seabed of the outer Continental Shelf appertain to the United States and are subject to its jurisdiction, control, and power of disposition as provided in this subchapter") (emphasis added).[3]

One of the principal federal regulatory mechanisms established in the OCSLA is an oil and gas leasing program administered by the Secretary of the Interior. See generally 43 U.S.C.

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[2] Pursuant to the Submerged Lands Act ("SLA"), 43 U.S.C. §§ 1301 et seq., jurisdiction of the individual states over the OCS generally extends three geographic miles seaward of the coastline of each state, and is often referred to as the "Territorial Sea". See 43 U.S.C. §§ 1301(a)(2), 1312. The SLA also declared that "**title and ownership** of the lands beneath navigable waters within the boundaries of the respective States, and the natural resources within such lands and waters ... are hereby ... recognized, confirmed, established, and vested in and assigned to the respective states ...." 43 U.S.C. § 1311 (emphasis added).

[3] This distinction is relevant given that Congress has unequivocally conveyed title and ownership of the three mile Territorial Sea to the respective states under the SLA, see n. 2 supra, but has made no such declaration with respect to federal authority over the OCS in either OCSLA or in section 1302 of the SLA, 43 U.S.C. § 1302, which reserves federal jurisdiction and control over the OCS beyond the three mile Territorial Sea, but not ownership.

§§ 1334-56. In addition, as explained in the legislative history cited below, in section 4(f) of the OCSLA, 33 U.S.C. § 1333(e), Congress expressly extended the Corps' Section 10 regulatory authority to "the artificial islands, installations, and other devices" referred to in 33 U.S.C. § 1333(a).

C. **The National Environmental Policy Act**

The National Environmental Policy Act ("NEPA") was enacted in 1970 to ensure that federal agencies fully consider the environmental consequences of proposed major federal actions. That goal is "realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look' at environmental consequences." Robertson v. Methow Valley Citizens' Council, 490 U.S. 332, 350 (1989). The statute imposes procedural, rather than substantive, requirements on federal agencies. So long as "the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs." Id.

To ensure that agencies take the required "hard look," NEPA requires that whenever a federal agency proposes a "major Federal action significantly affecting the quality of the human environment," it must prepare a detailed statement, known as an "environmental impact statement," or EIS, explaining the environmental impacts of the proposed action and evaluating alternatives to the proposed action. 42 U.S.C. § 4332. The analysis of alternatives need not evaluate "every possible alternative," Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 551 (1978), but is generally held sufficient "if it considers an appropriate range of alternatives . . . ." Resources Ltd. v. Robertson, 35 F.3d 1300, 1401 (9th Cir. 1993).

Not every federal action or proposal requires preparation of an environmental impact statement ("EIS"). Where the environmental impacts of an action are less than significant, an

agency may comply with NEPA through preparation of an environmental assessment ("EA") and a finding of no significant impact ("FONSI"). See 40 C.F.R. §§ 1501.3; 1501.4(c), (e); 1508.9.[4] An EA provides sufficient evidence and analysis for determining whether an action has significant environmental impacts and includes "brief discussions of the need for the proposal, of alternatives . . ., [and] of the environmental impacts of the proposed action and alternatives..." 40 C.F.R. § 1508.9. The CEQ regulations provide criteria for determining the significance of environmental impacts. 40 C.F.R. § 1508.27.

III.
FACTUAL BACKGROUND

Cape Wind submitted an application to the Corps in November 2001 for a Section 10 permit for a temporary Scientific Measurement Devices Station (the "Data Tower") at Horseshoe Shoals in Nantucket Sound off Cape Cod, Massachusetts. See generally Administrative Record ("AR") 103-05. The Data Tower consists of a single fixed tower extending approximately 197 feet above the water and an associated acoustic sensing device that will be placed on the ocean bottom. AR 2593. The Corps first issued a public notice for this application on December 4, 2001, AR 106-07, subsequently extended the comment period until May 13, 2002, and held public hearings in April 2002 in Hyannis and Martha's Vineyard, Massachusetts. AR 2597. After conducting a full public interest review pursuant to 33 C.F.R. Part 325, which included consideration of written comments from the public and other federal and state agencies, as well as the information presented in the two public hearings, the Corps issued the permit, with numerous conditions, on August 19, 2002. AR 2583-92.

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[4] The Council on Environmental Quality ("CEQ") has promulgated regulations to implement NEPA. 40 C.F.R. §§ 1500 et seq. The Corps has promulgated regulations that supplement the CEQ regulations. 33 C.F.R. §§ 230.1 et seq.; see also 33 C.F.R. Part 325, App. B.

The issuance of the permit was based on the Environmental Assessment and Statement of Findings ("EA") that summarized the proposed project and the alternatives considered, the Corps' findings, and its response to all the issues raised during the public comment period. AR 2593-2607. Among other things, the EA concluded that an EIS was not required for this permit application because, "based on the evaluation of environmental effects discussed in this document, the decision on this application is not a major federal action significantly affecting the quality of the human environment." AR 2606.

The permit provides Section 10 authorization for construction of the Data Tower and placement of the associated acoustic sensing device on the ocean floor, and requires removal of both within five years. Permit at 1- 6 (AR 2583 - 2588). According to Cape Wind, these devices are intended to gather scientific data, including meteorological and oceanographic data, which will be used to help evaluate a proposed wind energy project on Horseshoe Shoals. AR 2593. However, Cape Wind's application for a Section 10 permit for the project as a whole is being processed separately from the Data Tower permit. The Data Tower permit does not authorize any activities associated with the proposed larger wind energy project, and the data collected will have utility beyond that required for evaluation of the wind energy project. AR 2601-02.

IV.
SCOPE AND STANDARD OF REVIEW

A. Scope of Review.

As to the scope of review in this case, it is well-established that, under the Administrative Procedure Act ("APA"), 5 U.S.C. 701 et seq., a reviewing court should determine agency compliance with the law solely on the record on which the decision was made. Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 419 (1971). As the Supreme Court has emphasized:

> [T]he focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court. . . . The task of the reviewing court is to apply the appropriate APA standard of review . . . to the agency decision based on the record the agency presents to the reviewing court.

Florida Power & Light Co. v. Lorion, 470 U.S. 729, 743-744 (1985) (emphasis added) (quoting Camp v. Pitts, 411 U.S. 138, 142 (1973)); see also, e.g., Town of Norfolk v. Corps of Engineers, 968 F.2d 1438, 1445-46 (1st Cir. 1992). Thus, the reviewing court does not develop a new record and engage in a de novo review; rather, the reviewing court must consider the reasonableness of an agency action based on the administrative record in existence at the time of the decision. The Court's review should instead be limited to the administrative record in existence at the time of the agency's action. See Walter O. Boswell Mem'l Hosp. v. Heckler, 749 F.2d 788, 792 (D.C. Cir. 1984) ("[t]o review more than the information before the Secretary at the time she made her decision risks our requiring administrators to be prescient . . . .") (citing American Petroleum Inst. v. Costle, 609 F.2d 20, 23 (D.C. Cir. 1979)).[5]

B. Standard of Review

Challenges to Corps permit decisions are subject to the deferential standard of review set out in the APA. See, e.g., Town of Norfolk, 968 F.2d at 1445-46. Under this standard, a court may invalidate a final agency decision only where it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); see Town of Norfolk, 968 F.2d at 1445 & n.21. Where, as here, courts are presented with cross-motions for summary judgment on APA claims, judicial review is limited by the APA's narrow standard of

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[5] In accordance with the scope of review discussed above, Defendants note that the Court should disregard the three extra-record letters attached to the Plaintiffs' Memorandum, all of which post-dated the Corps permit decision being challenged here. These letters are: (1) Letter, T. Reilly to T. Sansonetti, G. Norton, and R. Flowers (Oct. 17, 2002); (2) Letter, T. Reilly to B. Cubin and N. Rahall (Oct. 17, 2002); and (3) Letter, P. McLaughlin to C. Bass (Nov. 21, 2002).

review. Northern Wind, Inc. v. Daley, 200 F.3d 13, 17-18 (1st Cir. 1999); The M/V Cape Ann v. United States, 199 F.3d 61, 63-64 (1st Cir. 1999); Town of Norfolk, 968 F.2d at 1445-46.

The party asserting an APA challenge bears the burden of demonstrating that the agency's actions were arbitrary or capricious. See, e.g., The M/V Cape Ann, 199 F.3d at 63; Sierra Club v. Marita, 46 F.3d 606, 619 (7th Cir. 1995). This standard of review is deferential and narrow, and a court may not substitute its judgment for that of the agency. See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co., 463 U.S. 29, 43 (1983); Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 416 (1971); The M/V Cape Ann, 199 F.3d at 63-64; Town of Norfolk, 968 F.2d at 1446. Rather, courts simply consider "whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." Town of Norfolk, 968 F.2d at 1445-46 (quoting Citizens to Preserve Overton Park, 401 U.S. at 416); see also, e.g., Baltimore Gas & Elec. Co. v. Natural Resources Defense Council, Inc., 462 U.S. 87, 97 (1983). As stated most recently in Campanale v. Evans, 311 F.3d 109, 116 (1st Cir. 2002), with regard to procedural claims, the Court's review is "limited, but exacting," and seeks "only to determine whether 'statutorily prescribed procedures have been followed.'" Id. (citing Natural Res. Def. Council, Inc. v. Sec. & Exch. Comm'n, 606 F.2d 1031, 1045, 1048-49 (D.C.Cir.1979)).

Further, agency interpretations of statutes and regulations they administer are entitled to substantial deference. With regard to statutory questions, if Congress' intent is not clear from the face of the statute, the agency's interpretation of the statute should be upheld as long as it is reasonable, even if the court might have interpreted the statute differently than the agency. Smiley v. Citibank (South Dakota), N.A., 517 U.S. 735, 744-45 (1996); Chevron, U.S.A., Inc. v.

NRDC, 467 U.S. 837, 843-44 (1984); Town of Norfolk, 968 F.2d at 1446.[6] An agency's interpretation of its own regulations is entitled to an even higher degree of deference; as long as it does not violate the Constitution or a federal statute, the agency's interpretation "must be given 'controlling weight unless it is plainly erroneous or inconsistent with the regulation.'" Visiting Nurse Ass'n v. Bullen, 93 F.3d 997, 1002 (1st Cir. 1996) (emphasis in original) (quoting Stinson v. United States, 508 U.S. 36, 45 (1993)).

V.
ARGUMENT

As explained below in sub-sections A through C, Plaintiffs' challenge to the Corps' view of its Section 10 authority on the OCS should be rejected on its merits and, arguably, on the grounds that it is an untimely challenge to the Corps' long-standing regulations. Similarly, as explained in sub-section D, Plaintiffs' challenges to the Corps' compliance with NEPA should also be rejected as unfounded.

A. The Corps' Established Position On The Scope Of Its Section 10 Authority On The Outer Continental Shelf Is Entirely Consistent With OCSLA

As noted above, in questions of an agency's interpretation of a statute, such as that presented here, a plaintiff's (or even a court's) view of the "best" reading of the statute is irrelevant. Rather, the court's task is simply to determine whether Congress has "directly spoken" to the question presented. Chevron, 467 U.S. at 843-44. If it has not, then the court must defer to the agency's reading of the statute as long as it is reasonable. Id. This is particularly true in cases such as this, which involve agency interpretations reflected in long-standing regulations. United States v. Mead Corp., 533 U.S. at 226-231. Applying these

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[6] A more relaxed degree of deference applies in situations, not present here, "where statutory circumstances indicate no intent to delegate general authority to make rules with force of law, or where such authority was not invoked." Navarro v. Pfizer Corp., 261 F.3d 90, 99 (1st Cir. 2001) (quoting United States v. Mead Corp., 533 U.S. 218, 226 (2001)).

deferential standards, the Corps' assertion of Section 10 jurisdiction over all "islands, installations, and other devices located on the seabed . . . to the seaward limit of the [OCS]," 33 C.F.R. § 322.5(f), whether or not they are related to mineral development, must be upheld.

As expressly stated in the Corps' regulations, the Corps premises its Section 10 authority on the OCS on Section 4(f) of the OCSLA, now codified at 43 U.S.C. § 1333(e). See 33 C.F.R. §§ 320.2(b), 322.3(b). That provision simply provides, without limitation, that "[t]he authority of the Secretary of the Army to prevent obstructions to navigation in the navigable waters of the United States is extended to the artificial islands, installations, and other devices referred to in subsection (a) of this section." 43 U.S.C. § 1333(e). In turn, the pertinent part of subsection (a) states that "[t]he Constitution and laws and civil and political jurisdiction of the United States are extended to the subsoil and seabed of the [OCS] and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom . . . ." 43 U.S.C. § 1333(a) (emphasis added).

When the present language of section 4(f) [43 U.S.C. § 1333(e)] was added in 1978, it was not, as Plaintiffs contend, Pl. Br.[7] at 10, meant to narrow the scope of the Corps' then-existing Section 10 authority on the OCS. To the contrary, Congress made clear that it merely was attempting to revise section 4(f)'s former reference to "fixed structures" to conform to the broader reference to "all installations and other devices permanently or temporarily attached to

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[7] "Pl. Br." refers to Memorandum In Support Of Plaintiffs' Motion For Summary Judgment in this action.

the seabed" that was being added at that time to subsection (a). In so doing, Congress specifically disclaimed any intent to limit the Corps' authority to structures related to resource development:

> The existing authority of the Corps of Engineers, in subsection 4(f), applies to all artificial islands and fixed structures on the Outer Continental Shelf, whether or not they are erected for the purpose of exploring for, developing, removing, and transporting resources therefrom. The amendment to subsection 4(f) is not intended to change the scope of this authority, but merely to conform the description of the types of structures, no matter what their purpose, to the types of structures listed in subsection (a), namely all installations and other devices permanently or temporarily attached to the seabed. It is not the intention of the conferees to limit the authority of the Corps of Engineers as to structures used for the exploration, development, removal, and transportation of resources.

House Conf. Report No. 95-1474, 95th Cong., 2nd Sess., at 82 (Aug. 10, 1978), reprinted in 1978 U.S.C.C.A.N. 1450, 1681 (relevant excerpts attached as **Exhibit A**) (emphasis added).[8] The "existing authority" referred to in this legislative history included cases such as United States v. Ray, 294 F. Supp. 532, 541 (S.D. Fla. 1969), affirmed, 423 F.2d 16 (5th Cir. 1970), which upheld the Corps' authority (premised on the Rivers and Harbors Act and an earlier version of section 4(f) of the OCSLA) to require a Section 10 permit for the construction of an "island nation" and a casino atop coral reefs on the OCS. See House Conf. Report at 81, 1978 U.S.C.C.A.N. at 1680 (noting, with approval, that the Corps had used its existing authority "to regulate the construction and location of such things as artificial fishing reefs, radio towers, and a proposed gambling casino which was to be constructed on reefs").

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[8] As a statement made in a conference report, this explanation is the most persuasive type of legislative history, after the text of the statute itself, because it represents the final statement of the terms agreed to by both houses. See, e.g., Auburn Housing Auth. v. Cuomo, 277 F.3d 138, 147 (2d Cir. 2002); RJR Nabisco v. United States, 955 F.2d 1457, 1462-63 (11th Cir. 1992); Paris v. HUD, 843 F.2d 561, 569 (1st Cir. 1988); Demby v. Schweiker, 671 F.2d 507, 510 (D.C. Cir. 1981).

Indeed, over the past several decades the Corps has judiciously carried out its OCSLA responsibilities to serve and protect the public's interest. For example, in the New England region alone, some of the OCS projects submitted, reviewed and evaluated by the Corps include:

1. 1988, Corps Application No. CENED-OD-03-R-03-86-389, for Richard Gugel's Arabian Nights Artificial Islands. A proposed resort and condominium project on pile supported platforms located 30 miles east of Boston, MA, on the OCS. In May of 1989, the Corps closed the application file due to the failure of the applicant to submit specific project information to the Corps to evaluate and for processing of the application. File closure records on file with the Corps, New England District Office, Concord, Massachusetts.

2. 1990, Corps Permit No. 198803500-R-90, for American Norwegian Fish Farm Inc. Corps permit issued to construct, install, and maintain up to 90 floating fish pens over a 47 square mile area on the OCS approximately 37 miles east of Cape Ann, Massachusetts. Project was permitted for the farming of salmon and other finfish species for commercial sale. Permit was subsequently revoked in August, 1992, because the Corps learned of incompatible use of the projects permitted site with U.S. Navy operating requirements in the same area. Revocation was without prejudice for re-application in a different area. Permit records on file with the Corps, New England District Office, Concord, Massachusetts.

3. 2000, Corps Permit No. 1994-01736, for Nantucket Cable Electric Co., Inc. Permit issued for installation of a submarine utility cables from Harwich, Massachusetts, across Nantucket Sound, to the Island of Nantucket, Massachusetts. Permit records on file with the Corps, New England District Office, Concord, Massachusetts.

4. 2000, Corps Permit No. 199902369, Worldwide Telecom, Inc. Permit issued for installation of marine fiber optic cable from Nova Scotia, Canada, crossing United States waters in the Gulf of Maine, crossing Stellwagen Bank National Marine Sanctuary, and making landfall at Lynn Beach, Lynn, Massachusetts. Permit records on file with the Corps, New England District Office, Concord, Massachusetts.

Against this background, the Corps' view of its Section 10 authority on the OCS -- as reflected in its long-standing regulations and years of agency practice[9] – is nearly unassailable. First, Congress appears to have "directly spoken" to the legal issue presented here by authorizing

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[9] See, e.g., Regulatory Guidance Letter No. 88-08 (July 20, 1988), http://www.spk.usace.army.mil/cespk-co/regulatory/RGLs/88-08.html (confirming, in response to inquiries from developers, that Section 10 permits are required for gambling casinos and other proposed development on the OCS pursuant to the Rivers and Harbors Act, Section 4(f) of OCSLA, and 33 C.F.R. §§ 320.2(b), 322.3(b)).

the Corps, through 43 U.S.C. § 1333(e), to exercise Section 10 authority over all installations and structures on the OCS, and by expressly confirming this intent in the conference committee's report on the 1978 OCSLA amendments. And, even if the Court were to perceive some ambiguity in the statute, the Corps' interpretation would still have to be upheld because it is reasonable. This is evident not only from the consistency of the Corps' regulations with the text of the statute and the legislative history cited above, but also by its consistency with the overall purposes of OCSLA. By exercising Section 10 authority broadly over all proposed development on the OCS, and thereby subjecting such development to public notice and a full public interest review, the Corps helps effectuate the OCSLA's goal of making the OCS "available for expeditious and orderly development, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs." 43 U.S.C. § 1332(3).[10]

By contrast, under Plaintiffs' narrow view of the statute, the Corps, or for that matter any other agency of the federal government, would not even be able to regulate the proposed "island nations" and casinos that were at issue in United States v. Ray. Indeed, Plaintiffs' reading of subsections (a) and (e) of 43 U.S.C. § 1333 would not only divest the Corps of regulatory authority over "islands, installations, and other devices" on the OCS that are not related to mineral development, but it would also disclaim any intent by Congress to apply "the Constitution and laws and civil and political jurisdiction of the United States" to such non-mineral related OCS facilities. Ironically, Plaintiffs' interpretation of OCSLA would create a regulatory void that would no doubt ensure the very "land rush" they allege that the Corps is

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[10] As noted above, and as the Supreme Court itself has stressed, Corps regulations provide for consideration of a broad range of environmental and other public interest factors in Section 10 permit proceedings. See United States v. Alaska, 503 U.S. 569, 580-83 (1992) (citing 33 C.F.R. § 320.4(a)(1)).

inviting by exercising its Section 10 authority with respect to the Data Tower.

Congress surely did not intend to create such an illogical patchwork of federal jurisdiction on the OCS. Compare, e.g., 43 U.S.C. § 1332(1) (broadly asserting federal jurisdiction, without limitation, over "the soil and seabed of the outer Continental Shelf"). Contrary to Plaintiffs' argument, while resource development "may be" one of the purposes for which structures subject to federal jurisdiction on the OCS are constructed, the express language of the statute asserts (for good reason) federal authority over "all artificial islands" and "all installations and other devices permanently or temporarily attached to the seabed." 43 U.S.C. § 1333(a)(1) (emphasis added); see also id. § 1333(e).[11]

B. Plaintiffs' Challenge To The Corps' Treatment Of The "Property Interest" Issue Is Meritless

Prior to the issuance of the Data Tower permit, Plaintiffs argued to the Corps, as they again do here, that the Data Tower application should be denied because Cape Wind does not, in Plaintiffs' view, have a sufficient property interest to actually construct the Data Tower at the

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[11] Even if it were assumed, arguendo, that the only types of "islands," "installations," and "other devices" subject to Section 10 regulation under the OCSLA are those that are erected "for the purpose of exploring for, developing, or producing resources therefrom," it is in any event reasonable to view a data tower erected in large part to evaluate the feasibility of a wind energy project as serving such a purpose. As Plaintiffs themselves acknowledge, the term "resources" is not itself defined in the OCSLA, Pl. Br. at 10, and the common meaning of that term clearly is broad enough to include wind energy. See, e.g., Webster's Third New International Dictionary (1967) (defining "resource" as "a fresh or additional stock available at need"). While it is true that the OCSLA does generally define the terms "exploration," "development," and "production" with reference to minerals, see 33 U.S.C. §§ 1331(k),(l),(m); see also Pl. Br. at 10, the Act's definition of "minerals" does not exclude wind resources. See 33 U.S.C. § 1331(q) ("The term 'minerals' includes oil, gas, sulphur, geopressured-geothermal and associated resources, and all other minerals which are authorized by an Act of Congress to be produced from 'public lands' . . . .") (emphasis added). Furthermore, to the extent there is any tension between the term "resources" on the one hand, and the terms "exploration," "development," and "production," on the other hand, this at most creates an ambiguity that must be resolved in favor of the Corps. See Chevron, 467 U.S. at 843-44.

specified location in Nantucket Sound. AR 2455-58; Pl. Br. at 11-13. As noted above, however, the Corps' Section 10 permit regulations quite clearly state that while an applicant's signature on its application constitutes a representation that it possesses (or will possess) the requisite property interest to actually build the project for which a permit is sought, 33 C.F.R. §§ 320.4(g)(6), 325.1(d)(7), a permit does not itself convey any property interest, and the Corps will not enter into disputes about property interests nor consider any such disputes as a factor in its public interest review. 33 C.F.R. § 320.4(g)(6). Therefore, in responding to Plaintiffs' comments on this issue during the public comment period, the Corps simply cited to these regulations, noting that the permit did not purport to convey any property right. See AR 2605, ¶ xxiii (pertinent section of Corps EA and response to comments).

Plaintiffs acknowledge that the Corps' disposition of this issue was consistent with its regulations. Pl. Br. at 12. Plaintiffs nonetheless contend that the Corps should have altered its approach in this case because it knew, or should have known, that Cape Wind's property interest was insufficient, and because ignoring that defect would give rise to a modern-day "land-rush" on the OCS. Id. at 13. Even if it is assumed, arguendo, that Plaintiffs' arguments on these points do not constitute an untimely challenge to the Corps' regulations, see infra at sub-section C, they still should be denied as meritless.

First, as Plaintiffs themselves point out, the record indicates that, if anything, the Corps did not believe that Cape Wind needed any other federal authorizations relating to the alleged "property interest" issue to construct the Data Tower (even though the Corps, consistent with its regulations, declined to formally opine on this issue). See Pl. Br. at 13 ("the [Corps] issued the permit fully anticipating that [Cape Wind] would immediately occupy the site on the basis of the issued permit because various conditions of the permit call for the continued involvement of the

Corps in oversight and monitoring of the construction process").[12] As noted supra in Section II. B., and footnotes 2 and 3, on the Statutory Background of OCSLA and the SLA, Congress has never asserted an ownership interest over the OCS but only jurisdiction, control and power of disposition to the subsoil and seabed of the OCS as provided under OCSLA. 43 U.S.C. §§ 1333(a)(1) and 1332(1). Pursuant to this extension of jurisdiction and control, OCSLA confers to the MMS the regulatory authority to lease oil and gas extraction rights, 43 U.S.C. §§ 1334-56, and to the Corps, under section 1333(e), the sole authority to allow and regulate all other structures on the OCS pursuant to Section 10. 43 U.S.C. § 1333(f). Thus, in the traditional sense, there is no property interest to possess, and the "requisite" property interest requirement referred to in the Corps' regulation is satisfied by an applicant's compliance with Section 10 requirements.[13] Furthermore, no federal agency raised an objection to the Data Tower permit on this basis, including the Minerals Management Service ("MMS"), the arm of the Department of the Interior that administers oil and gas leases on the OCS. See AR 2605 (Corps decision document for permit decision, noting lack of objection by MMS); see also, e.g., AR 425-26 (MMS comments).[14]

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[12] The permit does require additional coordination with and/or approvals from other federal agencies (such as the Coast Guard and the National Marine Fisheries Service) on certain environmental and safety issues unrelated to the "property interest" issue raised by Plaintiffs. See Permit at 2-6, Special Conditions, ¶¶ 4-16 (AR 2584-88).

[13] For example, if an applicant for a Section 10 permit seeks to place a structure within the three mile Territorial Sea, the applicant must not only obtain a Section 10 permit from the Corps, but must also possess the "requisite" property interest from the appropriate coastal state because title and ownership of the lands beneath navigable waters within the coastal boundaries of a State have been explicitly conveyed to the respective states by Congress under the SLA 43 U.S.C. § 1311; see nn. 2 and 3 supra.

[14] Plaintiffs correctly note here, as they did in a letter to the Corps prior to permit issuance, that the Department of the Interior has sponsored proposed legislation that would give

(continued...)

Second, even if some additional authorization beyond a Section 10 permit were required, there is nothing in the Data Tower permit that excuses such a requirement. In fact, the permit expressly states that it "does not obviate the need to obtain other Federal, state, or local authorization required by law," "does not grant any property rights or exclusive privileges," and "does not authorize any injury to the property or rights or others." Permit at 2, ¶ 2.a. and b. (AR 2584). The permit also provides that it "does not supercede any authority of the [MMS], including the authority to convey rights to OCS sand, gravel, and other OCS resources in accordance with the [OCSLA]." Permit at 6, ¶ 13 (AR 2588). Therefore, the Corps reasonably decided that Plaintiffs' expressed concerns did not warrant a departure from the Corps' usual practice of not addressing property interest disputes during its public interest review. Simply put, if, as Plaintiffs contend, Cape Wind's property interest in fact is insufficient in some way, Cape Wind is at no less risk on this issue with the Section 10 permit than it would have been without it.

For these reasons, there is no basis for upsetting the Corps' decision to apply its typical approach to property interest disputes in this case, particularly when it is remembered that the Corps is entitled to an exceptionally high degree of deference in interpreting its own regulations. See supra at Section IV. B.; see also, e.g., Visiting Nurse Ass'n, 93 F.3d at 1002.

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[14](...continued)
DOI authority over wind and other renewable energy projects on the OCS that is akin to the authority it now has over oil and gas projects. Pl. Br. at 9, 11. However, as DOI stressed, this legislation was not intended "to supersede the existing authority of any other Federal agency with regard to the permitting of such projects and expressly contains a provision to that effect." AR 2460; see also AR 2463 (referenced section of proposed legislation). As discussed in the text, DOI did not object to issuance of the Data Tower permit on this basis. As Plaintiffs note, the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service did recommend that the Corps prepare a full Environmental Impact Statement for the larger wind farm permit application (a separate application from the Data Tower application) before issuing that permit, Pl. Br. at 4-5, and this EIS process is, in fact, currently underway with respect to that application.

C. To The Extent Plaintiffs' Claims Constitute A Challenge To The Corps' Long-Standing Regulations, These Claims Are Untimely

As discussed above, the Corps' long-standing regulations make clear that a Section 10 permit is, without limitation, required for all "[a]rtificial islands, installations, and other devices located on the seabed . . . to the seaward limit of the outer continental shelf. . . ." 33 C.F.R. § 322.5(f). These regulations also specify that it is the applicant's responsibility to assure that it "possesses or will possess the requisite property interest to undertake the activity proposed in the application," 33 C.F.R. §§ 320.4(d)(6), 325.1(d)(7), and that any disputes over property ownership simply "will not be a factor in the Corps public interest decision." Id. § 320.4(d)(6).

Nonetheless, Plaintiffs argue that the Corps' Section 10 authority at points on the OCS beyond three miles from the coast should be limited to projects related to "the extraction of minerals," Pl. Br. at 8-11, and that the Corps should have further investigated whether Cape Wind does, in fact, "possess the requisite property interest." Id. at 11-13. Insofar as both of these arguments stand in direct conflict with the above-cited Corps regulations, it appears that Plaintiffs are, at least implicitly, attempting to challenge these regulations in this proceeding. However, because the cited regulations were promulgated over sixteen years ago, see 51 Fed. Reg. 41,220 (Nov. 13, 1986), they may not be challenged now. See 28 U.S.C. § 2401(a) (providing, inter alia, that "every civil action commenced against the United States shall be barred unless the complaint is filed within six years after the right of action first accrued"); see also, e.g., Trafalgar Capital Assocs. v. Cuomo, 159 F.3d 21, 34-35 (1st Cir. 1998) (six year limitations period in 28 U.S.C. § 2401(a) applies to APA claims). Accordingly, these aspects of Plaintiffs' case should, as a threshold matter, be dismissed as untimely.

D. Contrary to the Alliance's Claims, the Corps Fully Complied With NEPA and Applicable Regulations

Review of the Corps' evaluation of environmental impacts from the Data Tower construction should start with what the Corps actually permitted. It granted a permit for a Data Tower consisting of three pilings, supporting a single steel pole which in turn supports the deck, with an associated Acoustic Doppler Current Profiler sitting on the ocean bottom near the Data Tower. See generally AR 2583-92 (permit); AR 2593 (EA). The permit also allows and regulates the construction and demolition of the Data Tower. Id. The permit is not for a wind farm.[15] The proposed wind farm's environmental effects will be the subject of a separate, ongoing and more substantial environmental review. AR 2597, ¶ 8.c. (EA).

Plaintiffs cite four purported problems with the Corps' compliance with the National Environmental Policy Act: (a) inadequate compliance with public comment requirements; (b) inadequate consideration of project alternatives; (c) improper "segmentation" or separation of consideration of the Data Tower and wind farm; and (d) inadequate attention to the environmental effects of ultimate removal of the Data Tower. The following addresses these challenges seriatim.

1. The Corps Provided Substantial Opportunities For Public Comment And Complied With All Applicable Regulations

Plaintiffs fault the Corps for not separately circulating the EA and the FONSI for additional public comment. They claim the Data Tower construction is "unprecedented," triggering more elaborate public comment requirements. Pl. Br. at 15 (citing 40 C.F.R. §1501(e)). They are wrong.

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[15] Throughout the public comment period provided by the Corps on the Data Tower permit application, substantial public comment was directed at the wind farm project and not the Data Tower. See, e.g., AR 2599-2600 (EA). This confusion persists in Plaintiffs' brief.

Before addressing the legal issues posed by Plaintiffs, the reality of the public comment afforded by the Corps bears recognition. As recounted in the EA, AR 2597-98, a public notice describing the project was issued December 4, 2001, and sent to all known interested parties. AR 106 (public notice of permit receipt) (Dec. 4, 2001); AR 113 (news release re permit receipt & comment period) (Dec. 4, 2001). At the outset, the Corps provided a 30-day comment period (to January 4, 2002). 33 C.F.R. §325.2(d)(2) (comment period should be for a "reasonable period," presumptively not more than 30 days). In response to written requests for additional time, the comment period was extended again and again, ultimately until May 13, 2002. A public hearing was held in Hyannis, Massachusetts, on April 11, 2002, and another before the Martha's Vineyard Commission on Martha's Vineyard, Massachusetts, on April 18, 2002. AR 2597 (EA). All comments received have been collected in the administrative record and were responded to by the Corps (in summary form in the EA). See AR 2598 (EA) (summary of comments received); 2598-2606 (responses to comments). Indeed, contrary to Plaintiffs' suggestion that their comments were ignored, see Pl. Br., at 16, the Corps specifically responded to the commenter suggestions identified and cited by Plaintiffs, for project alternatives. See AR 1686 (statement of G. Blazis, Barnstable Town Council, April 11, 2002, proposal of barge-based alternative to Data Tower); AR 2146-47 (memo of V. Lang to B. Valiton, Corps, May 13, 2002, proposed use of Sonic Detection and Ranging radar in lieu of tower); and AR 2926-27 (statement of W. Kurker at public hearing, April 11, 2002, proposal to use a weather buoy instead of tower); see also AR 2594–95, ¶ 7 (EA Alternatives Analysis).

The Corps' procedure in this case of receiving public notice prior to circulating the EA and FONSI was in accord with agency policy. Specifically, Corps policy mandates that "[t]he EA is prepared after all comments are received on the public notice and the district commander has had an opportunity to evaluate those comments. Hence, it is not possible to provide the EA

for review during the public notice period." 53 Fed. Reg. 3120, 3127 (Feb. 3, 1988) (preamble to Corps' NEPA regulations).

In this instance, the Corps determined that because the proposed Data Tower construction involved standard marine construction of three pilings, an EA and FONSI rather than a more-elaborate EIS were appropriate. See 33 C.F.R. Part 325, Appendix B.7. Also, no regulation mandates a six-month comment period on the administrative record; the extended public comment period provided by the Corps for the Data Tower application was in response to requests by the public and other interested parties. In sum, the Corps was extremely responsive to public interest in the Data Tower permitting.

Plaintiffs' assertion that permitting of the Data Tower is "unprecedented," and therefore the FONSI must be circulated for public comment is unfounded. Pl. Br. at 15, citing to NEPA Regulation at 40 C.F.R. § 1501.4(e)(2)(ii). There is nothing unique or unprecedented about this particular marine structure, its installation, or its environmental or navigational impacts that would trigger the requirement under 40 C.F.R. § 1501.4(e)(2)(ii), that the FONSI be circulated for public comment. See Sabine River Authority v. U.S. Dept. of the Interior, 745 F. Supp. 388, 401 (E.D. Tex. 1990), aff'd, 951 F.2d 669 (5th Cir.), cert. denied, 506 U.S. 823 (1992). The court in Sabine River Authority discussed this particular section of the NEPA regulations and concluded that the "essential character" of the proposed action being taken by the U.S. Fish and Wildlife Service, the acquisition of a conservation easement, was not "without precedent" even though it was under unique circumstances that pose a conflict with another party's desired uses of the same land (construction of a reservoir). 745 F. Supp. at 401.

Consistent with the circumstances and reasoning in Sabine River Authority, the basic "nature" or "essential character" of the Data Tower is simply that of three large pilings driven into the ocean bottom to support a single tower. There is nothing unprecedented about this, as

the Corps found in this case that there had been one similar previously-permitted structure located south of Martha's Vineyard, and that the Data Tower was comparable to numerous similarly-constructed pile-supported piers along the coast. AR 2594, ¶ 6.; 2602 ¶ v. (EA). Furthermore, there has been no showing of any additional relevant information to be gained from further public comment on the FONSI that would have affected the Corps' permit decision. Thus, it was reasonable for the Corps to find that the pending Data Tower permit action was not "unprecedented" and did not require a more elaborate public comment opportunity.[16]

In view of the Corps' reasonable determination of the appropriate kind of public comment to provide in light of the specific project to be permitted, and given the substantial public comment provided, this claim of regulatory non-compliance should be rejected.[17]

2. The Corps Properly Evaluated Project Alternatives

Plaintiffs assert that the Corps' consideration of alternatives to the project was biased and

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[16] Plaintiffs note that early in the permitting process, Corps personnel said internally that "how we handle this particular application may set some national precedents," AR 30, because "this is a case of first impression." AR 32. Pl. Br. at 16. To provide context to this excerpt from a very early e-mail about the project, reflecting Corps program personnel reacting to a first meeting with the permit applicant (March 8, 2001), this snapshot of the deliberative process goes on to mention that because of the nature of the case, the program would "coordinate closely with our chain of command" and that "we indicated that we would try and schedule a meeting with all the Federal resource agencies to review their proposal. . . ." AR 32 (meeting notes of B. Valiton (Corps) regarding first meeting on project). These informal, early comments do not bind the agency and evidently were aired and defused in the internal deliberative process. They show that the Corps was quickly planning how to respond to the permit application, but do not demonstrate that the permit action was "unprecedented."

[17] Plaintiffs' suggestion that the Corps was party to a "two-phase scheme, starting with the Data Tower and moving to full project development," Pl. Br. at 15, is without factual basis. While the legal issue regarding jurisdiction over the OCS may well be relevant to the Corps' consideration of an RHA section 10 permit for the wind farm, the environmental effects of the wind farm have little in common with those implicated by the Data Tower, most notably in terms of dimension. The Corps' environmental evaluation of the Data Tower does not pre-determine the Corps' determination of environmental impacts of a 170-turbine wind farm. See AR 2601-2602, ¶ iv.(EA).

focused on what the permit applicant wanted rather than the public interest. Pl. Br. 16-18. This allegation is unsupportable and should be rejected.

NEPA regulations require that an EA include "brief discussions," inter alia, of "alternatives" to the proposed action. 40 C.F.R. § 1508.9 (b) (cross-referencing 42 U.S.C. § 4332(C)(iii)).[18] The Corps considered and evaluated a range of alternatives, including

- land-based alternatives, finding that they would not provide data representative of off-shore conditions;
- SODAR radar, finding that it was not sufficiently accurate, had a higher maintenance requirement, had not been used in marine-based applications, and did not provide height-related flexibility appropriate to designing tower specifications;
- a floating tower, finding it technically infeasible to mount a tower of sufficient height and that a barge would have to be continually manned over a two-year data-gathering period; and
- a different fixed tower, finding that this alternative would be more expensive to install and would have a greater environmental impact on the seabed.

AR 2594-96, ¶ 7. (EA Alternatives Analysis); AR 2223 (letter of C. Natale to K. Adams of the Corps, May 30, 2002, responding to proposed SODAR alternative). The considerations applied in rejecting alternatives were plausible and involved reasonable, objective factors. Further, it is clear:

> that not only is it permissible for the Corps to consider the applicant's objective; the Corps has a duty to take into account the objectives of the applicant's project. Indeed, it would be bizarre if the Corps were to ignore the purpose for which the applicant seeks a permit and to substitute a purpose it deems more suitable.

Louisiana Wildlife Fed'n, Inc. v. York, 761 F.2d 1044, 1048 (5th Cir. 1985) (citing South Louisiana Envt'l Council v. Sand, 629 F.2d 1005 (5th Cir. 1980)). To the extent that the Corps' alternatives analysis focused on the project for which Cape Wind sought Section 10 authorization

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[18] Plaintiffs' citation of the specification for an alternatives analysis to "rigorously explore," etc. alternatives, Pl. Br. 16-17 (citing 40 C.F.R. §1502.14(a)), applies to EISs, not EAs.

here, namely a tower to collect wind and marine data off-shore in Horseshoe Shoals, rather than a wind farm, it was not arbitrary or capricious. It focused on the actual activity that was the subject of this application.

In short, the Corps' alternatives analysis reflected a "hard look" mandated by NEPA. Robertson v. Methow Valley Citizens' Council, 490 U.S. 332, 350 (1989).

3. The Corps Reasonably Treated the Data Tower Permit as Separate from the Wind Farm Permit

Plaintiffs contend that the Data Tower is "an "integral aspect of CWA's wind farm proposal" and that the two projects must therefore be evaluated together. Pl. Br. 18, et. seq. Neither the law nor facts support this claim.

The NEPA regulations require consideration together of two projects if they are so closely related that they, e.g., automatically trigger other actions which may require EISs or cannot proceed without the related project. 40 C.F.R. §1508.25(a)(1). Wetlands Action Network v. U.S. Army Corps of Engineers, 222 F.3d 1105, 1118 (9th Cir. 2000). In an analogous case applying this regulation, Ocean Mammal Institute v. Cohen, 1998 WL 2017631 (D. Hi.), aff'd 164 F.3d 631 (9th Cir.1998),[19] the Navy, considering deployment of a strategic sonar system, had sought a permit from the National Marine Fisheries Service ("NMFS") to perform a short term test of potential effects of such a system on humpback whales; the NMFS issued an EA and FONSI in connection with its permit decision. In Ocean Mammal Institute the plaintiffs, attacking the short-term-test permit, argued that to permit the environmental test separate from the related sonar deployment project constituted impermissible segmentation and would evade the NEPA requirement for an EIS. The district court held that the NEPA regulation on connected actions did not apply. 1998 WL 2017631 *7. It noted that while NEPA provides that "connected

[19] A copy of the district court opinion is attached hereto as **Exhibit B**.

actions" must be included in a single EIS, "[f]or actions to be 'connected' under NEPA there must be more than mere relatedness or tangential association." Id. The court found that the research did not automatically trigger or commit the government to deployment of the sonar. In rejecting the plaintiffs' challenge, the court also noted a meaningful distinction between, on the one hand, a research program and, on the other, a system deployment. Id. ; see also Macht v. Skinner, 916 F.2d 13, 17, 20 (D.C. Cir. 1990) (federal funding of preliminary studies need not be considered together with projects studied, which might not come to pass).

In this action, the permitting of the Data Tower does not commit or require the Corps to issue a permit for the wind farm. The Corps also reasonably found that the Data Tower has utility independent of the proposed wind farm. AR 2601, ¶ iv. (EA); AR 1299, 1301 (letter of M. Fenn, Cape Cod Comm'n, to B. Valiton, Corps, Feb. 4, 2002, suggesting Data Tower could and should generate data beyond wind farm project); AR 1450, 1451 (letter of C. Natale, Env't Sci. Servs., to T. Skinner, Mass. Off. of Coastal Zone Mgmt., March 28, 2002, detailing kinds of new data as to coast meteorology and wind characteristic data could be generated); AR 1863, 1873 (letter of C. Natale to B. Valiton, Corps, May 10, 2002, Cape Wind has agreed to provide Mass. Maritime Acad. with data from tower).

In addition, the two projects differ, with one a research project and the other, deployment of 170 wind turbines. Perhaps most importantly, the Corps is seeking to evade nothing. While it issued an EA and FONSI for a three-piling-monopole Data Tower, the Corps has announced, see AR 2597, ¶ 8.c.(EA), and is in the process of compiling an EIS on the environmental impacts of the proposed wind farm. Further, there is no guarantee that the Corps will find such impacts insignificant (or that the data generated by the tower would justify Horseshoe Shoals as the best

location for the wind farm). AR 2601-02, ¶ iv. (EA).[20]

In summary, Plaintiffs' contention that the Corps' permitting of the Data Tower involved improper segmentation is incorrect and should be rejected.

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[20] The Corps noted with regard to the Data Tower permit application environmental review, that "[s]ince issuance of this permit does not have any effect on whether the applicant will ever get a permit for the larger wind farm project we do not need a comprehensive siting and environmental analysis for development of wind energy in New England." AR 2602.

VI.
CONCLUSION

For all the foregoing reasons, Plaintiffs' motion for summary judgment should be denied, and Defendants' cross-motion for summary judgment should be granted.

Respectfully submitted,

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Acting United States Attorney

1/17/03

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LOCAL RULE 7.1(A)(2) CERTIFICATION OF COMPLIANCE

The undersigned counsel certifies that pursuant to the requirements under Local Rule 7.1(A)(2), he has conferred with counsel for Plaintiffs regarding the issues addressed in this motion.

1/17/03
Anton P. Giedt
Assistant U.S. Attorney

JOHN WARNER
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March 25, 2005

Ms. Karen Adams
Project Manager
Regulatory Division
New England District
U.S. Army Corps of Engineers
696 Virginia Road
Concord, Massachusetts 01742-2718

Dear Ms. Adams:

As the Corps of Engineers considers the permit application for the Cape Wind Energy Project (NAE-2004-338-1), I accept your solicitation for comment and submit the following.

The Corps of Engineers does not , in my opinion, have sufficient federal statutory authority to grant the applicant the necessary permit to construct a utility-scale renewable energy facility. The proposed project, to be located in Outer Continental Shelf waters, would consist of 130 offshore wind turbine generators, an Electrical Service Platform and associated transmission lines and equipment for Horseshoe Shoal in Nantucket Sound. The towers would rise 423 feet above mean sea level and consume twenty-six square miles of Nantucket Sound.

A permit for a project of such awesome proportions must rest on a solid foundation of statutory law and regulation. A case in point is the time tested statutory and regulatory infrastructure which supports the oil and gas recovery from the Outer Continental Shelf. The legal justifications I have seen so far for this project rest, in my judgment on a vague foundation of flimsy sticks.

The Corps is reviewing an application for a navigation permit under Section 10 of the Rivers and Harbors Act of 1899. The stated purpose of this statute is clearly to prevent obstructions to navigation in waters of the U.S. It does not provide authority to the Corps of Engineers to grant property interests in OCS lands, as would be the result should this permit application be granted. The legislative history of the 1899 Rivers and Harbors Act shows that Section 10 was originally enacted to remedy the inability of federal common law to prevent obstructions to navigation. The law and implementing regulations have been broadened somewhat over the years, and now includes a public interest test, but its essential purpose has not changed.

The jurisdiction of the Corps of Engineers, as provided in the 1899 Rivers and Harbors Act and implied authorities under the Outer Continental Shelf Lands Act, are wholly inadequate to evaluate the construction the proposed 130 windmill towers in U.S. waters to properly protect our environment, to ensure that navigation on our seas is not impeded, to guarantee that public assets are not granted to private developers for free, to provide for appropriate compensation to the federal taxpayer for the private use of public lands, and to ensure the careful management of other federal interests.

The 1899 statute simply can not, and should not, be stretched one hundred years later to embrace the unique concepts of the proposed project. I am not against the concepts of wind power; I simply say do it right.

The authority to covey property interests and to compensate the federal government for activities in the Outer Continental Shelf is vested in the Outer Continental Shelf Lands Act under the jurisdiction of the Department of Interior. The 1953 OCSLA extends federal jurisdiction over the Outer Continental Shelf to regulate and manage the extraction of minerals.

I repeatedly state it's the duty of Congress to enact an explicit statutory framework. Congress has enacted legislation to encourage the production of wind energy, therefore, it is the responsibility of Congress to see that taxpayer dollars are only expended in accordance with a clear statutory framework.

The view that the federal government must have a comprehensive national policy to evaluate these projects is not just my opinion. The Commission on Ocean Policy, created by Congress, appointed by the President and chaired by Admiral James Watkins, has spent the past three years conducting the first wide-ranging review of U.S. ocean policy in 35 years. In Chapter 24, on page 318, the Commission speaks directly to projects such as the one proposed, and states "there is no comprehensive and coordinated federal regime in place to regulate offshore wind energy development or to convey property rights to use the public space of the OCS for this purpose."

The Commission further acknowledges that, "the Section 10 review process stands in stark contrast both to the well established Department of Interior regulatory program for onshore wind energy and, in the marine setting, to the robust regulatory program for offshore oil and gas that has developed under the OCSLA."

The Commission makes two very critical points concerning offshore wind energy development. First, wind energy projects onshore on federal lands are highly regulated with appropriate environmental protections, and financial compensation to the taxpayer for use of public lands. Second, the Commission compares the meager Section 10 review process to the comprehensive regulatory program for other uses of U.S. waters, such as oil and gas drilling under the Outer Continental Shelf Lands Act.

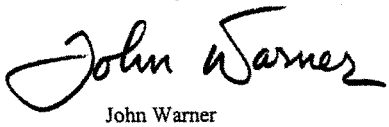
Ms. Karen Adams
March 25, 2005
Page 3

The Commission cites the shortcomings of the 1899 Rivers and Harbors Act because it has no authority to grant leases or exclusive rights to use and occupy space in U.S. waters. It calls on the Congress to enact legislation that provides for a coherent policy and process to evaluate offshore wind energy development that should include the ability of the federal government to assess a rent for the use of this public space, a fee or royalty for the energy generated, and a competitive bid process for the use of these lands.

The Congress must act to protect the taxpayers' indirect investment – to adequately protect the environment. The extent the Congressional framers in 1899 had any vision of windmills was predicated upon the impractical experiences of Don Quixote! Accordingly, I urge the Corps of Engineers to deny the permit for the Cape Wind Energy Project.

With kind regards, I am

Sincerely,



John Warner

JW/al

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April 27, 2005

The Honorable Donald Rumsfeld
Secretary of Defense
1000 Defense Pentagon
Washington, D.C. 20310

Dear Secretary Rumsfeld:

In recent months I have been discussing with the Army Corps of Engineers the Corps' claim of statutory authority to grant the necessary permits to construct offshore wind facilities in Outer Continental Shelf (OCS) lands. It is my opinion that the Corps does not in fact have the necessary foundation of statutory law or regulation for such action.

The purpose of my correspondence today is to ask what the Department of Defense knows about the potential for wind turbines to interfere with ground based radar. In addition, I would like to determine the Department's concerns over the location of large scale wind turbine projects that could span 24 square miles and reach 420 feet in the air. It seems to me that there are several aspects of offshore wind farm development that have not been fully explored by the United States Government. It is my understanding that close to 50% of proposed wind farms in the United Kingdom have been canceled or delayed as a result of potential interference with air traffic control and defense surveillance radar systems.

I enclose a copy of a UK Ministry of Defence report entitled The Effects of Wind Turbine Farms on Air Defence Radars, and a copy of my March 25, 2005 letter to the U.S. Army Corps of Engineers, New England District for your review.

I thank you for your attention to this matter and await your response.

With kind regards, I am

Sincerely,

John Warner

JW/ccs
Enclosure

PRINTED ON RECYCLED PAPER

THE EFFECTS OF WIND TURBINE FARMS ON AIR DEFENCE RADARS

AWC/WAD/72/652/TRIALS 6 JAN 05

OPEN REPORT

THE EFFECTS OF WIND TURBINE FARMS ON AIR DEFENCE RADARS

EXECUTIVE SUMMARY

1. The UK Government supports the introduction of wind turbine farms as part of its alternative energy strategy but existing Ministry of Defence (MoD) Guidelines restrict planning consent for wind turbine farms within 60% of maximum instrumented range (interpreted as 74 km) and line of sight from primary surveillance radars. However, wind farm developers are increasingly questioning the validity of current Guidelines. Consequently, a Trial was conducted by the Air Command and Control Operational Evaluation Unit (Air C2 OEU) in response to a tasking from the Directorate of Counter Terrorism and United Kingdom Operations (D CT&UK Ops) to determine the effects of wind turbine farms on Air Defence (AD) radars. Stage 1 of the Trial was a scoping exercise conducted during the period 28 - 29 Jul 04. A Type 101 (T101) Radar deployed to RAF Church Fenton and utilised the Ovenden Moor wind turbine farm. A Chinook HC Mk 2 and a Tucano T Mk 1 aircraft each provided a single sortie in support of Stage 1. Stage 2, the full Trial, was conducted over the period 14 - 16 Sep 04 utilising the Llandinam (P&L) wind turbine farm in South Wales. The T101 was deployed to a privately owned site in Shropshire, adjacent to the National Air Traffic Services (NATS) radar site at Clee Hill. Sorties in support of Stage 2 were flown by Hawk T Mk 1a, Tucano T Mk 1, Dominie T Mk 1a and a King Air aircraft operated by Flight Precision Limited (FPL). Specialist support was provided by personnel from the Directorate of Engineering, Interoperability & Information Systems (DEI&IS), Defence Science and Technology Laboratory (DSTL) and AMS, the manufacturer of the T101.

2. The aim of the Trial was to determine the effects of wind turbine farms on AD radars by considering the effects of wind turbine farms on radar performance with regard to probability of detection, tracking and displayed effects, the effects on low-level coverage due to the wind turbine farm and system set-up and observed displayed effects. This was achieved by tasking scripted sorties with a variety of aircraft types to overfly the subject wind turbine farm. The radar video display was assessed during the trial and radar plot data was captured for analysis.

3. Previous research had predicted a shadow region behind the wind turbines within which primary radar responses would be masked; this was confirmed by this Trial. Clutter due to the wind turbines was displayed throughout the Trial. During this Trial the observed effect was not operationally significant; however, as many variables (including: radar type, turbine parameters, location and weather) impact on levels of displayed clutter, this observation does not automatically read across to other situations. Observations during Stage 1, indicated aircraft obscuration overhead wind turbines. This effect was examined in depth during Stage 2. **It was confirmed that on the T101 radar, primary radar returns from aircraft having a low Radar Cross Section (Hawk T Mk 1a and Tucano T Mk 1) are lost when flying over wind turbines, regardless of the aircraft's height. The cause of this effect is believed to be as a result of excessive returns from the wind turbines being received in the elevation sidelobes of the radar. As a result of this Trial, the MoD has provisionally ceased automatic approval of wind turbine developments beyond 74 km but within Line of Sight from an AD radar.**

OPEN REPORT

THE EFFECTS OF WIND TURBINE FARMS ON AIR DEFENCE RADARS

INTRODUCTION

4. The UK Government supports the introduction of wind turbine farms as part of its alternative energy strategy. The existing MoD Guidelines restrict planning consent for wind turbine farms within 60% of the maximum instrumented range (interpreted as 74 km) and line of sight of primary surveillance radars. Both the wind turbine farm developers and the Royal Society have challenged the validity of these restrictions. Consequently, D CT&UK Ops tasked the Air C2 OEU with determining the effects of wind turbine farms on AD radars.

5. Stage 1 of the Trial was a scoping exercise conducted over the period 28-29 Jul 04. Stage 1 utilised the Ovenden Moor wind turbine farm and a T101 Radar, deployed to RAF Church Fenton. A Chinook HC Mk 2 and a Tucano T Mk 1 aircraft each provided a single sortie in support of this Stage. Stage 2, the full Trial, was conducted between 14 - 16 Sep 04 utilising the P&L wind turbine farm in South Wales. The T101 radar was deployed to a privately owned site in Shropshire, slightly below the NATS radar site at Clee Hill. Hawk T Mk 1a, Tucano T Mk 1, Dominie T Mk 1a aircraft and a King Air aircraft operated by FPL, flew sorties in support of Stage 2. The Trial Management Officer (TMO) for Stage 1 was Flight Lieutenant (Flt Lt) Smith. Flt Lt Middleton assumed TMO duties for Stage 2. Additional specialist support was provided by personnel from the DEI&IS, DSTL and AMS, the manufacturer and Design Authority for, the T101.

AIM

6. The aim of the Trial was to determine the effects of wind turbine farms on AD radars.

TRIAL OBJECTIVES

7. The objectives of the Trial were to:

a. Determine the adverse effects of wind turbine farms on radar performance with regard to:

(1) Probability of Detection.

(2) Tracking.

(3) Displayed effect.

b. Provide a prediction on the effects of low-level coverage due to the wind turbine farm.

c. Provide guidance on system set-up and observed displayed effects.

CONDUCT OF TRIAL

8. Stage 1 of the Trial was used as an information gathering exercise due to the lack of knowledge within the AWC and DSTL about the effects that windfarms have on radars. This was intended to provide sufficient data to scope the design of Stage 2, which was to be the major stage of the Trial. Stage 2 was designed to ensure that sufficient data was gathered to enable the AWC to provide advice to the sponsor on the impact of generic wind turbine farms on a representative in-service AD radar.

EQUIPMENT UNDER TEST

9. The equipment under test was a T101 radar. Due to time constraints, clearance to radiate Secondary Surveillance Radar (SSR) from the T101 trial deployment site was not obtained for Stage 1 but was obtained for Stage 2. As the Trial was primarily designed to investigate the effect of a wind turbine farm on primary surveillance radar this did not impact on the validity of the Trial. The wind farms evaluated during the Trial were as follows:

a. Stage 1 – Ovenden Moor, Yorkshire. The Ovenden Moor wind turbine farm wascommissioned in Jun 93 and comprises 23 Vestas Type 400 turbines. Data on turbine orientation and performance was not collected during Stage 1. The Radar to wind turbine farm range was 49 km.

b. Stage 2 – P&L Wind Turbine Farm - Wales. The P&L wind turbine farm wascommissioned in Jan 93 and comprises 103 Mitsubishi Type 300 turbines. Turbine data collected during Stage 2 is at Annex A. The radar to wind turbine farm range was 57 km.

TRIAL METHOD

10. The impact from wind turbines on AD radar was expected to take 3 forms, which are as follows:

a. Clutter. It was anticipated that the Doppler effect of the rotating turbine blades would cause unwanted primary radar returns known as clutter. Previous ATC-centric trials had regarded clutter resulting from wind turbines as a key issue.

b. Shadow. The presence of a physical obstruction with a large Radar Cross Section (RCS) in the path of the radar beam was expected to create a region behind the turbine farm within which aircraft would be masked from detection. Theoretical modelling suggested that this region would only be a few km deep.

c. Tracking Interference. Both the presence of clutter and the loss of radar returnsdue to shadowing were expected to interfere with the ability of the system to initiate and maintain a track on target aircraft.

11. Stage 1 Sorties. Two sorties were tasked, the minimum deemed necessary to explore the phenomena listed in para 10. Given the slow rotation rate (6 rpm) of the T101 radar and the relatively small size of the wind turbine farm, it was necessary to choose aircraft capable of sustained and stable flight at slow speed, ideally sub-200 kts ground speed. This would maximise the valid data gathered for each aircraft. Therefore, a Chinook HC Mk 2 and a Tucano T Mk 1 aircraft were each tasked to fly a single sortie. The sorties required the aircraft to operate in a figure-of-eight pattern behind the wind turbines at a height selected to place them in the expected shadow region of the turbines.

12. Stage 2 Sorties. Having confirmed the presence of a shadow region behind the turbines during Stage 1, the sorties flown in support of Stage 2 were required to further explore the bounds of this effect. Having proved successful in Stage 1, the Tucano T Mk 1 and Chinook HC Mk 2 aircraft were tasked to fly one and 2 sorties respectively. An ad hoc observation of an overflying, non-participating, aircraft during Stage 1 had indicated an overhead obscuration effect directly above the wind turbine farms. Therefore, an additional profile was incorporated to further explore this problem and a Hawk T Mk 1a aircraft was tasked in support of this. In order to ensure that the data gathered from the Trial was robust, a wide range of targets with a variety of Radar Cross Section (RCS) were required. It was highly desirable to have Global Positioning System (GPS) positional data available from the trials aircraft for detailed post-trial analysis. For both of these reasons, a Dominie T Mk 1a aircraft was tasked to augment the sorties already scheduled. Finally, DEI&IS was closely involved in the design of the Trial, as the agency initially tasked with its conduct. They volunteered the use of a King Air aircraft that was normally tasked to conduct routine radar calibration sorties. Consequently, the King Air aircraft offered the potential for extremely accurate sortie profiles to be flown and therefore detailed analysis of the observed effects. The basic flight profiles are detailed at Annex B.

13. Data Recording. The effect of displayed clutter resulting from a wind turbine farm was assessed visually at the operator's video output. Unfortunately, there was no available facility to record that output directly on the T101 and there was no funding available to support the installation of additional hardware for that purpose. Therefore, it was decided, for Stage 2, to employ a conventional video camcorder to capture the video output as presented to the T101 operator. A far more comprehensive form of data capture was necessary to support post-trial analysis of the radar plot picture. Therefore, DEI&IS was requested to provide Radar Data Console (RADAC) data capture hardware and subsequent analysis of the data. The RADAC recorded all the extracted plot data produced by the radar, in the same format that it would be input into the UKASACS Command and Control System (UCCS).

TRIAL CONSTRAINTS

14. The following constraints applied to the Trial:

a. Due to the nature of this Trial it was necessary to observe a wind turbine farm in line of sight of an AD radar. The MoD routinely objects to the development of any wind turbine farm expected to interfere with a static AD radar. Therefore, it was necessary to use a deployable AD radar, limiting the choice to the T101. Moreover, the deployment site had to be suitable for the T101 support vehicles, permit radiation of both primary and secondary radar and be within line of sight of a wind turbine farm. The choice of site was thus limited.

b. Funding restrictions and radar availability required the Trial to be conducted during the week when the T101 was en route to a pre-planned exercise. This constrained the preparation time for the Trial and the choice of trial dates.

c. An upper height restriction of 24 000 ft was imposed on the Trial at the request of the participating aircrew during the planning stages. This height was significantly above any expected interference effect from the wind turbines.

TRIAL RESULTS

15. Non-Effective Sorties. The planned Chinook HC Mk 2 aircraft sortie in support of Stage 2 was cancelled due to aircraft unserviceability. The reserve sortie was not flown due to higher priority tasking. However, all other sorties were flown as planned and sufficient data was obtained to support valid conclusions.

16. Overhead Obscuration. The most significant operational effect observed during the Trial was the obscuration of aircraft flying directly overhead the wind turbine farm. This effect had not been anticipated in the initial design of the Trial and was first observed during an ad hoc overflight of the Stage 1 wind turbine farm by a non-participating aircraft. Therefore, the sortie profile flown by the Hawk T Mk 1a aircraft during Stage 2 was deliberately planned to investigate this problem up to a height of 24,000 ft, well in excess of the expected upper limit of any obscuration. Further serials were added where Dominie T Mk 1a and Tucano T Mk 1 aircraft profiles were used to confirm the data collected from the Hawk sortie and investigate the relevance of target aircraft RCS. The T101 radar was observed to lose primary radar contact on the low RCS aircraft, Hawk and Tucano, when they were overhead the wind turbines. This loss of contact occurred regardless of aircraft height. Sample RADAC output demonstrating the loss of primary radar returns during the Trial is at Annex C and a proposed explanation of this effect is at Annex D. There is no evidence to support the existing assumption that this, or any other effect of wind turbines on primary radar is range dependent. Current MoD guidelines allowing wind turbine development outside 74 km range from the radar would not mitigate this problem. Conversely, there is no range within which objection to a wind turbine development should be automatic. Based on the

information available at the completion of this Trial, the relevant factor for consideration would be line of sight between the radar and the wind turbines. The presence of a gap in primary radar coverage over wind turbine farms has a potential impact on both AD operations and the provision of Air Traffic Services (ATS). Therefore, **it is recommended that:**

a. Automatic approval of wind turbine farms based on ranges beyond 74 km ceases.

b. The potential impact of any wind turbine farm within radar line of sight of an AD radar, regardless of range, be closely examined.

c. Personnel using AD radars in support of the provision of ATS be informed that they are likely to lose primary radar returns over wind turbine farms and should consider limiting the radar services they offer accordingly.

d. Accurate positional data for UK wind turbine farms is made available to personnel using AD radars to support the provision of ATS.

17. Shadow. An analysis of the plot data recorded by RADAC clearly demonstrated the presence of a shadow region behind the wind turbine farm. This data is shown graphically at Annex C. The vertical limits of this shadow region were assumed to be a linear effect as with the conventional shadow effect observed when a radiating light source is placed in front of a physical obstruction. Consequently, no data was gathered from which the vertical extent could be determined. This shadow region is believed to be a direct result of the interference of large physical objects, components of the wind turbine towers, with the propagation of the radar beam. It should only occur in the region immediately behind the turbines, as indicated at Annex E. A more detailed analysis of the bounds of the shadow region will be available in a separate report to be issued by DEI&IS. Given the low altitudes involved, less than 5000 ft inside likely radar line of sight, ATS would not routinely be provided by AD controllers to aircraft inside the shadow region. Nonetheless, there remains an operational impact on the detection of low-level target aircraft. However, given that the shadow effect is bounded to a few km and assuming that it is only present at low-level, it can be mitigated through the employment of overlapping radars, limits on size and location of wind farms and the long range detection of targets using other assets. These options are discussed in more depth at Annex E. **It is recommended that the cumulative impact of wind turbine farm developments be considered with regard to limiting the number and size of shadow regions in close proximity to each other.**

18. Radial Wind Turbine Farm Developments. It has been suggested that wind turbine farms be developed on a radial to AD radars in those cases where they fall within radar line of sight. This would have the benefit of reducing the number of turbine blades visible to the radar. However, there is very little theoretical understanding or practical experience of how radar beams are affected by physical obstructions of this nature. The AWC is currently unable to predict how an extended radial development of wind turbines

will impact on the ability of the radar beam to reform. It remains possible that a radial development may have a negative impact on overall operational effect. Future study would be necessary in order to understand this problem. Independent advice from AMS and DSTL Sensors Department reinforced the opinion that insufficient data was available to predict the impact of increasing the depth of a wind turbine farm relative to the radar. **It is recommended that a further study be conducted in order to determine the impact of an extended radial deployment of wind turbines relative to an AD radar.**

19. Clutter. Theoretical studies into the impact of wind turbines on AD radar had been predicated on the assumption that clutter induced by the turbines would be a major factor. During this Trial, only relatively small amounts of clutter were displayed to the operator; approximately 5-10 unwanted primary returns per sweep were displayed when all 103 turbines were rotating at their standard rotational rate. Further, the amount of clutter did not increase even when the wind direction was such that all the turbines were rotating in a direction perpendicular to the radar beam, maximising the Doppler effect. Based on the combination of T101 and wind turbine farms used for this Trial, there was no significant operational impact from displayed clutter resulting from wind turbine farms in line of sight of AD radars. However, the variables that impact on levels of displayed clutter include: radar type, turbine parameters, location and weather. Thus, this observation should not be automatically read across to other radar types or wind turbine farm installations. Moreover, it is likely that proliferation of wind turbine farm developments within LoS of a single radar head would significantly increase the clutter problem. An increase in displayed clutter is also likely if the overall RCS of an individual wind turbine farm is increased, as a result of either larger turbine installations or greater numbers of turbines within a given development. **It is recommended that further studies be conducted in order to determine the levels of wind farm induced clutter displayed on other in-service AD radars.**

20. Tracking Anomalies. AD Radars in the UK are not used in isolation. The data from a number of static radar sites (Type 91, Type 92 and Type 93 military radars augmented by NATS radar data) is fed into the UCCS in order to support both the production of a Recognized Air Picture and provision of ATS. This data is imported in a format known as SLR/SDO/1000/1 Issue 2, a standard protocol that carries radar plot data but no derived track information. A Saab Multi- Sensor Tracker (MST) integrated within UCCS forms the tracks that are displayed to operators. Moreover, any tracker, be it within UCCS or an integral part of an individual radar, will always use all available data when compiling and maintaining a track picture. There are 3 distinct tracking anomalies that could occur as a result of interference from a wind turbine farm:

a. Track Seduction. Track seduction occurs when a valid track is caused to alter itsdirection based on false plot information. Seduction occurred during Stage 1 of the Trial when no corresponding SSR data was available for the participating aircraft. During Stage 2, with SSR data available, seduction was not observed.

b. False tracks. False tracks are produced as a result of displayed clutter that behaves in a manner consistent with plot data derived from a true target. The extent to which a tracker will suffer from false track initiation is dependent on the sophistication of the individual tracking system. Numerous false tracks were produced by the T101's integral tracking system during the Trial but an experienced T101 operator quickly cancelled these. It is important to note that not all AD radars are manned by radar operators. A fully automatic tracker may not necessarily be relied on to cancel false tracks consistently. AD radar tracks are not passed to UCCS and no data was gathered to assess the vulnerability of the Saab MST to false track initiation due to clutter induced by a wind turbine farm.

c. Failure to Track. As long as a tracker is receiving valid SSR returns from a target aircraft then its ability to track will not be compromised by the presence of a wind turbine farm. During Stage 2 of the Trial, all participating aircraft were squawking Mode 3(A)/C SSR at all times; therefore, tracks were initiated and maintained on these aircraft throughout this Stage of the Trial. However, the T101 did not interrogate SSR during Stage 1 of the Trial and significant degradation of tracking performance was observed. Where a target aircraft does not squawk SSR it is highly likely that the associated track would drift when the aircraft overflies a wind turbine farm or flies through the shadow area. Provided that the aircraft does not manoeuvre and the track is not seduced then the system should resume tracking as soon as primary radar returns are available. Otherwise, a new track is likely to be initiated at this point.

It is recommended that a further Trial be conducted to ascertain the vulnerability of the Saab MST to clutter resulting from the presence of a wind turbine farm in line of sight of an AD radar.

21. Three-Dimensional (3-D) Accuracy. A key feature of AD radars is their ability to determine the height of an aircraft that is not transponding SSR Mode 'C'. Height information derived solely from the primary radar returns is generally assumed by AD operators to be within 5000 ft of the actual aircraft height. However, during Stage 2, height data derived from primary radar returns was observed to fluctuate considerably from the norm. Errors of up to 10 000 ft were observed throughout the trial stage when aircraft were directly overhead the wind turbine farm. This problem is believed to be attributable to the techniques used by the T101 to calculate heights and may not be applicable to other AD radars.

22. SSR. It was not anticipated that a wind turbine farm would interfere with SSR performance and no effect was observed during this Trial.

TRIAL OBJECTIVES SATISFIED

OBJECTIVE 1. DETERMINE THE ADVERSE EFFECTS OF WIND TURBINE FARMS ON RADAR PERFORMANCE

23. The determination of the adverse effects of wind turbine farms on radar performance addressed 3 areas:

a. Probability of Detection. The constraints on trial design imposed by selection of a suitable radar deployment site within line of sight of a suitable wind turbine farm precluded the conduct of a long-range Probability of Detection sortie during this Trial.

b. Tracking. Tracking effects were assessed during the Trial, but only in terms ofthe impact on the T101's own tracker. All the participants in Stage 2 were tracked using their SSR transponder return even when the wind turbines masked primary radar returns. The effect of wind turbines on the performance of the Saab MST within UCCS was not assessed.

c. Displayed Effect. The extracted plot data as displayed on the operators screenwithin the T101 cabin is identical to the data that is transmitted to UCCS for display to operators in the wider ASACS community. The displayed effect, clutter, resulting from the presence of a wind turbine farm was assessed from the T101's integral display system and the results can be regarded as valid for any standard system displaying the same data. OBJECTIVE PARTIALLY SATISFIED

OBJECTIVE 2. PROVIDE A PREDICTION ON THE EFFECTS OF LOW-LEVEL COVERAGE DUE TO THE WIND TURBINE FARM

24. The low-level sortie profiles used during this Trial were designed to place aircraft on the radar horizon directly behind the wind turbines. However, once the aircraft were clear of the shadow area discussed at paragraph 19 there was no discernible impact on low-level coverage. OBJECTIVE FULLY SATISFIED

OBJECTIVE 3. PROVIDE GUIDANCE ON SYSTEM SET-UP AND OBSERVED DISPLAYED EFFECTS

25. System set-up is specific to individual radar types and the T101 is not part of the normal UK backbone radar chain. However, different modes of operation for the T101 were employed during the Trial, particularly with regard to the operation of the MTI circuitry. Changes to the standard set-up and operation of the T101 did not improve its performance in the vicinity of the wind turbines. Moreover, the displayed effects were specific to the T101 in this configuration and difficult to read across to other radar types or wind turbine farm locations. Notwithstanding the above, the displayed effects were not operationally significant. OBJECTIVE FULLY SATISFIED

ADDITIONAL OBSERVATIONS

26. Having observed the operationally significant problem of overhead obscuration during this Trial, it is impossible to recommend any changes to system set-up or operating procedures in order to mitigate this problem. However, technical solutions have been considered, in consultation with AMS and DSTL. These are explained in depth at Annex F.

CONCLUSIONS

27. At the outset of the Trial, it had been assumed that displayed clutter in the vicinity of a wind turbine and low-level shadowing behind the turbine would be the most significant adverse operational effects on AD radar in proximity to wind turbines. Both were observed during the Trial but displayed clutter was minimal and the shadow region was bounded to a depth of only a few kms. Observations during Stage 1 of the Trial suggested significant obscuration of primary radar returns overhead wind turbines and this was borne out through deliberate sortie design during Stage 2. This effect was observed independently of the height of the aircraft, throughout the full height range used for the Trial (2000 ft-24 000 ft above mean sea level) and is now believed to represent the most significant operational effect of wind turbine farms on AD operations. Alternative configuration of AD radars or changes to standard operating procedures do not offer a solution to this problem. Technical solutions are possible but further work, both theoretical study and practical trials, are necessary to confirm the feasibility of the proposed solutions. Overall, the Trial established that there is a significant operational impact of wind turbines in line of sight of AD radars. This effect was independent of radar to turbine range and aircraft height. Where a target aircraft does not squawk SSR it is highly likely that the associated track would drift when the aircraft overflies a wind turbine farm or flies through the shadow area. Provided that the aircraft does not manoeuvre and the track is not seduced then the system should resume tracking as soon as primary radar returns are available. The existing MoD guideline safe-range for wind turbine farms of 74 km from AD radar when in line of sight was deemed to be irrelevant. Line of sight was assessed to be the only relevant criterion when considering objections to wind turbine farm developments.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

28. It is recommended that:

a. Automatic approval of wind turbine farms based on ranges beyond 74 km ceases.(Para 16a)

b. The potential impact of any wind turbine farm within radar line of sight of an AD radar, regardless of range, be closely examined. (Para 16b)

c. Personnel using AD radars in support of the provision of ATS be informed that they are likely to lose primary radar returns over wind turbine farms and should consider limiting the radar services they offer accordingly. (Para 16c)

d. Accurate positional data for UK wind turbine farms is made available to personnel using AD radars to support the provision of ATS. (Para 16d)

e. The cumulative impact of wind turbine farm developments be considered with regard to limiting the number and size of shadow regions in close proximity to each other. (Para 17)

f. A further study be conducted in order to determine the impact of an extended radial deployment of wind turbines relative to an AD radar. (Para 18)

g. Further studies be conducted in order to determine the levels of wind farm produced clutter displayed on other in service AD radars. (Para 19)

h. A further Trial be conducted to ascertain the vulnerability of the Saab MST to clutter resulting from the presence of a wind turbine farm in line of sight of an AD radar. (Para 20)

<Original signed>

D M WEBSTER
Squadron Leader
Officer Commanding
Static Ground Systems Operational Evaluation Squadron
Air C2 OEU

6 Jan 05

Annexes:

A. Windfarm Data During Trial Stage 2.
B. Sortie Profiles – Stage 2.
C. RADAC Output.
D. Proposed Explanation for Overhead Obscuration.
E. Mitigation Of Shadow Region Behind Wind Turbine Farms.
F. Possible Technical Solutions to Overhead Obscuration.

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ANNEX A TO
AWC/WAD/72/652/TRIALS
DATED 6 JAN 05

WINDFARM DATA DURING STAGE 2

1. Data was collected on activity levels for the wind turbine farm during Stage 2 of the Trial. The key data was as follows:

Date	Time (local)	Turbines Operating	Wind Direction	Wind Speed (ms^{-1})	Weather
15 Sep 04	08:45	15	N/K	5.4	clear
	09:55	46	WSW	6.1	clear
	11:15	92	WSW	6.7	clear
	12:08	102	WSW	7.5	clear
	14:20	102	SW	6.6	clear
16 Sep 04	09:50	102	S	10.5	cloudy
	11:15	103	SSE	11	cloudy
	13:07	103	SSE	12.1	cloudy

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ANNEX B TO
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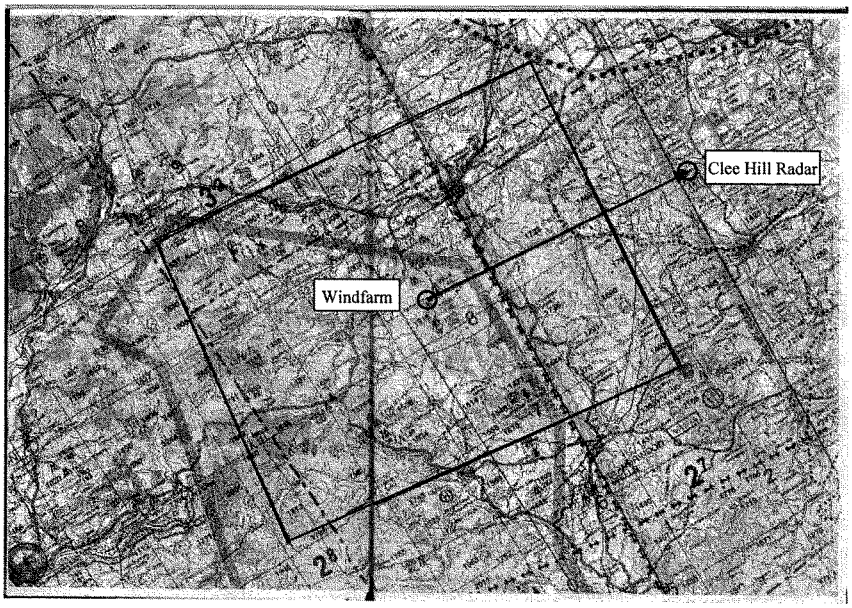
DATED 6 JAN 05

SORTIE PROFILES – STAGE 2

1. The profiles were a tangential and radial route, repeated at various heights. The Trial area is shown below:



2. The following sorties were tasked in support of the Trial - Stage 2:

a. King Air. Time on Task (TOT) 150830Z to 151130Z.

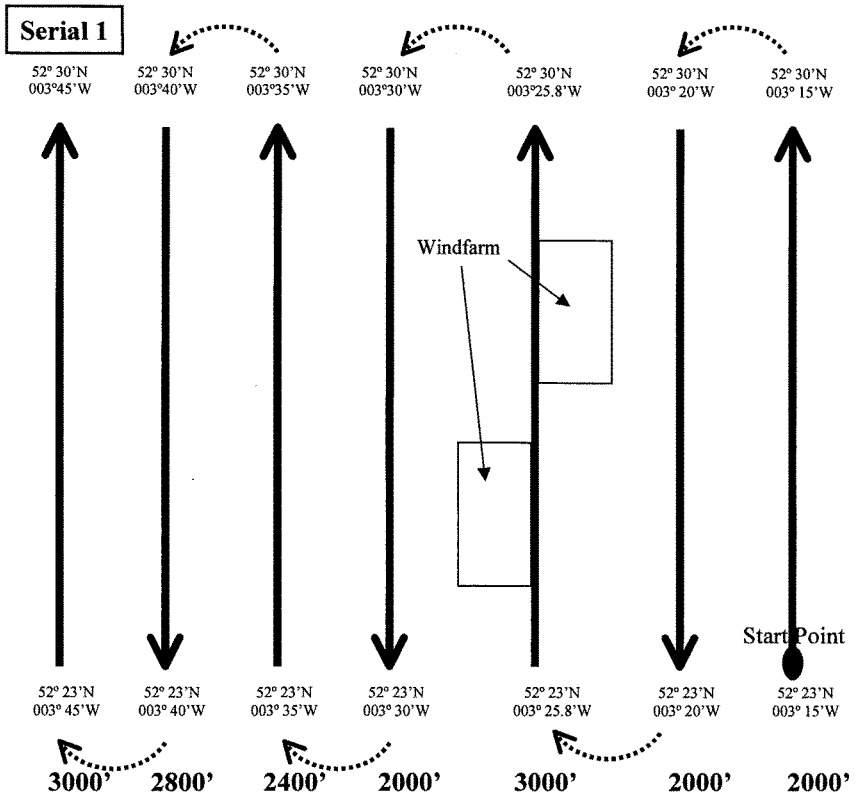
b. Chinook HC Mk 1. TOT 151130Z-151230Z and 151430Z-151630Z.

c. Hawk T Mk 1. TOT 151300Z to 151400Z reserve 161300-161400Z.

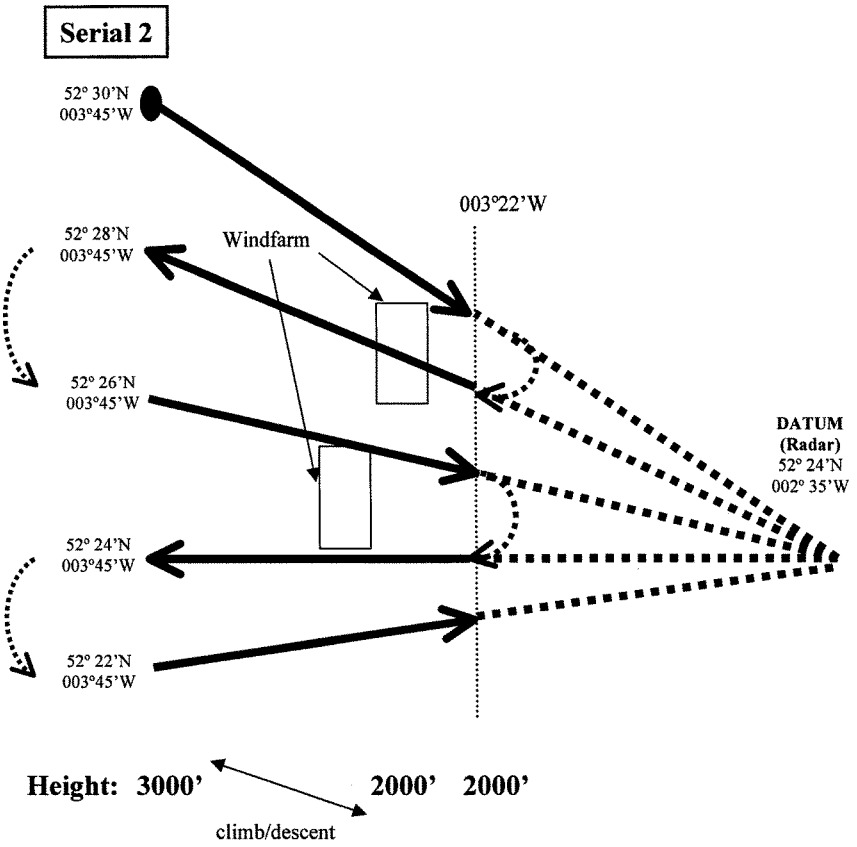
d. Tucano. TOT 161130Z to 161300Z.

e. Dominie. TOT 160900Z to 161000Z.

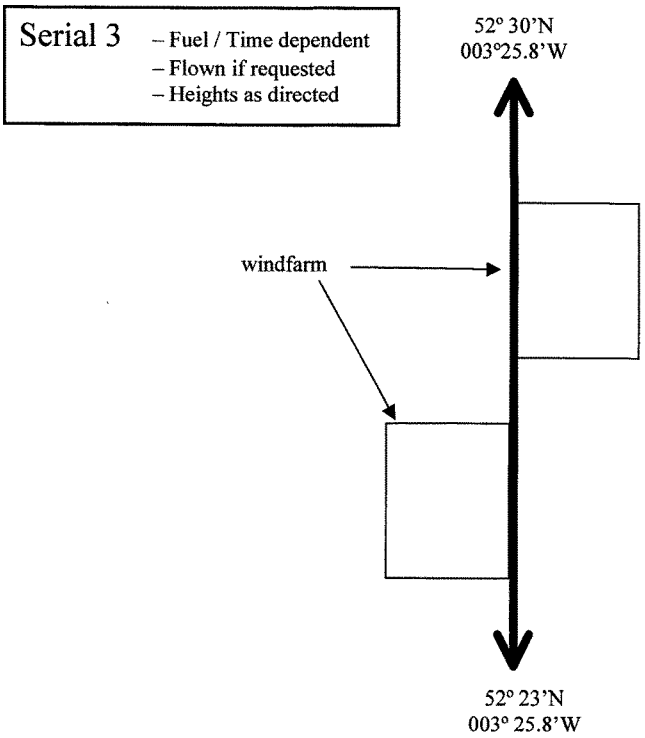
3. Profiles. The co-ordinates for the trial profiles are shown in the following diagrams:



All Heights: - AMSL, minimum desired height
(Pilot to use higher as required for safety of flight)
- Climb only in turn



All Heights: AMSL, minimum desired height
(Pilot to use higher as required for safety of flight)



Height as Directed

All Heights: - AMSL, minimum desired height (higher as required for safety of flight)
- climb only in turn

ANNEX C TO
AWC/WAD/72/652/TRIALS
DATED 6 JAN 05

RADAC OUTPUT

1. Analysis of the radar plot data as captured by DEI&IS using RADAC clearly shows the loss of primary data for some aircraft overhead the wind turbines. The complete output of the RADAC from the Trial will be analysed in full by DEI&IS and presented by them in a separate report. An example of the overhead obscuration that was observed during the Trial, is shown at Figure 1; the T101 clearly loses primary responses from a Hawk T Mk1 travelling north over the turbines at 10 000 ft. For clarity, an oval has been overlaid to indicate those plots where only an SSR response was obtained.

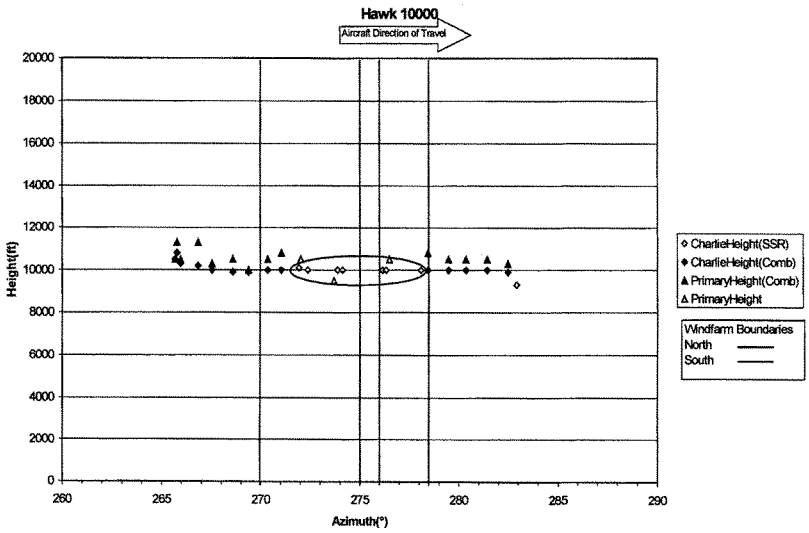


Figure 1 - Hawk Northbound over Turbines (10 000 ft)

2. By contrast to the data at Figure 1, obtained from the Hawk T Mk 1A aircraft sortie, data from the Dominie T Mk 1A ac sortie is shown at Figure 2, below. The radar returns for the Dominie T Mk 1A ac at this height were consistently combined (primary and SSR) throughout the assessed profile.

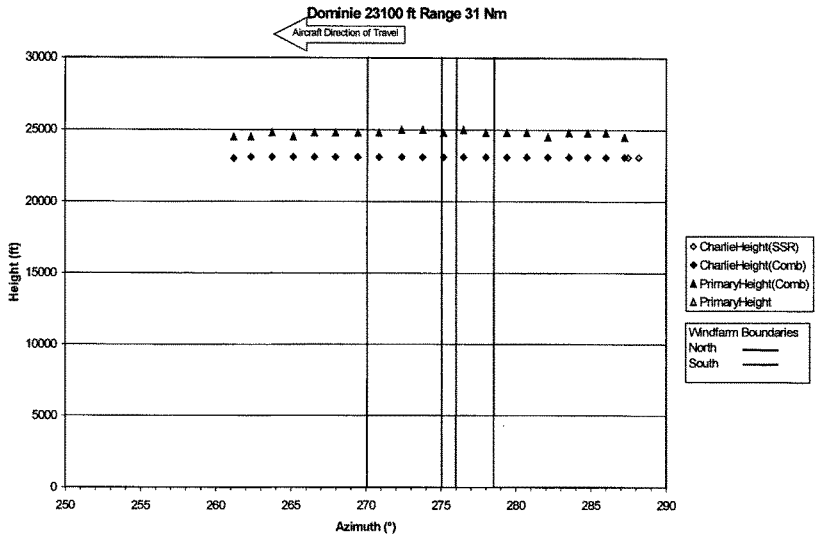


Figure 2 – Dominie Southbound over Turbines (23 100 ft)

3. Examining the plot data captured over time, shown at Figure 3, allows the shadow effect to be more clearly seen. The rectangular areas overlaid on the graph approximate those areas within which there is a significantly increased incidence of dropped primary returns. Further study would be necessary in order to determine both the exact bounds of this shadow area and its dependencies.

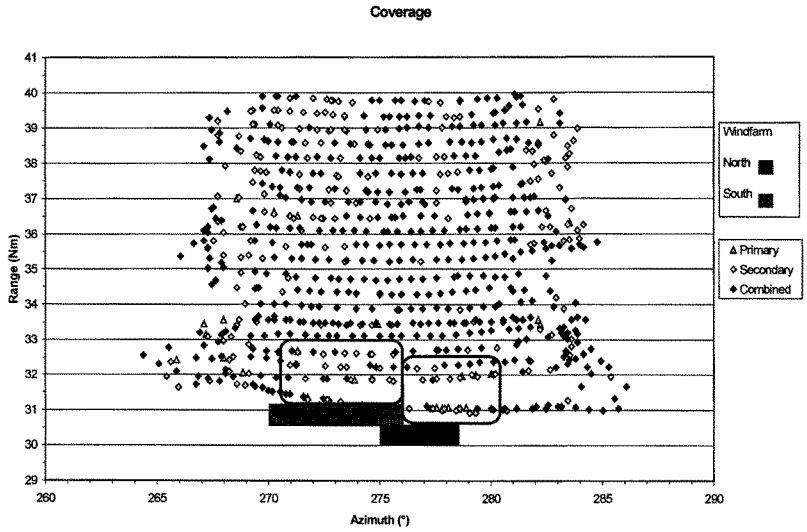


Figure 3 - Composite Plot Data during The Trial

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ANNEX D TO
AWC/WAD/72/652/TRIALS
DATED 6 JAN 05

PROPOSED EXPLANATIONS FOR OVERHEAD OBSCURATION[1]

CLUTTER THRESHOLDS BASED ON ELEVATION SIDELOBE ENERGY

1. The hypothesis regarding the overhead obscuration effect observed during this Trial is that it was a result of a signal being received in the elevation side-lobes of the upper beams. Empirical evidence collected during the Trial suggested that only aircraft with a very small RCS were subject to this overhead obscuration effect. Both the Tucano T Mk 1 and the Hawk T Mk 1A aircraft, with RCS of approximately $1m^2$ were obscured but the Dominie T Mk 1A aircraft, with RCS of approximately $10m^2$ was not.

2. For the T101, the elevation main-lobe is approximately 25 dB up on the elevation side-lobe. The RCS of the turbines used during the Trial was not assessed directly. However, other studies suggest that wind turbine masts have an RCS of 30-60 dBm^2, a 30-60 dB gain over the Hawk T Mk 1A and Tucano T Mk 1 aircraft. The automatic clutter maps for the T101 are set based on large range-cells (considerably larger than the radar resolution range cell) in either ground (beam 1), or aloft (beams 2-7). Figure 4 is a representation of the T101 beam pattern. Therefore, it is likely that the aloft clutter map overhead the wind turbines would be set based on returns received from the turbines through the elevation side-lobes. For aircraft with an RCS between 30 dB and 60 dB down on that of the turbines, this appeared to result in rejection of the aircraft return. It is believed that this effect is independent of radar to turbine range.

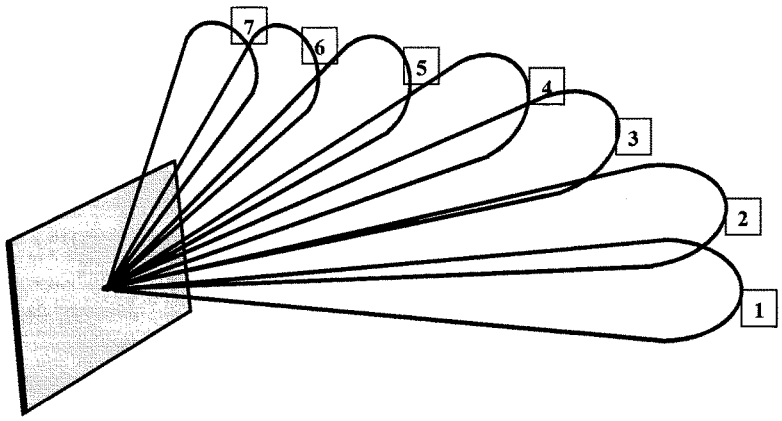

Figure 4 - Vertical Beam Stacking in the Type 101 Radar

[1] Representing the opinion of the Air C2 OEU but supported by discussion with DSTL and AMS.

3. A more detailed study would be necessary in order to determine the validity of this hypothesis. In particular, the exact sensitivity of elevation sidelobes in both transmit and receive would have to be considered and the elevation angle between the antenna and the wind turbines calculated. However, this hypothesis was originally suggested by a representative of DSTL and represents the current combined opinion of those AWC and DSTL staff participating in thisTrial.

AMTI AND DOPPLER NOTCH

4. The T101 employs Adaptive Moving Target Indication (AMTI) techniques. The AMTI processing assesses the background Doppler returns being received in each of its range cells and sets a velocity for which returns are 'notched out'. The tip speed of the turbines at the P&L wind farm during the Trial was of the order of 100 ms^{-1} (approximately 200 kts). It is possible that aircraft detected in the same AMTI range cell as a rotating turbine may fall into the AMTI Doppler notch and be discarded. All aircraft participating in this Trial maintained a ground speed of approximately 200 kts or less. It is, therefore, possible that some returns may have been lost due to the presence of an AMTI Doppler notch. However, this is unlikely to have been the cause of the observed obscuration for the following reasons:

a. The vast majority of the sorties during which overhead obscuration was observed at high level were flown in accordance with Serial 3, as detailed at Annex A. This serial places the aircraft at an almost perfect tangent to the radar beam, thus giving near zero Doppler shift.

b. The Hawk T Mk 1A and Tucano T Mk 1 aircraft were obscured when over-flying the wind turbines but the Dominie T Mk 1A aircraft was not, despite flying the same profile at a very similar ground speed. The only significant difference was ac type (and thus RCS) not ac velocity, making clutter suppression due to elevation sidelobe sensitivity a more likely explanation than AMTI Doppler notch. However, the velocity of the 3 aircraft types was not identical and so the impact of an AMTI Doppler notch cannot be ruled out without further investigation.

Overall, we do not believe a Doppler notch resulting from AMTI processing to be the likely cause of overhead obscuration but it is impossible to rule it out completely based on the information available at this time.

WEATHER CLUTTER

5. It has been suggested by DEI&IS that the overhead obscuration may have been the result of the impact of weather clutter over the ridge on which the wind turbines were located. The majority of the Trial was conducted with light cloud cover in low level layers over the turbine farm. There is no body of evidence available to state exactly how a T101 radar would process returns in the weather clutter experienced during the Trial. Therefore, there is insufficient evidence to rule out this possible explanation.

ANNEX E TO
AWC/WAD/72/652/TRIALS
DATED 6 JAN 05

MITIGATION OF SHADOW REGION BEHIND WIND TURBINE FARMS

1. Dimensions of Shadow Region. The shadow region behind a wind turbine farm within which primary radar contact is masked by interference with the propagation of the radar beam is believed to be defined by a straightforward geometric relationship between the radar and the wind turbine farm, as indicated below:

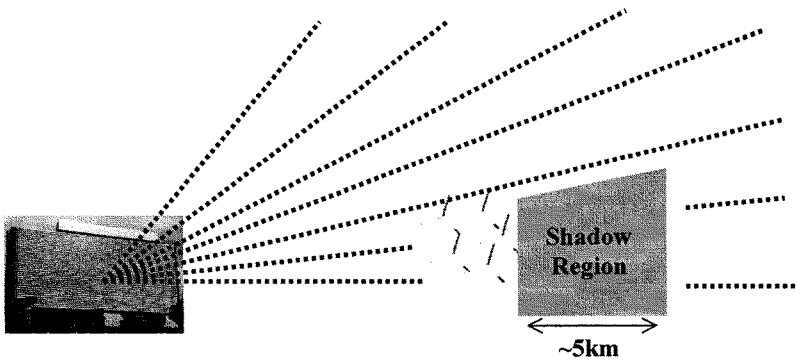

Figure 5 - Shadow Region behind Wind Turbine Farm

If we consider the extreme case where the entire vertical coverage of an individual radar beam (qv Annex D, Figure 4) is obscured when any part of that beam has direct LoS to the wind turbines (in radar beam main lobe) then we can easily calculate the vertical extent of the shadow. The centre of beam one, the lowest beam on the T101, is at an elevation of approximately 0.5° and the centre of beam 2 is at aproximately 2°, beam width for both is less than 3°. Therefore, at 35 nm (the radar to turbine range observed during Stage 2 of this Trial) the top of beam one is at approximately 2000 ft and the top of beam 2 is at approximately 8000 ft. Definition of the lateral bounds, including depth, of the shadow region is less simple. Shadowing has thus far been observed to occur only to a depth of approximately 5 km, when assessed using a wind turbine farm approximately 5-7 turbines deep. It is not known whether a deeper deployment of turbines relative to the radar head would significantly effect the propagation of the radar beam.

2. Overlapping Radar Cover. In those instances where more than one AD radar, or alternative radar source available to ASACS, have LoS to the same wind turbine farm from different directions there will be a reduction in the composite shadow region resulting from a combination of their data. Provided 2 radars are greater than 90° apart in terms of radials from the wind turbine there should be no composite shadow region, the effect would have been fully mitigated. However, the overhead obscuration would always remain.

3. Size and Location of Wind Turbine Farms. When considering applications for wind turbine developments it is necessary to assume that an approximately semi-circular shadow

region will exist behind the development relative to any radar with line of sight. The lateral bounds of the shadow are directly related to the size of the development; the factors determining the depth of the shadow are unknown. It is expected that small, low density developments would have a proportionally lesser impact. The operational impact of these shadow regions can only be assessed on a case by case basis and with due heed to the cumulative effect of large numbers of turbines or multiple farms in close proximity.

4. Detection Outside Shadow. Conventional AD operations would allow for detection of threat aircraft at ranges well beyond the relatively limited shadow region behind a wind turbine farm. In these specific instances, the effect would be mitigated by early detection. However, thet events of 9/11 in the USA have highlighted the significant potential for a threat to emerge overland. It is therefore possible to use long-range detection as a mitigation for the shadow region only in certain scenarios.

ANNEX F TO
AWC/WAD/72/652/TRIALS
DATED 6 JAN 05

POSSIBLE TECHNICAL SOLUTIONS TO OVERHEAD OBSCURATION[2]

1. Existing AD Radar. It appears that the overhead obscuration that was observed during the Trial was dependent on how the ratio of wind turbine farm RCS to tgt RCS (currently approximately 30-60 dB for aircraft with $1m^2$ RCS) compares with the ratio of main lobe to sidelobe sensitivity (20-25 dB for the T101 receive beam). The strong returns from the wind turbines appear to be influencing the clutter maps produced by the T101 processing system; further studies are required to prove this theory. Possible solutions to this problem based on existing AD radars take several forms, as follows:

a. Tgt RCS. Increasing the RCS of the tgt aircraft would increase the probability of detection against a high noise threshold, such as that found over a wind turbine farm. However, we have no control over the RCS of a tgt aircraft and no reason to believe that our current benchmark of 1 m^2 is unrealistic. Therefore, this is not a valid solution to the problem.

b. Radar Sidelobe Sensitivity. Advice received from DSTL suggests that the likely best performance of an elevation sidelobe in the receive beam of a current generation long range AD radar is a 30 dB reduction compared to the main lobe. Greater than 30 dB reduction in sidelobe sensitivity relative to the main lobe is expected to result in significant reduction of main lobe sensitivity. Given that the primary purpose of AD radars is long-range surveillance, any significant loss of main lobe sensitivity would be unacceptable. Therefore, reduced sidelobe sensitivity is not expected to offer a valid solution to the problem.

c. Turbine Installation RCS. Decreasing the RCS of the wind turbine installation would have a complementary effect to reducing tgt RCS. The net result would be to reduce the strength of the primary radar energy reflected into the elevation sidelobe and thus reduce the overall noise floor used by the clutter suppression circuitry of the radar. A reduction in the turbines RCS to approximately 20 dBm^2 would likely be sufficient to allow a 1 m^2 tgt to be detected. This represents a valid solution to the problem of overhead obscuration. However, reduction of the RCS of a large wind turbine farm would be technically complex.

d. Alternative Processing Methodology. The processing applied by the T101 used for this Trial allows beams 2-7 to exert equal influence on the 'aloft clutter map' (as distinct from the 'ground clutter map' based solely on beam 1). This clutter map is then used to determine the sensitivity thresholds for the various beams of the radar. It is likely that the first elevation side-lobe of beam 6 or beam 7 is the major contributing side-lobe return. However, the subsequent clutter map would still reduce the effective sensitivity of beams 2-7. Altering the way in which the clutter map thresholds are handled within the radar offers a significant potential for improvement. The scope for alterations to existing radar will necessarily be limited by legacy hardware and is likely to incur significant costs. The observations of this Trial could be used to inform the design of processing

[2] Representing the opinions of the Air C2 OEU but based partly on discussions with AMS and DSTL.

algorithms in future radar projects, particularly with regard to how the upper beams form their clutter maps and set their thresholds.

The solutions detailed above are predicated on the assumption that the overhead obscuration is a direct result of raised noise thresholds in the clutter suppression circuitry resulting from reflected energy detected in the elevation sidelobes. A full scientific analysis of what information the radar processor is receiving and how it is dealing with it would be necessary in order to support this theory. This analysis would require the employment of additional equipment attached to the various stages of the radar processing chain during another live flight trial.

2. Existing Alternative Ground Radars. Non-AD radars are already available to UK ASACS(both long-range search radars belonging to NATS and short-range RAF airfield radars (Watchman). These radars are 2-dimensional and employ different technological solutions to provide their plot information. At this stage it is anticipated that 2-dimensional radars will suffer a greater degree of overhead obscuration as the wind turbine farm will always be in the elevation main lobe; this is in contrast to the problems already observed with 3-dimensional AD radars when the wind turbines were in the elevation sidelobe, a considerably less sensitive (20-25 dB) part of the beam. A study into these radars' susceptibility to interference from wind turbines is already planned; this Trial will take place in Nov-Dec 04. There is currently no evidence to suggest that a fused picture of existing sensors offers a solution to the overhead obscuration problem observed during the AD radar Trial. However, a sufficiently comprehensive fused picture may address the issue of shadowing.

3. Alternative Technologies. Aside from modifications to existing systems, there are technological solutions that are worthy of consideration, these include:

a. Active Phased Array Radar. The Sampson Radar to be fitted on the RN's new Type 45 Destroyers uses active phased array transmitter technology. Active phased array antennas allow considerably enhanced control over beam forming and steering; control of sidelobes is therefore far more flexible than with existing passive phased array systems. Moreover, many active phase array radars already support the steering of nulls in the receive beam as an Electronic Protection Measure to counter jamming. Steering of nulls in the transmit beam is less common but is technologically feasible, particularly for static radar installations such as those employed by UK ASACS. However, current generation active phased array radars represent an expensive, and unproven, solution to this problem. Whilst active array technology should certainly be considered under future sensor procurement programmes it unlikely to offer a short term solution to the problems observed during this Trial.

b. Predictive and Multi-Sensor Trackers. There have been proposals to employ specialist tracking systems to overcome the impact of wind turbine farms on radar, most notable amongst these is the Advanced Digital Tracker (ADT) being offered by AMS, manufacturer of the T101 and T93 AD radars. The ADT offers the addition of plot extraction and tracking to any compatible radar, including the Watchman already in service with the RAF. However, AD radars already employ both plot extraction and advanced predictive tracking algorithms. The applicability of the ADT to AD radars is therefore questionable. Moreover, only the plot output from AD radars is transmitted to UCCS for use in compiling the Recognized Air Picture; SLR/SDO/1000/1, the format used between radars and UCCS is incapable of transmitting track data. UCCS already

incorporates an advanced multi-sensor predictive tracker. Finally, the most significant operational impact of wind turbine farms on AD radars was not assessed to be clutter or tracking anomalies. Overhead obscuration, followed by shadowing, were the most significant effects. The ADT does not address either issue. However, the ADT does offer some potential for the radar processing system to make a semi-intelligent assessment of returns from the vicinity of a wind turbine farm in order to distinguish clutter, including that induced by turbines, from aircraft. If such a system proved to be sufficiently robust then thresholds could be lowered and detection of aircraft over turbines improved. Further investigation of this option is required before a final recommendation can be made.

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PREPARED STATEMENT OF SHARON BUCCINO, SENIOR ATTORNEY, NATURAL RESOURCES DEFENSE COUNCIL

Good Morning. My name is Sharon Buccino. I am an attorney with the Public Lands program of the Natural Resources Defense Council. NRDC is a non-profit membership organization with over half a million members and activists across the nation. We work to protect the environment for the humans living in it. NRDC strives to protect nature in a way that advances the long-term welfare of present and future generations. I, like you, want to make energy permitting work better. I have had the privilege to work with ranchers, farmers, and homeowners across the West as energy development has come to their communities. Domestic energy production—the work of companies like Questar—is important. The permitting process is what allows this development to go forward in a way that identifies community concerns and addresses them. The permitting process is what gives citizens a voice in the government decisions that affect their daily lives.

EPA GIVES PEOPLE A VOICE

One statute that is central to energy project permitting is the National Environmental Policy Act, known as NEPA. NEPA was signed into law in 1970 by President Nixon. Since then it has served as a valuable tool to produce informed and accepted government decisions. NEPA has helped preserve some of America's most treasured places, from the canyon lands of Utah to the old growth forests of Southeast Alaska. It has helped citizens protect their communities and enhance the quality of their lives. NEPA has helped Federal officials better meet the needs and interests of the public they serve. As then Secretary of Energy James Watkins testified to Congress in 1992 regarding his decision to defer selection of a tritium production technology: "[T]hank God for NEPA because there were so many pressures to make a selection for a technology that might have been forced upon us and that would have been wrong for the country. . . . ."

NEPA has improved projects. One project that I participated in involved seismic exploration in the Nine Mile Canyon region of Utah. The State of Utah has described the area as "an outdoor museum." The Bureau of Land Management (BLM) describes the Nine Mile Canyon region as an area with "the greatest concentration of rock art sites in the U.S.A." The project involved the use of 60,000 pound trucks and explosives to collect data about oil and gas resources in sensitive, arid areas. As a result of the review process under NEPA and the National Historic Preservation Act, the company conducting the exploration—Bill Barrett Corporation of Denver—took additional steps to protect the natural and cultural resources in the area. The company agreed to additional monitoring and mitigation to make sure that the vibrations from their equipment would not harm the irreplaceable Native American rock art, kivas and cliff houses. They agreed to limit their activity in areas with wilderness qualities. The NEPA process was indispensable in helping Federal land managers perform their difficult job of balancing a variety of competing uses of the public lands. As BLM manager for the project, Mark Mackiewicz, said, "I can't imagine this project without a process like (this)." Kenworthy, Tom. "Oil Projects May Get Less Scrutiny," USA Today (May 4, 2005) (Attached as Exhibit 1).

The Cape Wind project is another good example. Wind energy can help diversify our energy supplies and increase our energy independence. It is a critical part of a sound energy future. Cape Wind and other offshore proposals for wind electricity generating facilities off the East Coast present an opportunity to boost significantly the amount of energy produced from renewable sources in the eastern U.S. Indeed, offshore wind power is probably the region's largest untapped renewable energy resource. Developing this resource is essential to help reduce local, regional and global air pollution that threatens public health, critical habitat, and the very sustainability of the planet. At the same time, offshore wind energy projects will utilize areas of the ocean that are held in common by citizens of the U.S., and, if improperly sited and designed, could pose risks to natural resources in biologically rich near shore waters. Renewable energy projects must not—and need—not undermine protection of coastal habitats and living marine resources. The review process is a critical tool for improving the project and reducing opposition by identifying the concerns of those affected by it and addressing them.

In addition, NEPA gives state and local governments a voice in Federal decisions that affect their communities. One of California's most valuable resources is its coast. Ever since 1969, when a Federal well released huge amounts of crude oil into the Pacific Ocean off of Santa Barbara, citizens and local elected officials have joined together to protect the coast from offshore oil drilling. In 1987, after its new 5-year OCS plan went into effect, the Interior Department scheduled its first new sale—Lease Sale Number 91—involving over a million acres off the coast of north-

ern California. Pursuant to NEPA, the Interior Department held hearings in two coastal communities. Congressional representatives, state senators and assemblymen, and the state attorney general all expressed opposition to the proposal as did Democratic candidates in the upcoming June 1988 Presidential primary. More than a thousand citizens spoke on behalf of their coastline at these hearings, which made headlines across the country. Following the hearings and a mere 2 days before the primary, the Republican candidate for president George H.W. Bush announced that he favored postponing the sale until it could be re-evaluated. On June 26, 1990, then-President Bush canceled the lease sale (along with another CA lease sale and a Florida sale) and announced he would delay drilling off the Pacific coast (as well as southwest Florida and Georges Bank in New England) for 10 years.

More recently, NEPA has continued to help protect California's coast from drilling. In 1999, the Clinton administration proposed to extend the terms of 36 undeveloped oil and gas leases along the central California coast, off Santa Barbara County— another coastal region of great ecological sensitivity. The Interior Department refused to conduct any NEPA analysis on the lease extensions, denying the state as well as the general public any opportunity to provide input into whether the leases, all of which were at least 20 years old, should be extended or allowed to expire. In another demonstration of the broad-based commitment to coastal protection in California, the state, joined by NRDC and other environmentalists, successfully challenged the Federal Government's actions. NEPA gave local communities a way to speak up for their quality of life and their local economies.

If Members listen closely to their constituents, they will find that many, from city council members to homeowners, care deeply about NEPA. They care about having a say when a highway is proposed through their neighborhood or when the Department of Energy plans to store hazardous waste nearby. As the Seattle Post-Intelligencer reported following the recent April 23 hearing in Spokane, WA, held by the newly formed House of Representatives NEPA Task Force, "The biggest applause came when John Roskelley, a well-known mountaineer and former Spokane County commissioner, called himself an unabashed supporter of NEPA and added that explorers Lewis and Clark would 'embrace and strengthen NEPA' if they were alive today." For information on the House NEPA Task Force, see *http://resourcescommittee.house.gov/nepataskforce.htm.*

CONGRESS SHOULD WORK TO ENHANCE THE PUBLIC'S VOICE, NOT SILENCE IT

Yes, we can do better. We can make the energy permitting process more efficient and effective. Better means improving public involvement, not curtailing it. It means doing more thorough analysis of cumulative and regional impacts, not less. It means doing more monitoring and data collection, not less. It means giving Federal land managers the resources to complete environmental reviews and engage the public in a timely manner, rather than imposing mandatory deadlines.

Several provisions in the energy bill now under consideration by Congress move in the wrong direction. For example, Section 2055 of H.R. 6 as passed the House aims to eliminate the NEPA process, rather than improve it. The provision, promoted by Rep. Peterson (R-PA), provides that numerous oil and gas activities on public lands "shall not be subject to review" under NEPA. The provision includes well pads less than 5 acres in size, increasing the number of wells in an existing field, disposal of water from coalbed methane drilling and seismic exploration. The provision's scope is sweeping. BLM has approved over 30,000 new wells in Montana and Wyoming's Powder River Basin alone. As one BLM official noted, "Most of our drill pads are less than 5 acres. Our average is less than 3 acres." "Oil Projects May Get Less Scrutiny," USA Today (May 4, 2005). The provision could affect offshore exploration, as well as onshore. Instead of using the NEPA process to identify and address public concerns and potential adverse impacts on their health, lifestyles, and communities, proponents of the provision excuse the government and industry from listening.

Another provision of H.R. 6 targets projects relying on renewable resources. Section 1702 limits alternatives, a critical element of NEPA. Public comment is limited to the preferred alternative, often the project version as put forward by company seeking the permit and a "no-action" alternative. Creative win-win solutions are foreclosed. The provision could exempt solid waste incinerators and dams from meaningful environmental review. The public deserves a meaningful voice in all energy projects whether using renewable resources or not.

In addition, Title V of H.R. 6 could remove the application of Federal laws, such as NEPA and the National Historic Preservation Act, from energy development decisions on tribal lands. The bill affects land both on and off reservation. It provides that once the Secretary of the Interior approves a tribal energy resource agreement

providing a process for making energy development decisions, individual energy projects would proceed without Federal approval. Since no Federal action would occur, the existing guarantees of environmental review and public participation under NEPA would be lost. Concerned tribal community members and communities adjacent to the project would lose the mechanism that they have now to make their voices heard.

Another piece of H.R. 6 (Sec. 2028) requires the Interior Secretary to approve applications for permits to drill within as little as 10 days of completion, restricting the ability of Federal land managers to provide the environmental review and public participation required by NEPA. Finally, Sections 1808 and 2014 would allow oil and gas companies to conduct their own NEPA analysis of proposed projects—and reimburse the companies for doing so. The bill offers no criteria to ensure that analyses would be unbiased and objective. Rather than viewing NEPA as a useful tool, proponents of these provisions see NEPA as an obstacle to drilling more public lands as quickly as possible. Our public lands can help meet our energy needs and almost 90 percent of them in the Rocky Mountain West are open for development. NEPA is the way to ensure that this development is done right.

I urge Members of the Committee to work to keep energy legislation clean of provisions that compromise environmental protections and public participation. In addition to the provisions limiting the application of NEPA described above, provisions in H.R. 6 that roll back important environmental protections include efforts to:

- Weaken the Safe Drinking Water Act by prohibiting hydraulic fracturing fluids from being considered pollutants of drinking water. (H.R. 6, Sec. 327)
- Undermine the Clean Water Act by exempting from the "stormwater" requirements all oil and gas construction activities, including construction of roads, drill pads, pipeline corridors, refineries, compressor stations, sweetening plants, etc. (H.R. 6, Sec. 328)
- Take authority for health and safety reviews of new oil refineries away from the state and local officials who are closest to the needs of their communities away, also, from the Environmental Protection Agency experts in public health and hand that authority over to the Energy Department, whose primary concern with refineries is that they maximize output. (H.R. 6, Secs. 371–79)
- Allow more smog pollution for longer than the current Clean Air Act authorizes. Under the existing Act, areas that have unhealthy air are required to reduce ozone-forming smog pollution by strict statutory deadlines. If these areas fail to meet these deadlines, they are given more time to clean up, but must adopt more rigorous air pollution controls. The bill attempts to allow polluted areas to have more time to cleanup but without having to implement stronger air pollution controls, placing a significant burden on states and communities down-wind of the urban areas subject to this provision. (H.R. 6, Sec. 1443)
- Mandate that the Interior Secretary provide compensation to Federal lessees in instances where the lessee claims that he or she is not being allowed to either explore for or develop a Federal lease ". . . in the lawful manner requested by the lessee . . . ", if the government has failed to act on a drilling permit application within a certain period of time. Leases relinquished under this provision are available for future sale, and can be re-purchased by the former lessee. (H.R. 6, Sec. 2054)

Most of these provisions appear to have been left out of the energy bill being considered by the Senate Energy and Natural Resources Committee. I urge you to fight to keep these provisions out of the final legislation and help ensure that energy development moves forward in a way that identifies and addresses its adverse impacts.

WE CAN INCREASE DOMESTIC ENERGY PRODUCTION WITHOUT WEAKENING ENVIRONMENTAL PROTECTIONS

Energy exploration and drilling is already skyrocketing in the Rocky Mountain West. Numerous leases and drilling permits are going unused. Nearly 73 percent of the total acreage under BLM oil and gas leases is not in production. In the Rockies alone, BLM data reveal that, while more than 34 million acres have been leased to industry, only 11 million acres—32 percent—are in production. BLM has been issuing record numbers of drilling permits. The BLM approved 6,130 permits in FY04, up from 3,802 permits in the previous fiscal year. Many of these permits remain unused. In the Rockies, BLM data show that 2,489 new wells were drilled in FY04, leaving over 3,000 approved permits in the region unused.

One reason for the unused permits may be the limited availability of drill rigs. Industry has exhausted available drilling equipment in North America. Harden, Blaine, "Gas-Drilling Permits in Rockies Outstrip Ability to Tap Resource," Wash-

ington Post (April 28, 2005). There is also an acute shortage of gas-field workers. Charlie Ware, who directs an industry-sponsored school to train field workers in Wyoming, reported that energy companies have "told us that they need 1,000 new workers a year for the next 5 years to drill the leases that are out there right now." Id. These numbers demonstrate that, contrary to industry complaints, permitting is not blocking access to oil and gas on public lands.

Environmental review and public participation may cost money, but it is a necessary cost of doing business on public lands. Energy company profits are doing just fine. In the last quarter, Exxon Mobil's profits were up 44 percent, to $7.86 billion, from the corresponding quarter a year ago. Blum, Justin, "Oil Majors' 1st-Quarter Earnings Shoot Up," Washington Post (April 29, 2005). Other oil companies' profits are surging as well. "There's an embarrassment of riches now that is unavoidable," said Lawrence J. Goldstein, president of the New York-based Petroleum Industry Research Foundation, Inc. Id. At its annual meeting on May 17, 2005, Questar reported that its shareholders had realized a 141 percent gain since 2002. As industry itself has said, we can increase domestic energy production and protect the environment at the same time. NEPA is the way to do that.

CONCLUSION

Limiting public involvement and weakening environmental review will not avoid controversy or improve projects. Using NEPA to address a project's negative impacts on surface owners and communities will do both. At a time when increasing demands are being made on our public lands and our shrinking open space, NEPA is needed now more than ever. I remain inspired by the positive vision at the heart of NEPA—it is a future where man and nature can exist in productive harmony. It is a future where our valuable public lands serve diverse interests. I hope that this is a vision that you all share and will fight for as well.

USA TODAY

USA TODAY · WEDNESDAY, MAY 4, 2005 · 3A

Oil projects may get less scrutiny

Energy bill would exempt some from impact studies and public comment

By Tom Kenworthy
USA TODAY

PRICE, Utah — When a Denver-based energy company proposed to explore and drill for natural gas in an area rich with ancient Indian art panels, the plan kicked off a rigorous environmental review.

The company, Bill Barrett Corp., spent two years and $1 million to comply with the federal law that requires studying what the drilling would do to the environment. The 1969 environmental law also requires consultations with government agencies, Indian tribes and residents before drilling and exploring can begin.

The result: The federal Bureau of Land Management forced changes in the project to protect thousands of rock art and artifacts, as well as wildlife and streams.

"It slowed things down a little bit, so the (Bureau of Land Management) could do it right," says Pam Miller of the College of Eastern Utah's Prehistoric Museum.

But in the future, companies like Barrett that produce oil and gas in the Rocky Mountain West may not have to undergo that kind of environmental analysis.

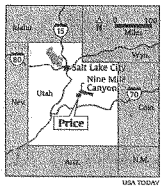
A section of the energy bill approved by the House of Representatives last month would exempt many federal energy projects from the 1969 National Environmental Policy Act.

If the Senate passes the bill and the president signs it into law, many oil-and-gas projects will no longer be analyzed for their environmental effects or be open to public comment. Some examples:

- Oil and gas wells that disturb less than 5 acres of land. Kermit Witherbee of the Bureau of Land Management says, "Most of our drill pads are less than 5 acres. Our average is less than 3 acres."

As of January, there were more than 63,000 oil and gas wells on federal land, and the Bush administration is accelerating approval for new ones. The energy bill, if it becomes law, will apply to new projects.

- Most seismic explorations, which use sound waves generated by trucks or small underground explosions to find likely pockets of gas and oil.
- New wells added to existing fields that were previously analyzed — a common practice that can double or triple the number of wells in an area.



USA TODAY

The bill also would mean no environmental studies of water discharged from wells that coax methane gas from coal seams. These coal bed methane wells often bring large amounts of salty water to the surface, which can damage plants and pastures.

Coal bed methane, a form of natural gas used for heating homes and generating electricity, is rapidly growing in the West, with about 51,000 wells proposed just in one corner of Wyoming.

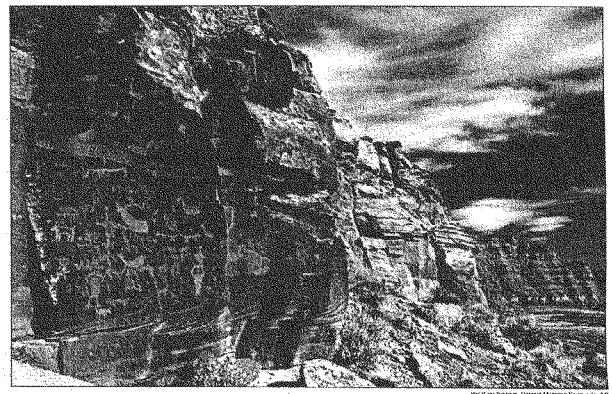
The change in the environmental law would be welcomed by the energy industry, which has long complained about meeting federal regulations while seeking to increase production of gas and oil.

The legislation "could prove to be a real benefit," Barrett Vice President Duane Zavadil says. He estimates "if not a majority, near a majority" of the company's projects would come under the environment exemptions in the energy bill.

But environmental groups say the legislation would open a loophole that would lead to abuses of public land.

"This is swinging the gate wide open. . . . The scope of what it is going to affect is enormous," says Steve Bloch, an attorney with the Southern Utah Wilderness Alliance, a conservation group based in Salt Lake City.

"What you lose . . . is the process of addressing potential impacts and the process of letting the public have a voice in what happens," says Sharon Buccino, an attorney with the Natural Resources Defense Council in Washington.


By Kay Bonen, Deseret Morning News, via AP

Rock art: Parts of eastern Utah's Nine Mile Canyon are decorated with ancient Indian artwork like that seen here.

Just how big the impact would be is uncertain. The Bureau of Land Management, the agency that oversees energy development on federal lands, has made no assessment yet.

"We haven't done a specific inventory," says Witherbee, a senior minerals official in the bureau's Washington headquarters. He says the agency must still comply with other environmental laws, so "it isn't going to have a huge effect."

U.S. Rep. John Peterson, a Pennsylvania Republican who wrote the part of the energy bill allowing the exemptions, says the looser environmental requirement would spur energy production without harming the environment. Reviews under the National Environmental Policy Act often duplicate other studies, he says.

Peterson says the environmental law, passed during the Nixon presidency, is frequently "used to delay projects."

Here in eastern Utah, the law led to changes in the way Barrett drilled and explored for gas — and stronger protections for archaeological sites. "I think there's very little doubt the project would have been different," without the law's requirements, Bloch says.

The project Barrett proposed in 2002 involved land around Nine Mile Canyon, which is actually 40 miles long and includes thousands of Native American artworks carved into rock walls and artifacts. Many sites were used by the Fremont Indians and date back 1,000 years. There are also cabins and other structures built by the Buffalo Soldiers, the 19th-century African-American cavalry who helped explore the West.

Nine Mile Canyon was named last year by the National Trust for Historic Preservation as one of the nation's 11 most endangered places.

As a result of the environmental law, federal land managers ordered changes to the Barrett proposal:

- Gas wells planned for the canyon bottom were eliminated.
- Crews conducting the seismic work had training to avoid archaeological sites.
- Archaeological consultants conducted more surveys covering a larger area.
- Landscape architects were hired to help supervise the upgrading of a gas pipeline within the canyon.
- Extensive consultations were held by the Bureau of Land Management with Indian tribes and other agencies, including the U.S. Fish and Wildlife Service and the Environmental Protection Agency, to gauge environmental threats.

With "so many resources out there," says Mark Mackiewicz, who supervised the project for the Bureau of Land Management, "I can't imagine this project without a process like (this)."

Nelson Consulting Inc.

Taking a seismic "picture": Trucks in Nile Mile Canyon prepare to conduct seismic tests to look for underground fossil-fuel formations.

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STATEMENT OF RONALD E. HOGAN, GENERAL MANAGER, QUESTAR EXPLORATION AND PRODUCTION COMPANY

Good morning. I want to thank you for this opportunity to discuss what I believe is one of the nation's most pressing issues, specifically, what the domestic oil and gas industry is doing to meet our nation's growing energy needs and some of the challenges we as an industry face in meeting those needs in a safe and environmentally responsible manner.

My name is Ron Hogan, General Manager for the Pinedale, Wyoming Division of Questar Market Resources a subsidiary of Salt Lake City-Based Questar Corporation, a $5.7 billion natural gas-focused energy company. I am an engineer by training, have worked with Questar for 17 years and have supported the Pinedale project for 5 years.

Questar is an independent energy producer committed to responsible development of natural gas throughout the Rocky Mountain West and in other producing basins in the country. This year Questar affiliates will safely produce more than 150 billion cubic feet equivalent net of natural gas and liquids and provide reliable, domestic energy in the form of natural gas to more than 800,000 customers in Utah, Wyoming and Idaho.

I'm here today to share a personal account of the significant effort Questar is expending to develop natural gas reserves at one of the largest and most important natural gas fields in the Lower-48—the Pinedale field in western Wyoming. Specifically, I'd like to describe our efforts to obtain permission to modify our operations in order to reduce our environmental impact to levels substantially below existing regulations, while increasing worker safety and stabilizing our contribution to the local economy.

Before I proceed, I'd again like to thank this committee for hosting this forum. The abundant and reliable domestic energy resources our country enjoys are clearly very important to our economy and our national security.

Our approach to the project, including some of the special technology and innovative solutions I'll describe shortly, may or may not be applicable to other oil and gas development projects, but perhaps our experience can help this committee understand the challenges facing the domestic oil and gas industry in today's complex regulatory environment.

PINEDALE OVERVIEW AND PREVIOUS OPERATING CONDITIONS

Pinedale is a small, dynamic community in Sublette County, Wyoming with a population under 2,000. Located about an hour south of Jackson Hole in the upper Green River Basin, Pinedale is known for its rich outdoor recreational opportunities, stunning natural beauty and western hospitality.

Recently, Pinedale and the surrounding area has become known as much for what's beneath the ground as for what's on the surface. According to current estimates, there are over twenty trillion cubic feet of recoverable natural gas in the Pinedale anticline, which is about one year's supply of natural gas for the entire country. In fact, natural gas from this subsurface geological feature currently provides more than two percent of the nation's entire natural gas supply, a figure that will increase in future years as the field is developed. It's also useful to note that there is sufficient clean natural gas in this country to meet our energy needs for generations to come. The only question is whether or not we have the determination and will to recover it in an environmentally responsible way.

Questar knows Wyoming and Pinedale well. We've been exploring for, producing, transporting and distributing natural gas in the State for more than 80 years and drilled our first well in Pinedale in 1963.

Early wells at Pinedale were pretty anemic. We knew there was lots of gas in the ground, but we couldn't figure out how to get it out. Technological advances in the early nineties allowed economic recovery of gas from so-called "tight gas sand" reservoirs, spawning a dramatic increase in development of unconventional natural gas accumulations that were previously deemed uneconomic. By 1997, we began to realize Pinedale's true potential, but since most of our leasehold there was on Federal land the environmental impact of our activity needed to be throughly evaluated before we could begin full-scale development.

In July 2000, the Pinedale field office of the Bureau of Land Management published an environmental impact statement and a record of decision that outlined the guidelines and restrictions for oil and gas exploration and development on the Pinedale anticline. This record of decision was the result of a comprehensive process under the national Environmental Policy Act that included signficant public involvement. Questar participated in this process and, even though our leases date back to the early 1950s and were not issued with any restrictions or stipulations, we

agreed to develop our Pinedale acreage in a manner consistent with the established restrictions.

Among the many guidelines imposed by the record of decision was a restriction that prohibited drilling operations during winter months to minimize possible disruption to wintering deer herds, other wildlife and their habitat.

To meet these restrictions, Questar was forced into a condensed, summer-only drilling and construction schedule. This required us to operate as many as fifteen drilling rigs at once to drill only twenty-five wells during the summer season. Under these restrictions, we projected it would take nearly two decades just to fully develop the gas reserves available on our acreage, thereby significantly delaying the delivery of a much needed gas supply to our customers.

While operating within these restrictions, we witnessed some of the unintended consequences of the summer-only drilling and construction schedule.

For instance, the shortened season made it unfeasible and cost-prohibitive to apply available disturbance-limiting technologies like directionally drilling multiple wells from a single well pad.

Also, it was difficult for us and our contractors to hire, train and retain quality employees due to the seasonal, part time nature of the work. This, in turn, created an annual boom-and-bust economic impact on the local economy as employees and contractors flooded the area in the summer during the height of the tourism season and disappeared in the winter months when local businesses could most use the revenue.

Perhaps most importantly, winter restrictions made better environmental mitigation measures economically unattractive or, in many cases, physically unattainable. For instance, the seasonal activity required us to use more well pads to quickly drill vertical wells, thereby creating more surface disturbance over a longer period of time and making it difficult to manage impact on wildlife and habitat.

We did not feel these unintended consequences were the goal of the Bureau of Land Management's record of decision. Therefore, Questar voluntarily offered to the BLM to engage in a multi-year, multi-million dollar effort to explore ways that we could:

—Leverage the benefits of new technology;
—Minimize environmental impacts;
—Enhance the safety of operations;
—Stabilize impact on the local economy; and,
—Meet or exceed the established goals for protection of local wildlife and habitat.

RATIONALE FOR YEAR ROUND OPERATIONS

The first step in our effort was to submit a request to the BLM for a permit to operate one drilling rig during the winter of 2002–2003. This very limited, one-year request would allow us to gain valuable scientific data and technical insight into whether a year round development approach could help avoid the unintended consequences of summer-only restrictions.

In addition, we also voluntarily agreed to fund a study that would help determine the real impact, if any, of natural gas development on wintering deer populations. Since there was virtually no scientific data available, this study independently conducted by biologists from the University of Wyoming and Wyoming Game and Fish would provide information wildlife managers needed to make science-based decisions in the future. Furthermore, the data gathered might open up new options for beneficial wildlife and habitat mitigation programs.

Our request for an exception to the winter drilling restrictions was approved by the BLM for the winter of 2002–2003, as was a similar request for a one rig, one winter exception for 2003–2004.

On April 15, 2004, we formally submitted a comprehensive proposal for long-term year round operations, with certain restrictions, on Questar's acreage. This proposal was based on thorough internal analysis, a track record in the field from two winter seasons and newly available scientific data.

BENEFITS OF YEAR ROUND OPERATIONS

I want to provide some quick highlights of our proposal so you can get an idea of the scope of our request.

—First, we proposed investing more than $200 million in directional drilling—that's $200 million more than would typically be invested to develop this resource. This directional drilling technology, common in offshore development, allows us to reach multiple underground locations from a single pad, thereby greatly minimizing surface disturbances and associated environmental impact. The benefits of directional drilling can only be realized by conducting drilling operations year round. Re-

moving rigs each winter and reoccupying the same location the following spring forces enlargement of the surface pads for safety and operational reasons, effectively eliminating any benefits achieved from this costly approach.

—Second, we proposed expanding both the scope and duration of the ongoing deer study. Information gathered during winter operations should provide wildlife biologists, government officials and industry with the scientific data necessary to help design energy development projects that minimize disruption to wildlife and habitats.

—Third, we proposed building a $25 million water and condensate pipeline system. These pipelines would gather and transport the produced water and condensate a liquid hydrocarbon very similar to gasoline that comes out of the ground with the natural gas off the winter habitat area. This pipeline system eliminates the need for transport of these products by tanker trucks which, in the absence of the pipeline, would have to visit the field year round, traveling through the middle of wildlife habitat and the local community. In fact, we estimate that at peak production from just our acreage, this system will eliminate more than 25,000 tanker truck visits in a single year. The result will be a significant reduction in traffic and air emissions from levels originally anticipated by the BLM.

—Fourth, we eliminated the need for flaring during our well completion operations. Flaring is used to clean up the production stream from new wells to remove the water and sand we use during the completion process. We figured out a way to trap all the water and sand in closed containers while sending the gas straight to the sales pipeline, thereby eliminating noise and likely additional local air quality impacts.

—Lastly, we invested in the little things essential for a safe and responsible operation. These included busing our contractor's employees during the winter months and trucking necessary materials in bulk to the rigs in the fall to decrease traffic in wintering wildlife areas.

In summary, our proposal included investments of more than $200 million in onsite mitigation and outlined an approach that was scientifically based and field-tested. These investments further minimize the environmental impacts of our development and offer substantial benefits over the restrictions imposed by the 2000 Pinedale record of decision.

NEIGHBOR-2-NEIGHBOR APPROACH TO PUBLIC INVOLVEMENT

To facilitate a thorough review and analysis of our proposal we worked closely with local BLM officials, biologists and experts from Wyoming Game and Fish and other elected and appointed officials. We received formal support of our proposal from Wyoming's Governor Dave Freudenthal, the Wyoming Game and Fish Department, U.S. Senator Craig Thomas, Wyoming State Representatives Monte Olsen and Stan Cooper, Pinedale Mayor Rose Skinner, as well as the Sublette County Commissioners, the North American Grouse Partnership and Trout Unlimited.

We also recognized that the Pinedale community needed to be involved in the decision-making process. In November of 2003, nearly 6 months before formally submitting our proposal to the Bureau of Land Management, we launched our "Neighbor-2-Neighbor" outreach program. This effort operated on a simple premise we would meet anytime, any where with anyone to discuss our plans, lay out the rationale of our proposal, listen to feedback, and work cooperatively to identify opportunities to make our proposal even better.

We also recognized that in order to establish trust and credibility, the people actually responsible for implementing the project needed to be actively involved and visible in the community.

By the time we formally submitted our proposal in April 2004, we hosted more than 150 discussions and met with more than 500 interested stakeholders. These meetings not only allowed us to share timely information, they also generated new ideas that were incorporated into our proposal. For instance, building the condensate and water pipelines and including flareless completions as part of our efforts were, in large part, due to input received from local community members.

We found this proactive approach, which went above and beyond mandated requirements for public involvement, allowed us opportunities to establish stakeholder relationships, correct any misperceptions that existed and educate everyone on how best to share their feedback with officials tasked with making the final decision.

CURRENT STATUS AND FINAL THOUGHTS

In November 2004, the Bureau of Land Management officially approved our request for site-specific, limited year round operations with six rigs drilling wells from three surface pads during the winter. With this approval, we are now working to

deliver the many benefits I described earlier, including: Reduced surface disturbance, reduced duration of drilling operations, reduced environmental impact, generation of beneficial scientific data, enhanced safety and stabilized impact on the local economy.

I am proud of Questar's Pinedale project. Our company has committed to invest over $200 million dollars to achieve benefits significantly above and beyond those required by existing regulations. Many of our employees, including myself, have spent thousands of hours and have stepped way outside normal roles and responsibilities.

But even with this commitment, our proposal is constantly at risk of not becoming a reality. We continue to get bogged down in a complex web of overlapping jurisdictions and a maze of regulatory requirements that many times simply defy logic. When you add to the equation those that take advantage of regulatory complexity to delay, litigate and obstruct any energy development project, at times it's tempting to give up. But we don't want to, because the benefits of successful implementation of this project are a win-win for the environment, the community, and the nation, which desperately needs the benefits of domestically developed clean natural gas.

On behalf of Questar's entire Pinedale project team and our neighbors in Wyoming, thank you again for this opportunity.

STATEMENT OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

This Testimony is submitted on behalf of the Independent Petroleum Association of America (IPAA). IPAA represents petroleum and natural gas producers, the segment of the industry that is affected the most by permitting delays associated with oil and natural gas exploration and production energy projects.

Before presenting specific information on energy permitting, it is important to understand the nature of domestic oil and natural gas exploration and production and the role of independent producers. Independent producers are companies that explore for and develop oil and natural gas. Typically, they only operate in these aspects of the petroleum and natural gas industries. There are approximately 7000 independent producers who are predominately small businesses employing an average of 12 employees each. However, they drill approximately 90 percent of the nation's oil and gas wells.

Domestic petroleum and natural gas production has changed over the years, particularly since the mid-1980s. Maturing production areas in the Lower-48 states and the need to respond to shareholder expectations have resulted in major integrated petroleum companies shifting their exploration and production focus toward the offshore in the U.S. and into foreign countries. More and more, these large companies must rely on large producing fields that are found only in frontier areas. Consequently, the role of independents is increasing in both the Lower-48 states and in the near offshore areas. For example, the independents' share of Lower-48 states petroleum production has increased from 45 percent in the mid-1980s to over 60 percent by 1995—and these states, despite their mature fields, still account for 60 percent of domestic oil production. Similarly, independent producers account for 85 percent of overall domestic natural gas production. These trends will continue. The nation will need a strong independent exploration and production industry to meet it future needs.

IPAA supports efforts by the Committee on Environment and Public Works to review the permitting process for energy projects. Specifically, it is important to recognize that the permitting process on Federal lands is a mosaic of regulatory programs that require critical coordination between different Federal agencies and in many cases involve different laws that task these agencies with different agendas. These competing agendas need to be coordinated if the Nation is to meet its energy objectives. Overlaying all of these individual laws is the National Environmental Policy Act (NEPA) that sets vague requirements for the consideration of environmental issues within the Federal permitting process. One key objective of NEPA is the task of assuring adequate stakeholder participation in the Federal decisionmaking process. This is an important and essential objective. However, because the NEPA process has largely been defined by Executive Orders, rulemakings, and judicial decisions, it has become an unwieldy and uncertain process. Moreover, it is essential that Congress reiterate that its purpose is to assure stakeholder participation not the prevention of decisions.

In this context IPAA is concerned about several comments included in the testimony by the Natural Resources Defense Council (NRDC) that mischaracterizes several provisions in the House passed Energy Policy Act of 2005 (H.R. 6).

For example, NRDC states:

> Section 2055 of H.R. 6 as passed the House aims to eliminate the NEPA process, rather than improve it. The provision, promoted by Rep. Peterson (R-PA), provides that numerous oil and gas activities on public lands "shall not be subject to review" under NEPA. The provision includes well pads less than 5 acres in size, increasing the number of wells in an existing field, disposal of water from coalbed methane drilling and seismic exploration. The provision's scope is sweeping. BLM has approved over 30,000 new wells in Montana and Wyoming's Powder River Basin alone. As one BLM official noted, "Most of our drill pads are less than 5 acres. Our average is less than 3 acres."

IPAA believes that this section actually limits NEPA only for seven specific situations all but one of which have already been through the NEPA process. The one exception would be water discharged through an NPDES permit, an action that requires its own permit review process. In the other cases there would be at least one, if not two, NEPA analyses conducted. For example, in the 5 acre case, the Resource Management Plan (RMP) for the area would have been done under NEPA. In most cases the leasing decision would be subjected to a second NEPA review. Later, in its testimony, NRDC refers to the issuance of over 6000 Applications for Permits to Drill (APDs) in 2004. Implicitly, NRDC argues that each of these should have still one more NEPA review. Once (RMP) should be enough; two (leasing) becomes overkill; three (APD) is clearly an effort to delay. This type of effort to use NEPA to delay action goes well beyond the intent to assure that stakeholders' positions are understood by the Federal decisionmaker; it hopes to use the NEPA process to prevent action.

Further in its testimony, NRDC states:

> Another piece of H.R. 6 (Sec. 2028) requires the Interior Secretary to approve applications for permits to drill within as little as 10 days of completion, restricting the ability of Federal land managers to provide the environmental review and public participation required by NEPA.

This comment is actually pointed at Sec. 2027. What really happens is that BLM would have 10 days after an APD is submitted to tell the applicant if it is complete or not. If it is complete, the Bureau of Land Management (BLM) would have 30 days to issue or defer issuance if additional information (e.g., NEPA documents) is needed. If additional information is needed, it must be submitted in 2 years. When the additional information is submitted, BLM would have 10 days to issue the permit. Clearly, this section was drafted with the idea that NEPA had to be met to allow the APD action to take place.

NRDC goes on to state:

> Sections 1808 and 2014 would allow oil and gas companies to conduct their own NEPA analysis of proposed projects—and reimburse the companies for doing so. The bill offers no criteria to ensure that analyses would be unbiased and objective.

This comment misstates the issue. What has happened is that BLM has not had adequate funds to do all its NEPA documents. Instead, producers have had to pay for the NEPA documents to get their permits. The documents are done under BLM standards at BLM direction. Companies provide the money but do not control the process. Sec. 2014[1] would allow them to recover these costs through reduced royalties if the project is successful. In passing NEPA in 1970 Congress decided that NEPA documents were a Federal responsibility; however, to meet this responsibility there must be funds available to the agencies. Adequately funding BLM would eliminate the need for this provision.

NRDC concludes this paragraph with the following comment:

> Our public lands can help meet our energy needs and almost 90 percent of them in the Rocky Mountain West are open for development. NEPA is the way to ensure that this development is done right.

This statement reflects a common NRDC misstatement. It refers to a study conducted by the Department of Interior under the Energy Policy and Conservation Act. What this study really says is that about 12 percent of natural gas reserves underlie parks and wilderness areas. It then identifies that another 25 percent is constrained by stipulations at the leasing stage. It does not address stipulations at the permitting stage.

No one is suggesting the NEPA should not apply. The broader issue, however, is whether NEPA is being done right or being abused. As the Congress grapples with the need to balance effective stakeholder participation in the Federal decision-making process and the need to produce its national resources, it should look be-

[1] Section 1808 relates to geothermal operations, not oil and gas.

yond the broad objectives of NEPA. It needs to consider the application of NEPA in the real world of the Federal permitting process, in a world that puts conflicting mandates on the consenting and concurring agencies. It needs to grapple with this mosaic of laws and regulations and seek ways to improve the decisionmaking process. All the stakeholders need to be heard, but no stakeholder should be able to stop the process through manipulating it.

IPAA appreciates the opportunity to submit this testimony.

STATEMENT OF SUSAN NICKERSON, DIRECTOR, ALLIANCE TO PROTECT NANTUCKET SOUND

Senator Inhofe and members of the Committee, thank you for this opportunity to submit testimony to the Committee regarding the need for streamlining the siting and review process for power projects. Improving the efficiency and effectiveness of the procedures for reviewing energy projects is an important goal, which we support. However, the most efficacious way to streamline the review process in a manner that respects and protects the environment is by first requiring a thorough environmental analysis of the technology and a general siting assessment, so that agencies and developers of site-specific projects can rely on programmatic decisions and a general data base that eliminates sites that are unacceptable, sets standards to guide decisions and provides the basis for accelerating the review of individual projects. This approach is tried and true in energy project contexts such as offshore oil and gas and offshore wind, and it is essential in situations where Federal land and resources are to be used for the power projects involved. The Bureau of Land Management fully understands the value in such an approach, and has effectively implemented it in the context of on-shore wind energy development.

Unfortunately, the lessons learned from these approaches have been lost on the U.S. Army Corps of Engineers, which is currently implementing an unstructured, ad hoc, highly controversial and contentious process in the context of offshore wind energy in New England. This issue is extremely important to Cape Codders, where we face a substantial threat by Cape Wind Associates (CWA), the private developer testifying here today, to develop a massive marine industrial facility in the middle of Nantucket Sound without adequate review or protections for the public trust.

Concerned citizens living on Cape Cod and the Islands established our organization, the Alliance to Protect Nantucket Sound (APNS), in 2002 to oppose development in the Sound and to fight for its long-term protection and conservation. Motivated by its desire to take advantage of the unique physical characteristics offered by Nantucket Sound that would allow it to maximize its profit margin, CWA has attempted to downplay or ignore the numerous other unique ecological, cultural, economic, historic, and scenic values those very same physical characteristics generate and support. CWA's proposed development will irreparably harm these very values, a fact which CWA has attempted to downplay, ignore or hide during the entire review process.

CWA has complained before you today that there is no end in sight to the review process it is undergoing, that its review has been thorough and extensive, and that the existing system allows project opponents to employ dilatory tactics. In fact, this is a problem largely of CWA's own creation. Its choice to develop the nation's first and the world's largest offshore wind energy plant in the middle of one of the nation's most prized marine ecosystems, through a process that virtually every other knowledgeable party agrees is inadequate, under the jurisdiction of an agency that itself admits to having insufficient expertise set it down a bumpy path of uncertain duration.

On November 21, 2001, knowing that Congress had not authorized the development of offshore wind, CWA nonetheless applied to the Corps for a permit to construct its wind energy power project on Horseshoe Shoal in Nantucket Sound. CWA attempted to locate its plant entirely within Federal waters, so that the Commonwealth of Massachusetts would have little control over the project, despite the incredible importance of the Sound to the Commonwealth's economy. Nantucket Sound has, in fact, been under consideration at various times for national marine sanctuary status, beginning in 1980 and remaining today on the list of candidate areas. The Commonwealth designated the surrounding state waters as a State marine sanctuary more than thirty years ago and prohibited therein the development of power plants and other structures that would alter or endanger the ecology or appearance of Nantucket Sound. Despite the obvious intent of the Commonwealth to protect Nantucket Sound, "[a]fter extensive analysis and long review of sites and conditions," CWA somehow identified the area as an ideal location for industrial development.

The primary vehicle for CWA's "thorough and extensive analysis" is an 1899 law administered by the Corps regulating impediments to navigation. This century-old law is the sole source of authorization CWA intends to obtain a massive proposed power facility, which would consist of 130 417-foot tall wind turbines laid out in a grid spanning 24-square miles of Federal waters. Nothing in the statute addresses energy development, and indeed, no statute or regulation at all relevant to using public lands or energy development appears to apply to the proposed project. The Federal Government has not authorized CWA to use the outer continental shelf (OCS) for its proposed development, and the Corps itself admits that it has no power to grant any entity a property right to use the OCS.

Rather than suspending review of the application, the Corps has been in the process of reviewing the project and conducting an environmental impact statement under the National Environmental Policy Act (NEPA).[1] From the outset of the NEPA process, the Corps has allowed CWA to dictate the review process, including determining the purpose and need for the project, the scope of the alternatives analysis, and the scope of the studies required. The consequences of allowing CWA to dictate the process were evident in the draft environmental impact statement (DEIS) generated by the Corps. In fact, contrary to CWA's testimony, most did not praise the depth and detail of the DEIS, but instead complained about the numerous deficiencies in the document. For example:

U.S. Environmental Protection Agency:

> "We do not believe that the DEIS provides enough information to fully characterize baseline environmental conditions, the substantial environmental impacts of the proposed project, and alternatives that avoid or minimize those impacts. Without this information we do not believe an adequate mitigation and monitoring plan can be developed, nor can a decision be made as to whether the project is environmentally acceptable or in the public interest."
>
> "[W]e recommend that the Corps prepare a supplemental DEIS."

U.S. Geological Survey:

> "In many cases 'conclusory statements' regarding environmental impacts of the proposed [CWA project] cannot be supported by the data collected and analyses done. While some sections appear to have been done reasonably well, others are not and in certain regards the DEIS is at best incomplete, and too often inaccurate."

U.S. Fish and Wildlife:

> "[W]e believe this DEIS is insufficient to provide the information necessary for the Corps to make a decision in the public interest.
>
> Based on our review, significant additional information needs to be developed to assess the impacts of the proposed action on resources under our jurisdiction and expertise, and to identify actions which will adequately address those effects. This may be best accomplished through a Draft Supplemental Environment Impact Statement for public review."

Cape Cod Commission:

> "The Commission Subcommittee has a variety of concerns about the analysis and methodology employed in reaching conclusions in the DEIS/DEIR. This results in many questions regarding the validity of the conclusions reached and the appropriateness of the study. The Commission Subcommittee concerns can be grouped into the following areas: Incomplete—Flawed Assumptions; Lack of independent assessment—lack of transparency; Balance of conclusions; and Lack of quantitative information."
>
> "[I]t is the recommendation of the Subcommittee that a SUPPLEMENTAL DEIS/DEIR be prepared . . ."

Attorney General Tom Reilly:

> "A similar point can be made about the sufficiency of the existing regulatory process. Proponents point to the lengthy environmental review process that is underway. But the length of the process cannot make up for the flaws that lie

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[1] Despite the lack of authorization, the Corps has explained its position as follows:

Our regulations specify that we do not get involved in property rights issues. It is the applicant's responsibility to ensure they have the necessary property rights. It is not our responsibility to tell them what property interests they need to acquire. So we did not spend any time researching that issue any further. Our regulations are clear that we do not address property rights issues. It may be that's an issue that needs to be addressed in the legislative branch of government. That if in fact there is a gap that the people perceive, that is something that the Congress will need to decide whether or not they want to address it.

Massachusetts Technology Collaborative Meeting, (Jan. 8, 2005).

at its core. The current process includes no prospective planning of where we—as a society—want to put our off-shore wind farms."

"In sum, the DEIS is an inadequate document, that resulted from a flawed process, that was based on an invalid understanding of the underlying law."

Massachusetts Division of Fisheries & Wildlife:

"The amount and design of the fieldwork conducted was insufficient to demonstrate avian use of the waters and airspace of Nantucket Sound, much less to evaluate risk."

"The analyses (e.g., passage rates, facility rates, radar work) as presented in the DEIS-DEIR are cursory, simplistic, and sometimes inaccurate. At times the calculation methodology is not transparent, and some calculations contain procedural/mathematical errors that generally result in (sometimes vast) underestimates of bird use in the area.

Massachusetts Audubon:

"Adequate information has not been provided on some key aspects of avian, bat, and marine impacts . . . Much of the data that is presented is characterized by insufficient or flawed analysis."

"Additional information should be provided and the public should be given the opportunity to review and comment on material through a Supplemental DEIS . . ."

The Humane Society of U.S.:

"Much more data and analysis than were provided in the DEIS/DEIR are necessary to determine whether Nantucket Sound is an appropriate location for one of the nation's first offshore wind farms. We believe that, at a minimum, a supplemental DEIS/DEIR is required."

Sierra Club Massachusetts Chapter:

"The Club believes that the Army Corps of Engineers has done a reasonable job in pursuing a rigorous and comprehensive process for a project area that lacks Federal and state guidelines. However, because of this lack of guidelines, the regulatory framework the Corps currently has available for siting and permitting offshore wind facilities is nowhere near a full-fledged and adequate process."

"The DEIS does not carry out a sufficient analysis of alternatives to the proposed project."

"The Cape Wind project should not be 'grandfathered' but be subject to the process as the process evolves . . ."

The review of CWA's proposed project is a model of agency mismanagement. It demonstrates the hazards of proceeding in an ad hoc manner, without an adequate regulatory regime in place, and without an overarching environmental review of the technology proposed for development. It is also precisely the approach one should take if a process fraught with controversy, delay, and confusion is sought. By allowing a project applicant to dictate the scope of review, the Corps has produced a document that undermines the public's faith in the Federal review process, will require substantial additional work to comply with NEPA, makes possible a decision that will have serious adverse environmental and economic consequences, and fundamentally hinders the development of an industry of substantial potential and importance to the nation.

What is required is, first and foremost, is authorization for the type of development involved. The approach currently considered for this purpose in H.R. 5, the House energy bill, is not adequate for this purpose because it fails to provide for adequate standards and includes special interest legislation that would accord favored treatment to the Cape Wind project itself. Second, to streamline the review process, it is critical that a programmatic review of the type of development involved be conducted before individual projects are considered. The advantages of this approach manifold. As Conservation Law Foundation has noted in the context of offshore LNG facilities on May 5, 2004, an "ad hoc approach has not been effective and will continue to founder. It has pitted New England communities against one another in wrestling with the merits and the risks of specific proposals." The most appropriate vehicle for such a review is "the development of a programmatic environmental impact statement" under the National Environmental Policy Act, which is used to evaluate "broad actions geographically (*e.g.*, by region) or generically (*e.g.*, common timing, impacts alternatives), and anticipates that connected, cumulative or similar actions should be evaluated in a single EIS." "CLF believes that undertaking a regional approach to LNG terminal siting represents an important opportunity to address this controversial issue in a strategic manner and propel consideration beyond the *current, site-specific, polarized siting debates.*"

BLM has reached the same conclusion with respect to onshore wind:

> The proposed Wind Energy Development Program policies would establish a comprehensive mechanism for ensuring that the impacts of wind energy development on BLM-lands would be kept to a minimum . . . These elements of the program, along with the proposed amendment of land use plans, would likely result in shorter time lines and reduced costs for wind energy projects, thereby facilitating development.
>
> In terms of facilitating wind energy development, implementation of the proposed action is expected is expected to minimize some of the delays that currently occur for wind energy development projects and reduce costs. In addition, the proposed program would ensure consistency in the way [right-of-way] application and grants for wind energy development are managed. These benefits would be realized as a result of the emphasis onsite-specific and species-specific concerns during the project-level environmental analyses, the amendment of numerous land use plans to address wind energy development, and the potential to tier future NEPA analyses off of this PEIS and decisions in the resultant [record of decision].

This approach is no less necessary with offshore wind energy development. With a structured regulatory regime and programmatic review comes certainty and efficiency. Both are needed to encourage development. The Cape Wind project might have come to symbolize the promise of offshore wind energy, but it has instead set back the development of offshore wind energy for years. This is because, as Cape Wind has testified to this Committee, it is trying to fast-track the review of its own project, to the detriment of the environment and the kind of programmatic review that would protect special places like Nantucket Sound while identifying the appropriate locations for such development and establishing the framework for expedited, efficient, site-specific decisionmaking. This Committee can help rectify this problem by ensuring that the development of natural resources for energy purposes proceed in a systematic, structured and efficient manner. The result is not to weaken or exempt projects like Cape Wind from our hallmark environmental laws, as they desire, but to return to the principles of Federal land and ocean management that have been developed over the decades, but are being ignored by the Corps and avoided in the offshore wind context. The Alliance pledges its support for establishing such a program.

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