

Verrill Dana_{LLP}

Attorneys at Law

JULIET T. BROWNE
jbrowne@verrilldana.com
Direct: 207-253-4608

ONE PORTLAND SQUARE
PORTLAND, MAINE 04112-0586
207-774-4000 • FAX 207-774-7499
www.verrilldana.com

May 24, 2010

By Hand Delivery

Marcia Spencer Famous
Maine Land Use Regulation Commission
22 State House Station
Augusta, ME 04333

Re: TransCanada Maine Wind Development, Inc.
Kibby Expansion Project - DP 4860

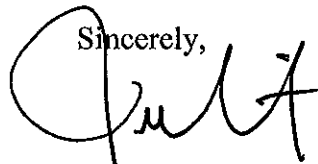
Dear Marcia:

In follow-up to specific issues raised during the public hearing, TransCanada is filing the material identified on the enclosed Index of Submissions in support of DP 4860. Three paper copies and twelve CDs are being provided to LURC staff. Due to the size of the files, we are unable to provide a complete electronic copy of the filing. We are, however, providing an electronic copy of the following: this cover letter; the Index to Submissions; the Post-Hearing Testimony of Mr. Bennett, Mr. Valleau and Ms. Vissering; and, the Summary of Residential Property Value Studies included as Tab D.1 in the Index to Submissions. A CD of the complete filing is being sent to the intervenors by overnight mail.

Also enclosed is the letter summarizing follow-up information hand delivered to you today by TRC. As noted in the TRC letter, that material is also being sent by overnight mail to each of the intervenors.

As always, if you have any questions, please do not hesitate to contact me. Thank you for consideration of this information.

Sincerely,



Juliet T. Browne

JTB/prf

cc: Samantha Horn-Olsen (Partial copy by e-mail)

May 24, 2010

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Catherine M. Carroll (Partial copy by e-mail)

Amy Mills (Partial copy by e-mail)

Bob Weingarten (Partial copy by e-mail and a CD by overnight mail)

Nancy O'Toole (Partial copy by e-mail and a CD by overnight mail)

Jenn Burns Gray (Partial copy by e-mail and a CD by overnight mail)

Nick Di domenico (Partial copy by e-mail)

Christine Cinnamon (Partial copy by e-mail)

Dana Valleau (Partial copy by e-mail)

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Chisholm, S. E., and M. L. Leonard. 2008. Effect of forest management on a rare habitat specialist, the Bicknell's Thrush (<i>Catharus bicknelli</i>). <i>Can. J. Zoology</i> 86:217-223.	1
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Goetz, J. E., K. P. McFarland, and C. C. Rimmer. 2003. Multiple paternity and multiple male feeders in Bicknell's Thrush. <i>Auk</i> 120:1044-1053.	3
Lambert, J.D., K.P. McFarland, C.C. Rimmer, S.D. Faccio, and J.L. Atwood. 2005. A practical model of Bicknell's Thrush habitat in the northeastern United States. <i>Wilson Bulletin</i> 117:1-11.	4
Lambert, J. D., D. I. King, J. P. Buonaccorsi, and L. S. Prout. 2008. Decline of a New Hampshire Bicknell's Thrush Population, 1993 - 2003. <i>Northeastern Naturalist</i> 15: 607-618.	5

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Flagstaff Region Management Plan, Maine Department of Conservation Bureau
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PUC Comments on TransCanada Maine Wind Development Inc’s Petition for
Rulemaking to Add to the Windpower Expedited Permitting Area dated 4/16/10 **3**

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STATE OF MAINE
LAND USE REGULATION COMMISSION

IN THE MATTER OF DEVELOPMENT)	Post-Hearing Testimony of
APPLICATION DP 4860)	Terry Bennett on behalf of
TRANSCANADA MAINE WIND)	TransCanada
DEVELOPMENT, INC.)	

In response to questions raised during the public hearing held on May 12, 2010, Terry Bennett is submitting the following post-hearing testimony on behalf of TransCanada Maine Wind Development, Inc. (“TransCanada”).

During the public hearing, TransCanada was asked about its Tax Increment Financing (TIF) agreement with Franklin County for the Kibby Wind Power Project (“Kibby Project”) and, specifically, whether TransCanada’s estimates on the project’s financial benefits, including taxes, were accurate. On numerous occasions (see below) TransCanada expressed to the Commission the critical factors that could affect project costs and indeed project viability. In its application, which was filed in early 2007, TransCanada estimated that costs associated with the Kibby Project would be approximately \$270 million. Turbine costs - - at \$166 million - - represented more than 60% of the total project costs. Kibby Application Section 1.5.3.1 (detailing project costs) (attached as Exhibit A). While the value of the Kibby Project for tax purposes had not been determined at the time of filing (and still has not been finalized by Maine Revenue Service), based on the project cost estimate of \$270 million, TransCanada anticipated paying in excess of \$1 million per year in taxes. Kibby Application Section 9.2.6 (real property taxes and local benefits) (attached as Exhibit B).

As the Commission may recall, TransCanada was very concerned about the sequencing of several public hearings being scheduled by the Commission in the Summer and Fall of 2007,

and the adverse impact on project costs of permitting delays. As reflected in two separate filings with the Commission, TransCanada stated that the wind power industry was experiencing significant growth with attendant pressures on turbine availability and, at the same time, steel prices were rising rapidly. As such, permitting delays were adversely affecting equipment procurement and pricing as well as balance of plant construction costs on the Kibby Project. See June 13, 2007 Letter from J. Browne to Chairman Harvey at p. 2 (highlighted text) and August 30, 2007 Letter from J. Browne to Chairman Harvey at p. 2 (highlighted text) attached as Exhibit C.

Indeed, increased project costs due to timing of permit issuance, turbine supply, and rising construction costs drove total project costs for the Kibby Project from an initial estimate of \$270 million to well in excess of \$300 million. These cost increases were solidified after the Kibby Project was permitted and TransCanada finalized its wind turbine supply and other construction agreements. The substantial increase in project costs significantly impacted the economics of the Kibby Project - and increased its assessed value for property tax purposes. This led TransCanada to explore with Franklin County and the State the possibility of a mutually beneficial TIF. While the value of the TIF to the Kibby Project could obviously not fully compensate for the tens of millions of dollars in direct project cost increases, it could and has been used to offset the increase in the assessed value of the project and hence the project's higher than projected property tax payments. This was precisely the type of situation that the TIF program was designed for and why it received local and State support.

It is important to reiterate that even with the TIF in place, and taking into account the economic benefit that TransCanada and the County will realize under the associated credit enhancement agreement, TransCanada expects to pay in excess of \$1 million in property taxes

each year the Kibby Project is fully operational. This is because the assessed value for tax purposes is directly tied to the total project costs and therefore estimated taxes increase as project costs increase. Significantly, County investments made possible by the TIF will improve lives and further increase the tax base.

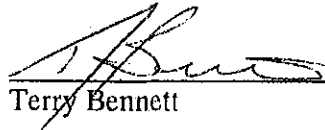
Finally, the Commission's desire for greater certainty on the economic benefits of a project, including taxes and local benefits, is well placed and is in part why the Legislature passed *An Act to Provide Predictable Benefits to Maine Communities that Host Wind Energy Developments*, P.L. 2009, ch. 642. The benefits identified by TransCanada in this proceeding to demonstrate benefits of \$4,000 per turbine per year are not tied to estimates of project costs or taxes. Instead, TransCanada will make the following payments to comply with this new law: \$3,000 per turbine per year to the Town of Eustis (or \$45,000 per year and \$1,200,000 over 20 years); \$150,000 to the Department of Labor for green jobs and sustainable development; and, \$150,000 to the High Peaks Alliance for land conservation and trail corridor acquisition in Franklin County. There is no uncertainty with respect to quantification of these benefits.

Additionally, TransCanada estimates that it will pay approximately \$500,000 per year in property taxes and roughly \$25 million in State income taxes over the life of the proposed expansion project. These are estimates and necessarily reflect uncertainty related to project costs, projected revenues, and taxing policies over the life of the project. These estimates do not take into account the indirect economic benefits of the project, such as taxes on profits made by the contractors and income taxes on salaries and wages of employees, which will increase the total benefits flowing from the project to the State. In response to Commissioner Laverty's question, the variables that might affect property tax estimates include assumptions on turbine pricing, changes in construction costs, and shifts in how the State assesses wind power projects

for tax purposes. Variables that would affect income tax assumptions include future power prices and State taxing policies.

We have also identified the economic benefits that are expected to result from construction and permanent employment expected to occur with the project. As noted in our pre-filed testimony, the direct and indirect economic benefits of construction are difficult to predict. Pre-filed Direct Testimony of Bennett, et al. at pp. 11-13. Nonetheless, our estimates are based on recent experience with construction of the Kibby Project so we believe they are well-founded. Neither the estimated tax benefits nor the construction related benefits were used to determine compliance with the recent requirement that wind power projects provide benefits in the amount of \$4,000 per turbine per year to the host community or communities.

Date: _____


Terry Bennett

PROVINCE OF ONTARIO
City of Toronto

Date: _____

Personally appeared before me the above named Terry Bennett, who, being duly sworn, did testify that the foregoing testimony was true and correct to the best of his knowledge and belief.

Before me,

Notary Public
My commission expires: _____

2734364_1

STATE OF MAINE
LAND USE REGULATION COMMISSION

IN THE MATTER OF DEVELOPMENT)	Post-Hearing Testimony of
APPLICATION DP 4860)	Dana Valleau on behalf of
TRANSCANADA MAINE WIND)	TransCanada
DEVELOPMENT, INC.)	

In response to questions raised during the public hearing held on May 12, 2010, I, Dana Valleau, am submitting the following post-hearing testimony on behalf of TransCanada Maine Wind Development, Inc. ("TransCanada").

1. Data Regarding Bicknell's Thrush Use of Regenerating Clear Cuts in Project Area.

First, during the public hearing, testimony was provided regarding use of regenerating clear cuts by Bicknell's thrush. Specifically, TransCanada and the Consolidated Intervenors were asked whether any data existed showing that Bicknell's thrush have been found in regenerating clear cuts in the Project area, and specifically whether Bicknell's thrush have been found breeding in any such clear cuts.

TransCanada conducted breeding bird studies for the Kibby Wind Power Project from June 1 to June 21, 2006. During this survey work singing male Bicknell's thrush and Bicknell's thrush call notes were continually heard along the road and trail leading to the proposed project area, in a regenerating 12-13 year old clear cut between 2,500 and 2,700 feet in elevation, west of the Kibby project area. (See Breeding Bird Survey, Kibby Wind Power Project, Figure 4, attached at Exhibit "A").

In addition, approximately a week later (on June 29 and 30) three Bicknell's thrush (two males and one female) in breeding condition were captured and banded in the same regenerating clear cut area by BRI to be used as part of another study. (See Breeding Bird Survey, Kibby

Wind Power Project, Figure 5, attached at Exhibit “B”). The female was found to be in breeding condition, with a so-called “brood patch,” which is a patch of feather-less skin on the bird’s torso, from which the feathers are shed during breeding season to aid in incubation of eggs. Although these were limited surveys, this work in 2006 shows that Bicknell’s thrush have been located, and are breeding, in regenerating clear cuts in the vicinity of the Kibby and Kibby Expansion projects.

2. Mapping of “Core” Breeding Areas.

Second, testimony was provided at the hearing by the Consolidated Intervenors, for the first time, that suggested that TransCanada’s identification of the “core habitat” area for Bicknell’s thrush was not indicative of the actual area occupied by the thrush, and may have underestimated the impact on the acres of breeding areas. However, for the reasons discussed below, TransCanada used a mapping protocol recommended by the Maine Department of Inland Fisheries and Wildlife (“Maine IF&W”) in order to determine the more conservative—or larger—anticipated area that had the highest use or core habitat area.

As noted in TransCanada’s Application, the boundaries of the core breeding area were drawn based on two factors: (1) specific points where Bicknell’s thrush were identified during spot mapping surveys; and (2) an analysis to determine where, based on the spot mapping results, Bicknell’s thrush would most likely be found breeding on the ridgeline. (See Application Exhibit B.15.4.2, p. B.15-28, B.15-29; Exhibit A.3 Due to Bicknell’s unusual mating practices, in which males do not establish set territories, and females may mate with multiple males, TransCanada could not draw the boundaries of the “core” breeding areas based solely on the locations where singing male Bicknell’s thrush were located.

Instead, after identifying specific locations where Bicknell's were observed, TransCanada had two options to draw the boundaries of the core area. First, it could use a so-called "kernel analysis," in which a mathematical model is used to extrapolate where the birds are likely to be located based on where they were observed. Second, it could create a mapped area by connecting the locations where the birds were actually identified.

In deciding which option to use, TransCanada consulted with Bob Cordes and Tom Hodgman at IF&W regarding findings of the field surveys on multiple occasions by phone and in person. In these discussions, the primary focus was how to best represent the spot mapping data to demonstrate where the highest density of breeding Bicknell's thrush was found on the ridge. As a result of these discussions, TransCanada performed both the kernel analysis and also connected the observations points. The larger habitat area was that determined by connecting the observation points, and Maine IF&W offered their opinion that the method that gave the larger area was the better of the two methods. As a result, TransCanada has provided the Commission with an estimate of the most heavily used area or core breeding habitat that likely overstates its actual size, as confirmed by consultation with Maine IF&W.

In response to TransCanada's work, and in her powerpoint presentation, Ms. Susan Gallo provided the Commission with "circles" drawn purportedly to show that the actual core breeding habitat was larger than represented in TransCanada's application. (See Maine Audubon Hearing Exhibit/Gallo Powerpoint Presentation). Although determining breeding territory by a radial distance from an observation point is a method of determining potential habitat, it is not suitable for all species. Habitats are determined by many species-specific and site-specific criteria, such as cover type, stem density, canopy height, canopy coverage, understory density, and ground cover, to name a few parameters. These parameters often do not follow geometric patterns.

They are often reflective of the soils, aspect, slopes, and topography of a given site. The use of a radial distance from an observation point to decide where a territory should be mapped is an over-simplification of how that area should be determined since territories are rarely circular. In this Project the use of actual bird observations and habitat parameters found on the site have provided the best data for bird density and an indication of territory size.

Finally, Ms. Gallo's "circles," even if they did accurately identify likely areas where Bicknell's thrush might be located, are all largely confined to the 88 acres of habitat mapped by TransCanada on the Sisk ridgeline. As noted in the Application and in the testimony provided at the May 12th hearing, 90% of this mapped habitat is not impacted by the Kibby Expansion Project.

3. Maine IF&W Comments on 2007 Endangered/Threatened Species Process and Habitat Impacts in Redington Wind Power Project.

Third, testimony was provided by the Consolidated Intervenors that although Bicknell's thrush is not listed as endangered or threatened under the Maine or federal Endangered Species Acts, the species is of "special concern." Bob Cordes from Maine IF&W was asked about the decision not to add Bicknell's thrush to the state list in 2007 when it was last updated. Mr. Cordes was not familiar with the basis for that decision. Attached at Exhibit "C" are comments from Tom Hodgman at Maine IF&W regarding Maine IF&W's evaluation of Bicknell's thrush for listing in 2007, as this issue had been raised in the LURC proceeding regarding the Redington Project. In his comments, Mr. Hodgman noted that, with regard to Bicknell's thrush,

Despite some evidence of a decline on a regional scale, the species is not being recommended for listing as Endangered or Threatened in Maine during MDIFW's current review largely because of its population size and the large number of sites where it occurs in Maine.

In addition, with regard to the impact of clearing Bicknell's habitat, in particular in the Western Mountains region, Mr. Hodgman offered several specific conclusions regarding the proposed clearing of more than 300 acres above 2,700 feet associated with the Redington Project, as well as the general amount of habitat available for this species in the region:

It is my belief, based on readings and from discussions with regional Bicknell's Thrush experts that the fragmentation caused by the proposed [Redington] development is not likely to have measurable negative effects on the demography of the species at this site. Furthermore, the ski area studies that were presented by the applicant during the hearings were an appropriate comparison for the purposes of discussing fragmentation. It is clear to me, that a single turbine string along a ridgeline will have far less impact than multiple (wide) ski trails. We know this thrush readily uses mountains with intense ski area development. The amount of habitat that will be lost to construction (i.e., permanently maintained free of trees) will be very slight compared to the amount of habitat available to the birds on the rest of this mountain, in the greater Redington/Sugarloaf/Saddleback region, and certainly among all occupied peaks in Maine.

In contrast, and as shown in TransCanada's application, the Kibby Expansion Project will only impact 8 acres of Bicknell's thrush habitat.

4. Timber Harvesting Activities Affecting Subalpine Forests

Finally, timber harvesting is allowed with a permit in the P-MA subdistrict, and LURC routinely issues permits for harvesting activities above 2,700 feet. See LURC Rules, § 10.21,G,3,c,(9). Exhibit "D" contains a list of Forest Operations Permits issued in P-MA subdistricts, current through April 2010.¹ As acknowledged by Dr. Publicover on cross-examination, the harvesting activities authorized by these permits often impact subalpine forests. Transcript at 230. In fact, in 2009, the Bureau of Parks and Lands received a permit for timber

¹ This list was originally compiled by NRCM in connection with its support of the Black Nubble wind power project. TransCanada updated this list through April of 2010 and also eliminated several entries from the NRCM list that were not for clearing above 2,700 feet but were for clearing in other types of resource protection areas.

harvesting within an area that includes a mapped subalpine forest community on an un-named ridge in the Sabbath Day Pond Public Reserved Lands. (See Forest Operations Permit 879, supporting application materials, and Natural Resources Inventory of the Mahoosuc and Rangeley Region: Four Ponds Unit, Map #6, attached as Exhibit "E").

Date: May 24, 2010

Dana Valteau
Dana Valteau

STATE OF MAINE
County of Kennebec

Date: May 24, 2010

Personally appeared before me the above named Dana Valteau, who, being duly sworn, did testify that the foregoing testimony was true and correct to the best of his knowledge and belief.

Before me,

Michelle Blair
Notary Public
My commission expires: 2/5/2015

Michelle Blair
Notary Public, Maine
My Commission Expires
February 5, 2015

STATE OF MAINE
LAND USE REGULATION COMMISSION

IN THE MATTER OF)	Post-Hearing Testimony of
DEVELOPMENT APPLICATION DP 4860)	Jean Vissering
TRANSCANADA MAINE WIND)	on Behalf of TransCanada
DEVELOPMENT, INC.)	

I, Jean Vissering, am submitting the following responses to specific issues raised by intervenors, agency representatives, and the public during the public hearing.

1. Views from BPL Lands.

In his oral remarks, Bureau of Parks and Lands Deputy Director Alan Stearns stated that the project area is in the vicinity of “four scenic assets listed in the [Wind Power] statute all together in one place of geography.” Transcript at 288 (referring to Chain of Ponds, the Arnold Trail, the Route 27 Scenic Byway, and the BPL lands around Chain of Ponds). Mr. Stearns further stated that he had difficulty distinguishing the Arnold Trail, Chain of Ponds, and the BPL lands surrounding Chain of Ponds from one another, and urged that the Commission examine scenic impacts of the project to each of these assets. See Transcript at 288-289, 332-333. As an initial matter, it is important to note that only two of the four scenic assets Mr. Stearns lists are identified in the Wind Power Act as scenic resources of state or national significance – the Arnold Trail and Chain of Ponds. BPL did not identify any viewpoints in the Chain of Ponds Public Lands Unit as a scenic resource of statewide significance in its rulemaking pursuant to the Wind Power Act, and only the scenic turnouts along the Route 27 Byway are included within the Wind Power Act.

In our Visual Impact Assessment (“VIA”) and related filings, we clearly identify Chain of Ponds as a scenic resource of statewide significance which is relevant in LURC’s review of

the Kibby Expansion Project. Although BPL did not identify any viewpoints in the Chain of Ponds Unit as having statewide significance, our analysis nevertheless included an assessment of the scenic impacts to *all* of the BPL lands surrounding Chain of Ponds (and all shoreline areas, in general). As noted in the VIA and in my oral testimony, we concluded that there would be no views of the Kibby Expansion Project from these lands, with one possible exception – there would be a potential for views from the southern shoreline along the southern end of Natanis Pond. There is a private camp in this location and a simulation from Viewpoint #1 in the VIA illustrates potential views (tops of four turbines) from this shoreline. This portion of the Public Lands is entirely wooded except for an ATV trail which is the primary use of this portion of the Public Lands. There are no scenic viewpoints or overlooks in this area, and the minimal views of the tops of four turbines would not unreasonably impact any limited use of this area made by the public.

As noted in the VIA, in my pre-filed direct testimony, and in my oral testimony during the public hearing, there would be no views from the primary public use areas within the BPL ownership: the Natanis Point Campground and the three primitive, drive-in camp site areas. Impacts to views from Chain of Ponds, itself, are discussed in detail in the VIA and my earlier testimony.

2. Impacts to Views from Route 27 Scenic Byway.

Mr. Stearns urged the Commission to consider visual impacts to the entirety of the Scenic Byway. Mr. Palmer also questioned why the current law limits consideration of visual impacts to designated scenic turnouts, as opposed to the entirety of the Scenic Byway. Although the Wind Power Act only requires analysis from scenic turnouts along this Route, in our field work we examined the entire length of the Route 27 Scenic Byway within the 8-mile study area. As

noted in the VIA, views of the project from the Byway would be extremely limited. There would be no views of the project from either of the scenic turnouts at Natanis Pond and Sarampus Falls (the only two locations along the Byway identified in the Wind Power Act as having state or national significance), nor would the project be visible within views overlooking Chain of Ponds or Arnold Pond from anywhere along Route 27. The views overlooking these ponds are some of the most scenic views along this portion of the Byway, and there would be no impact whatsoever to the viewing experience as a result of the Kibby Expansion Project.

The only views of the project that would occur from the Byway would be two limited glimpses of extremely short duration in which a only few of the turbines would be visible: the first location is at Upper Farm, where, according to our viewshed analysis (see Exhibit A.1, Appendix 2 Viewshed Analysis Map Detail) 3-6 turbines would be visible at a distance of approximately 1.7 miles away; the second location is just to the north of this point, where the numbers of turbines and distance away would be similar. In both cases visibility would be limited to travelers heading south. These short glimpses of the Kibby Expansion Project would not be from a scenic overlook, rest area or other location for which scenic impacts are considered under the Wind Power Act.

As with the BPL lands around Chain of Ponds, there would be extremely limited views from the Route 27 Scenic Byway, and Route 27 will retain its scenic character throughout the study area. As such, the Kibby Expansion Project would not have an unreasonable adverse impact on the Scenic Byway.

3. Elimination of Southern 7 Turbines.

The consolidated intervenors concluded that “impacts from the eight northern turbines on Kibby Stream, Arnold Pond, Crosby Pond and some portion of Chain of Ponds...do not rise to the level of being undue adverse impacts requiring denial of the permit.” Transcript at 250. The consolidated intervenors recommend the elimination of the southern seven turbines, claiming that doing so would result in a decrease in scenic impacts and reduce visibility of the Kibby Expansion Project to only 10% of Chain of Ponds (in addition to remaining visibility on Kibby Stream, Arnold Pond and Crosby Pond, as noted above). As stated in the VIA and in my written and oral testimony, I do not believe the project as proposed would result in unreasonable adverse impacts to the scenic resources in the area. Moreover, contrary to the assertion of the consolidated intervenors, removing the southern seven turbines would provide little visual benefit, as views would not change significantly over the vast majority of the study area.

The southern turbines are only visible by themselves along a small portion of the southwest end of Long Pond and the eastern corner of Natanis Pond – and from these areas only a few turbines are visible. At the eastern end of Long Pond, the southern turbines begin to slip behind Sisk Mountain in any case. Thus, visibility of the Kibby Expansion Project from the easternmost end of Long Pond is largely of the northern turbines (to which the consolidated intervenors do not object).

Likewise, visibility of the project from Bag Pond is primarily of the northern turbines (only one of the turbines in our simulation from VP#6 is a southern turbine and only a tip of a blade of that turbine is visible). Similarly, it is primarily the northern turbines that are visible from Arnold Pond and Crosby Pond, and, to the extent any turbines are visible from the wetlands along Kibby Stream, they would be primarily northern turbines. As stated in the VIA and in my

written and oral testimony, the project as proposed would result in views of the Kibby Expansion Project from roughly 31% of Chain of Ponds. Removing the southern seven turbines would reduce this visibility to only approximately 17% of Chain of Ponds (as opposed to the 10% asserted by Ms. Johnson). Thus, from a visual impact standpoint, the proposal by the consolidated intervenors would not diminish visibility to any appreciable extent, other than from a small portion of Long Pond. A viewshed map depicting views of just the northern 8 turbines from Chain of Ponds, Arnold Pond and Crosby Pond is attached as Exhibit A. (Note that there were some inaccuracies in the viewshed map prepared by NRCM and submitted with the pre-filed testimony of Cathy Johnson.)

4. Scenic Impact Standards.

There was discussion by Jim Palmer and questioning from the Commission regarding the methodology used for evaluation of aesthetic impacts under the Wind Power Act, and, specifically, whether additional rule-making is needed to clarify the methodology to be used for assessing visual impacts under the Act. While Mr. Palmer raised some valuable questions, in my opinion the current methodology works quite well, and is a significant improvement over the earlier review criteria (before enactment of the Wind Power Act) for several reasons.

First, the methodology under the Wind Power Act focuses on expressly identified, documented scenic resources rather than on all potential landscape and public use areas. When scenic resources are identified and documented through a public process it provides evidence of reasonable public concern. This does not mean that development, including wind energy projects, is inappropriate near these resources, or that describing the general character of the area as a whole is not useful, but identifying and designating scenic resources of state and national significance helps focus the analysis of scenic impacts toward these documented resources.

The process under the Wind Power Act also provides reasonable guidance as to what factors should be considered in assessing these resources: distance, viewer expectations, duration of view, etc., and definitively states that visibility alone, even if prominent, is not determinative of an unreasonable adverse impact to scenic resources.

No methodology is perfect, and I agree with Mr. Palmer that a few adjustments may be needed over time. That being so, however, I do not feel that a major overhaul is necessary, nor do I believe that additional rule-making would be beneficial to the process. A competent landscape architect should be able to provide relevant information in a thorough and logical manner that can be understood by the Commissioners. A broader discussion of some resources than is strictly required may be useful in some instances, and can be undertaken by an applicant or requested by the Commission on an individual bases (for example, we provided more detail about the Route 27 Byway, the BPL lands around Chain of Ponds, and cumulative impacts than was required, because we believed this would provide the Commission with greater context within which to assess the visual impacts to the designated, significant resources).

With respect to the Wind Power Act's designation of all locations listed on the National Register of Historic Places as scenic resources of state or national significance, Mr. Palmer raised a valid point in his testimony. As Mr. Palmer noted, these resources are primarily historic rather than scenic, and are not necessarily associated with significant or important views. See Transcript at 298 and 312. However, I also believe that their inclusion in the Wind Power Act as resources of state or national significance is reasonable because, frequently, these are resources that form part of the experience of the surrounding landscape. Nevertheless, decisions of unreasonable adverse impacts to these resources need to be based on very clear and documented links to specifically identified visual features of the landscape that are important to the resource

experience. It is not possible to identify with any specificity what visual features, if any, are important to the historical context based solely on vague terms such as “wilderness” – especially when the resource is already inextricably identified with a development feature such as a state highway.

The issue of cumulative impacts was also raised. While I believe this issue requires consideration by the Commission, I do not believe that the present project in combination with the Kibby Project even approaches what might be considered thresholds for cumulative impacts.

As more projects are reviewed under the new law, other areas may be identified that will require clarification. These are natural refinements to the process, not shortcomings in the overall methodology or required information that is provided to the Commission. Refinements of the process are inevitable with any regulatory construct. As in other instances, these can be made on a case-by-case basis and articulated over time through the decision-making process. In the present matter, we have exceeded the level of review and amount of information required to be submitted. The information submitted provides a broad understanding of the resources and the reasonable impacts that would result from the proposed project.

5. Views of the Kibby Project from Residences.

During the public testimony portion of the hearing, a resident of Eustis Ridge presented photographs of the existing Kibby project he identified as being taken from his residence. I’d like to make a few points relative to understanding the impacts of the Kibby Project and the proposed Kibby Expansion Project. The photographs presented by the Eustis Ridge resident clearly were taken with a telephoto lens – zooming in on, and framing the ridge. This would greatly exaggerate the actual visibility and prominence of the Kibby Project within views from his residence. These photographs from the hearing, together with a more recent photograph

depicting a more “normal” view from this location (that is, one taken in a manner that much more closely replicates the actual viewing experience – albeit still from a static viewing perspective and with the ridge still framed in the view) are attached as Exhibit B. As can be seen in the recent, normal photograph, the Kibby Ridge is one of many in the view, is viewed at a significant distance, and the Kibby Project does not appear prominent to the viewer (the ridge identified as “Location of Turbine B3” in the recent photograph is the same ridge as shown in the photographs presented at the hearing).

In addition, having just been constructed, the Kibby Project appears more noticeable in the earlier, telephoto photograph because there are areas of bare earth that have not yet had time to re-vegetate. Further, clearings where trees have been removed appear especially noticeable in winter when white snow marks the cleared areas (it is also important to note that the large cleared areas in the lower left hand and bottom portions of the picture presented at the public hearing are the result of forest harvesting that is unrelated to the Kibby Project). These areas will be far less noticeable once they have re-vegetated. In general, a period of five years is considered reasonable for a project to become established, and assessments of projects illustrating landscaping and vegetative screening usually illustrate a 10-year time frame, rather than how the project will look the year after construction.

Finally, the views from the residences in the area are oriented toward the Eustis Ridge area of the Bigelows, rather than toward the Kibby Ridge, Kibby Mountain, or the Sisk ridgeline. Thus, while there may be views of the Kibby Project from select residences, the project does not appear in the more prominent views -- nor does it dominant the landscape where there is visibility.

6. Lighting.

Concern was raised about visibility of lights from Chain of Ponds, Arnold Pond, and area camps and residences. It is important to note that turbine lights are seen at their highest intensity when viewed from above, since the purpose for the lighting is to be visible to aircraft. For turbine lights, there is a cut-off angle of about -1° under which the intensity drops significantly. As a result, from Arnold Pond, Chain of Ponds, or any camps and residences in the area - where lights would be viewed from a low angle - the intensity would be greatly reduced from that when viewed from above.

STUDIES ON THE IMPACT OF WIND POWER PROJECTS ON REAL ESTATE VALUES

The Commission has requested information on peer-reviewed studies on the impact of wind power projects on real estate values. Sixth Procedural Order at p. 2. As a threshold matter, and as recognized in a 2007 study by the National Research Council for the National Academies, “it is difficult to generalize about the effects of wind-energy projects on property values.” National Research Council of the National Academies, *Environmental Impacts of Wind-Energy Projects* (2007) (the “National Academies Report”) at 164. As noted in that same report, “[f]orecasts of property values in prospective host areas that are based on comparisons with existing host areas are of questionable validity, especially if there are significant differences between the areas.” *Id.* The report examined a number of studies on the property value impacts of wind energy facilities and concluded that none of the studies analyzing property values in the United States found that wind energy projects had a demonstrably negative effect on transaction prices. *See id.* at 164. The National Academies Report is attached at Tab D.2.

The most extensive and rigorous study to date on the relationship between wind energy projects and property values is a December, 2009 report entitled *The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis*. The study was conducted by the Ernest Orlando Lawrence Berkeley National Laboratory, which is a U.S. Department of Energy (DOE) national laboratory that conducts a wide variety of unclassified scientific research for DOE and is managed by the University of California.¹ The Berkeley Lab study analyzed nearly 7,500 home sales within 10 miles of 24 wind projects in nine states throughout the country, including the Northeast states of New York and Pennsylvania. The study provides an in-depth assessment on whether residential property values in the United States have been affected, in a statistically measurable way, by views of and proximity to wind projects. Specifically, the study evaluated the potential for area stigma, scenic vista stigma, and nuisance stigma, and all three potential stigmas were investigated by exploring the potential impact of wind projects on home values based both on distance to and view of the projects from the homes. Ernest Orlando Lawrence Berkeley National Laboratory, *The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis* (December 2009) at 10. Field visits were made to every house in the study to clearly determine the extent to which there was project visibility and to collect other essential data, and a number of statistical analyses and modeling were undertaken to evaluate the potential impact of wind turbines on residential property values. The results demonstrated that there was no evidence “that home prices surrounding wind facilities are consistently, measurably, and significantly affected by either the view of wind facilities or the distance of the home to those facilities.” *Id.* at xvii and 75. The Berkeley Lab Report is attached at Tab D.3.

¹ Peer-review refers to the review of an article or publication by a group of experts on the topic. The Berkeley Lab provided a full set of the results with the draft report for review by experts and stakeholders, and their comments were taken into account in preparation of the final report. To our knowledge, none of the other studies identified in this summary have been formally peer-reviewed or published.

The results of the Berkeley Lab study are consistent with two other studies of note. The first is a 2006 study that used statistical analysis to examine the effect of a 20-turbine wind power facility in rural New York State on the value of properties within five miles over the course of 10 years. See Ben Hoen, *Impacts of Windmill Visibility on Property Values in Madison County, New York* (April 30, 2006). The study, conducted by a postgraduate student in environmental policy at Bard College, found that the visibility of wind turbines had no measurable effect on home prices. *Id.* at 34. The second is a 2003 study that used statistical analysis of property values within five miles of 10 different wind energy projects, and it also concluded that “there is no support for the claim that wind development will harm property values.” Sterzinger et al., *the Effect of Wind Development on Local Property Values* (May 2003) at 9. The authors of the study worked for the Renewable Energy Policy Project, a Washington, D.C.-based non-governmental organization that supports renewable energy technology. The Hoen and Sterzinger reports are attached at Tab D.4 and D.5.

Opponents of wind power projects in Maine have relied on September, 2009 study for the proposition that wind power projects have an adverse impact on property values. See Appraisal Group One, *Wind Turbine Impact Study* (September 9, 2009). The study was not a formal or rigorous analysis and to our knowledge has not been peer-reviewed, but in the interest of completeness, it is provided here in response to the Commission’s request for information on this topic.

The Appraisal Group study was sponsored by the Calumet County Citizens for Responsible Energy, a Wisconsin group organized to oppose a large-scale wind power development. The study consists of three parts: 1) a survey of realtors on their opinions regarding the impact of wind turbines on residential property values, 2) a study of sale prices of raw land in the vicinity of two wind power facilities in Wisconsin, and 3) a literature review. The section on sales data compares sales of parcels within the purported influence of the turbines to sales of land outside the purported influence of the turbines, but does not analyze data on sales of parcels before and after installation of the project and therefore does not provide any direct evidence of the impact of the project on property values. In addition, the study’s lack of statistical rigor, including its limited sample size, undercuts its usefulness. See Appraisal Group at 26-42. Similarly, the literature review conducted in the study does not focus on objective statistical analysis, but on anecdotal evidence provided by realtors. See *id.* at 48-53. The Appraisal Group report is attached at Tab D.6.